



USFC2004-1609-09

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JOINT APPENDIX

04-1609, 05-1141,-1202

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

GOLDEN BLOUNT, INC.

Plaintiff-Appellee,

v.

ROBERT H. PETERSON CO.,

Defendant-Appellant.

APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF TEXAS IN 3:01-CV-127-R

JUDGE JERRY BUCKMEYER

U.S. COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

NON-CONFIDENTIAL JOINT APPENDIX

JOINT APPENDIX

VOLUME V, PAGES JT-APP 2030 – 2426

JOINT APPENDIX
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UTILITY SERIAL NUMBER	00/276894	PATENT DATE	PATENT NUMBER		
SERIAL NUMBER	08/276,894	FILING DATE	07/19/94	CLASS	431
		SUBCLASS	125	GROUP/ART UNIT	3406
					EXAMINER JONES

GOLDEN BLOUNT, DALLAS, TX.

CONTINUING DATA*** *None*
VERIFIED

FOREIGN/PCT APPLICATIONS*** *None*
VERIFIED

FOREIGN FILING LICENSE GRANTED 08/16/94

***** SMALL ENTITY *****

Foreign priority claimed 35 USC 119 conditions met	☐ yes ☒ no	AS FILED	STATE OR COUNTRY	SHEETS DRWGS.	TOTAL CLAIMS	INDEP. CLAIMS	FILING FEE RECEIVED	ATTORNEY'S DOCKET NO.
Verified and Acknowledged	Examiner's Initials	TX	3	18	3	\$355.00	GLDT88095CI	

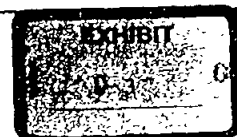
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SUPPLEMENTAL BURNER FOR RETROFITTING TO AN EXISTING GAS LOG BURNER
ASSEMBLY

U.S. DEPT. of COMM., Pat. & TM Office - PTO-436L (rev. 10-78)

PARTS OF APPLICATION FILED SEPARATELY		Applications Examiner	
NOTICE OF ALLOWANCE MAILED		CLAIMS ALLOWED	
		Total Claims	Print Claim
Assistant Examiner			
ISSUE FEE		DRAWING	
Amount Due	Date Paid	Sheets Drwg.	Figs. Drwg.
		Print Fig.	
Label Area		ISSUE BATCH NUMBER	
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✓	8. Declaration	1-29-96
	9. Ext. of time (3 nos.)	4-2-96
4/29	10. Adm. Action	4/30/96
5/28	11. Abandoned	5-30-96
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	13. Request for Ampt.	2-27-07
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POSITION	ID NO.	DATE
CLASSIFIER	19	5/14/80
EXAMINER	287	9/5
TYPIST	38	5/12/80
VERIFIER	70	5/12/80
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SPEC. HAND		
FILE MAINT.		
DRAFTING		

INDEX OF CLAIMS

Claim	Date
1	5/15/80
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SYMBOLS
✓ ----- Rejected
- ----- Allowed
(Through numbers) ----- Canceled
+ ----- Restricted
N ----- Non-elected
I ----- Interference
A ----- Appeal
O ----- Objected

Claim	Date
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SEARCHED

Class	Sub.	Date	Exmr.
431	125	3/10/95	jm
	154		
125	512		
	500		
	524		
	540		
	503		
Above to date		9/20/95	jm

INTERFERENCE SEARCHED			
Class	Sub.	Date	Exmr.

SEARCH NOTES

	Date	Exmr.
NONE	3/10/95	jm
000161		

(RIGHT OUTSIDE)

PATENT APPLICATION SERIAL NO. 1/278694

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

100 MG 07/28/94 06274894

1 201 355.00 CK GLDT B809SCI

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PTO-1556
(5/87)

JT-APP 2034

■/276894

HARRIS, TUCKER & HARDIN, P.C.

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214/233-5712

WRITER'S DIRECT DIAL: 214/716-3560

PATENT, TRADEMARK,
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COMPETITION MATTERS

TELECOM 214/934-9553

July 19, 1994

The Commissioner of Patents
and Trademarks
Washington, D. C. 20231

Re: Attorney Docket No: GLDT B8095CIP

Dear Sir:

Enclosed please find the following documents for filing:

(1) the patent application of

Inventor: GOLDEN BLOUNT

For: A SUPPLEMENTAL BURNER FOR RETROFITTING TO AN
EXISTING GAS LOG BURNER ASSEMBLY

- (2) Three (3) sheets of drawings (informal drawings);
- (3) a Declaration Claiming Small Entity Status under 37 C.F.R. 1.9 and 37 C.F.R. 1.27; and
- (4) a Declaration and Power of Attorney; and
- (5) an Express Mail Certificate of Mailing.
- (6) a check in the amount of \$ 355 to cover the filing fee.

000163

JT-APP 2035

The Commissioner of Patents
July 19, 1994
Page 2

The filing fee has been calculated as shown below:

SMALL ENTITY

FOR:	NO. FILED	NO. EXTRA	RATE	FEE
BASIC FEE			\$355.00	\$355.00
TOTAL CLAIMS	18-20=	0	\$ 11.00	\$ 0.00
INDEP. CLAIMS	03-03=	0	\$ 37.00	\$ 0.00
MULTIPLE DEPENDENT CLAIM PRESENTED			\$115.00	\$

TOTAL \$355.00

The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 08-3105:

- Any additional fees required under 37 C.F.R. 1.16.
- Any patent application processing fees under 37 C.F.R. 1.17.

A duplicate copy of this letter is enclosed.

If any problems arise in the filing the enclosed documents, please contact David W. Carstens at (214) 233-5712.

HARRIS, TUCKER & HARDIN, P.C.



David W. Carstens
Attorney of Record
Registration No. 34,134

DWC:cs
Enclosure
34022

000164

JT-APP 2036

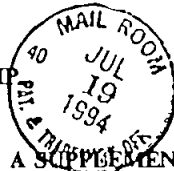
**A SUPPLEMENTAL BURNER FOR RETROFITTING
TO AN EXISTING GAS LOG BURNER ASSEMBLY**

ABSTRACT

A supplemental burner (100) can be retrofitted to an existing pan burner (10). A supplemental burner tube (104) is attached to the primary burner tube (14) by a connector (102). A valve (106) controls the volume of gas which passes to the supplemental burner tube (104).
5 A plurality of apertures (108) are spaced along the length of the supplemental burner tube (104).

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PATENT 4/276894
10-20-44

A SUPPLEMENTAL BURNER FOR RETROFITTING
TO AN EXISTING GAS LOG BURNER ASSEMBLY

The present application is a continuation-in-part of co-pending application number 08/061,727 filed on May 17, 1993 entitled "Controlled Ember Bed Burner."

TECHNICAL FIELD OF THE INVENTION

The present invention relates to a supplemental burner designed to be retrofitted into an existing gas burner assembly used with decorative gas logs. Specifically, the supplemental burner illuminates a large ember bed. A special valve allows the user to
5 control a volume of gas to be burned above artificial embers in front of the log stack.

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BACKGROUND OF THE INVENTION

Gas logs are increasingly popular in homes. Decorative artificial logs are placed on a grate which is located over a gas burner. The burner is typically a tube with spaced apertures. Sand is poured over the gas burner to hide it from sight. Artificial embers are then spread across the sand. In use, gas flows through the burner and escapes through the spaced apertures. The gas filters up through the sand underneath the artificial logs. The gas is ignited and creates flames between the logs. The height of the flame is controlled by a primary valve which can be manipulated by the user.

Gas logs can provide a great deal of heat to a room. Also, gas logs require virtually no effort to light. Natural logs, on the other hand, must be properly cured before burning. Even then, kindling is usually needed. And once lit, it is difficult to control the rate of burning. Beyond convenience, gas logs are also aesthetically pleasing. However, the standard gas log burner only creates flames around the artificial logs. Natural logs, when burned will break apart to produce beautiful burning embers in front of the main log stack. A need exists to produce a more realistic aesthetic with gas logs.

Due to the popularity of gas logs, a number of advances have been patented. For example, U.S. Patent No. 5,000,162 to Shimek et al. discloses a "Clean Burning Glowing Ember and Gas Log Burner System." This unit is marketed under the trademark Heat-N-Glow as the Model 5000GDVMH as a self-contained fireplace and wall heater for mobile homes. The system is a low-BTU system whose main objective is to minimize carbon monoxide creation and soot deposit on the logs. A burner system is provided with a first branch and a second branch. The first branch is supported on a prefabricated grate between

a first and second decorative log. The second branch is forward of the logs and is protected under a metal mesh. A very light layer of special ember material is spread on top of the mesh. Shimek et al. '162 is only sold as a complete system of logs, burner and special ember material. It cannot be retrofitted to existing pan burners which are by far the most common burner in use. Thus, the Shimek burner system is an expensive option.

The Shimek burner system provides a metal trim piece or refractory material in front of the second burner pipe branch so that it is not easily viewed by a person standing in front of the fireplace. The second branch only illuminates a thin line of ember material. Neither the first or second branch can be covered by sand as is common in other units. The gas apertures in the branches are located on the upper surface of both branches. Thus, sand could easily clog the apertures. Moreover, the flow of gas into the second branch cannot be regulated.

U.S. Patent No. 5,052,370 to Karabin discloses a "Gas Burner Assembly Including Emberizing Material." The gas burner comprises a first and second gas burner assembly. The first gas burner assembly is formed by a pair of parallel burner tubes connected by a third burner tube. The second gas burner assembly is located forward of the first assembly and is generally T-shaped. The second burner only illuminates a thin line of ember material. A single gas source supplies both burner assemblies. An igniter is provided to ignite the gas from the main burner assembly. The flame from that burning gas ignites the gas from the second burner assembly. As with the Shimek et al. burner assembly, the flow of gas to the second burner assembly cannot be controlled. Also, the Karabin burner assembly is only sold as a unit and can not be retrofitted to an existing pan-type burner.

Finally, U.S. Patent No. 5,081,981 to Beal discloses yet another burner and is entitled "Yellow Flame Gas Fireplace Burner Assembly." The Beal reference is primarily concerned with producing a clean yellow flame. The burner assembly includes a U-shaped burner tube. The front portion of the burner tube is forward of the artificial logs and provides flame for ember material. However, as with the Shimek reference above, the forward portion of the burner tube is hidden from view by a portion of the grate. The Beal system is a complete system and not a supplemental burner that can be retrofitted to an existing pan-type burner system. Furthermore, as with both the Shimek and Karabin references, there is no means provided to control separately the flow of gas into the front burner tube.

A need exists for an inexpensive device for improving the performance and aesthetic appeal of existing pan-type gas burners. The device, a supplemental burner, should distribute gas under artificial embers in front of the gas logs. The supplemental burner should also provide a method of controlling the flow of gas, thus controlling the height of the ember bed flames and the amount of heat radiated into a room. A need further exists for a supplemental burner which can operate even if completely covered by sand.

SUMMARY OF THE INVENTION

The present burner assembly is an inexpensive supplemental burner for improving the performance and aesthetic appeal of existing pan-type gas burners. It is easily retrofitted to the pan burner already owned by the user. The supplemental burner can distribute gas under
5 artificial embers in front of the gas logs. The supplemental burner also provides a valve to selectively control the flow of gas, thus controlling the height of the ember bed flames and the amount of heat radiated into a room. The present supplemental burner can also operate even if completely covered by sand. Thus, there is no need to a new grate to hide the additional burner.

10 The ability to regulate the flow of gas to the supplemental burner is an especially important feature. People buy gas logs primarily for convenience. But this does not mean that they want to give up on the beauty of burning real logs. Standard pan burners only provide part of that beauty. Having a roaring flames throughout the logs is greatly complemented by lower flames in front throughout the ember bed. None of the prior art
15 references above teach or even suggest a means for accomplishing lower flames in the ember bed. Moreover, every fireplace drafts differently. The volume and velocity of air entering the firebox varies according to the size of the room, height of the ceilings, and size of the fire box. None of the prior art references can compensate for the varying drafts.

Most importantly, the supplemental burner valve can allow the user to selectively
20 increase the amount of gas being burned forward of the artificial logs. As mentioned above, the artificial logs gas act as a heat sink, absorbing heat produced by the flames. The heat generated by the supplemental burner is largely radiated into the room, heating it quickly.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention, and for further details and advantages thereof, reference is now made to the following Detailed Description taken in conjunction with the accompanying drawings, in which:

5 FIGURE 1 provides a perspective view of a prior art pan burner used with artificial gas logs;

FIGURE 2 provides the supplemental burner retrofitted to the pan burner;

FIGURE 3 illustrates the effect of the present supplemental burner in providing ember bed flames; and

10 FIGURE 4 is a front view of the supplemental burner illuminating the ember bed.

DETAILED DESCRIPTION OF THE DRAWINGS

The present supplemental burner provides a number of advantages over the burner assemblies disclosed in the prior art. FIGURE 1 illustrates a standard pan burner 10 which is used in the vast majority of artificial log sets. The pan burner 10 has an open frame 12 which supports a burner tube 14. An inlet 16 is connected to a gas source (not shown). A plurality of apertures, as evidenced by gas plumes 18, are spaced along the length of the burner tube 14. Gas escapes through the apertures and filters through sand (not shown). Gas which escapes from the sand is initially ignited to create flames. These flames are continually fed by the escaping gas. The burner tube 14 is supported by the side walls 12a, 12b of the frame 12. The burner tube 14 extends beyond the side wall 12a and is capped.

FIGURE 2 illustrates a supplemental burner 100 which embodies the present invention. The supplemental burner 100 is retrofitted to the terminal end 14a of the burner tube 14 in the pan burner 10. The cap must be removed from the terminal end 14a. A connector 102 is then attached to the uncapped end of burner tube 14. The connector 102 is fitted to a supplemental burner tube 104 creating an enclosed fluid path for the gas. The connections between the connector 102 and the terminal end 14a should be adequately sealed to prevent leakage. Likewise, the connection between the connector 102 and the supplemental burner tube 104 should also be properly sealed. A valve 106 is interposed in this fluid path. The valve 106 can be variably positioned to give the user the ability select the amount of gas entering the supplemental burner. The supplemental burner tube 104 is generally parallel to the primary burner tube 14. The terminal portion of supplemental

burner tube 104a is closed. The supplemental burner tube is typically made of steel.

A plurality of apertures 108 are along the length of the supplemental burner tube 104. The apertures 108 can be evenly spaced or clustered. The apertures 108 are typically between 1/32 and 1/8 inch in diameter, but are preferably 1/16 of an inch in diameter. More importantly, the apertures are located along the radial edge of supplemental burner tube 104, below the upper ridge of the tube. By avoiding the upper ridge, the apertures are less likely to be clogged by sand. Gas passing through the valve 106 enters the supplemental burner tube 104 and escapes through the spaced apertures. The apertures can be evenly spaced or clustered.

FIGURES 3 and 4 illustrate the effect of the supplemental burner 100 once retrofitted to the pan burner 10. As earlier discussed, a grate 20 is located above the pan burner which is covered with sand 22. The grate 20 can hold at least one artificial log 24. Artificial ember material 26 which glows when heated can be strewn under and around the artificial logs and on top of the sand. Flames 30 fed by gas from the primary burner tube 14 rise through the artificial logs 24. Flames 40 fed by gas from the supplemental burner 100 can rise through the artificial ember bed 28. As illustrated, the flames 40 can be lower than the flames 30, thus providing an aesthetically pleasing sight.

Although preferred embodiments of the invention have been described in the foregoing Detailed Description and illustrated in the accompanying drawings, it will be understood that the invention is not limited to the embodiments disclosed, but is capable of numerous rearrangements, modifications, and substitutions of parts and elements without departing from the spirit of the invention. Accordingly, the present invention is intended to

encompass such rearrangements, modifications, and substitutions of parts and elements as fall within the scope of the invention.

I CLAIM:

1. A supplemental burner for retrofitting to an existing gas log burner assembly having a primary burner tube with a terminal end, said supplemental burner comprising:

- 5 (a) a connector attached to the terminal end of the primary burner tube;
- (b) a supplemental burner tube attached to the connector; and
- (c) a valve interposed between the supplemental burner tube and the connector.

2. The supplemental burner of Claim 1 wherein said supplemental burner tube has a plurality of apertures.

3. The supplemental burner of Claim 2 wherein said apertures are evenly spaced.

4. The supplemental burner of Claim 2 wherein said apertures are clustered.

5. The supplemental burner of Claim 2 wherein said apertures are aligned along the supplemental burner tube.

6. The supplemental burner of Claim 2 wherein said apertures are located below the upper ridge of said supplemental burner tube.

7. The supplemental burner of Claim 1 wherein supplemental burner tube is generally parallel with the primary burner tube.

8. The supplemental burner of Claim 1 wherein said supplemental burner tube is located forward of said primary burner tube.

9. The supplemental burner of Claim 1 wherein said valve has a rotatable lever which allows for a variety of positions between a fully closed position and a fully open position.

10. The supplemental burner of Claim 1 wherein said burner tube is made of steel.

11. The supplemental burner of Claim 2 wherein said apertures have a diameter between $\frac{1}{32}$ and $\frac{1}{8}$ inches.

12. A supplemental burner for retrofitting to an existing gas log burner assembly having a primary burner tube with a terminal end, said supplemental burner comprising:

(a) a connector attached to the terminal end of the primary burner tube;

(b) a supplemental burner tube attached to the connector, said supplemental burner tube having a plurality of apertures; and

(c) a valve interposed between the supplemental burner tube and the connector;

wherein the supplemental burner tube is generally parallel with and forward of the primary burner tube.

13. The supplemental burner of Claim 12 wherein said apertures are evenly spaced.

14. The supplemental burner of Claim 12 wherein said apertures are clustered.

15. The supplemental burner of Claim 12 wherein said apertures are aligned along the supplemental burner tube.

16. The supplemental burner of Claim 12 wherein said apertures are located below the upper ridge of said supplemental burner tube.

17. The supplemental burner of Claim 12 wherein said valve has a rotatable lever which allows for a variety of positions between a fully closed position and a fully open position.

18. A method of installing a supplemental burner to a pan burner assembly having a primary burner tube with a capped terminal end, said method comprising:

- (a) uncapping the terminal end of the primary burner tube;
- (b) sealingly attaching a connector to the uncapped primary burner tube terminal end;
- (c) sealingly attaching a supplemental burner tube to the connector; and
- (d) interposing a valve between said connector and the supplemental burner tube.

GLDT
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PATENT

DECLARATION CLAIMING SMALL ENTITY
STATUS PURSUANT TO 37 CFR 1.9(f) and 1.27 (b)

SOLE INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that:

I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled:

"A SUPPLEMENTAL BURNER FOR RETROFITTING TO AN EXISTING
GAS LOG BURNER ASSEMBLY"

described in the specification filed herewith.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract of law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern, or organization.
☐ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b)).

000178

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name and address of inventor: Golden Blount
4244 Bobbitt
Dallas, Texas 75229


Signature

7-13-94
Date

37714.01

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JT-APP 2051

GLDT
B8095CIP

PATENT

DECLARATION AND POWER OF ATTORNEY

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention, design or discovery entitled:

"A SUPPLEMENTAL BURNER FOR RETROFITTING TO AN EXISTING
GAS LOG BURNER ASSEMBLY"

the specification of which is attached hereto.

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above;

I acknowledge the duty to disclose to the Office all information known to me to be material to the patentability of this application as defined by Title 37, Code of Federal Regulations, § 1.56.

I hereby claim no foreign priority benefits under 35 U.S.C. § 119 of any foreign application(s) for patent or inventor's certificate on which priority is claimed.

I hereby claim no benefit under 35 U.S.C. § 120 of any United States application(s) for patent. I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in § 1.56 which became available between the filing date of any prior application(s) and the national or PCT international filing date of this application.

I hereby appoint:

WILLIAM D. HARRIS, Jr., Registration No. 19,243;
L. DAN TUCKER, Registration No. 22,670;
ROY W. HARDIN, Registration No. 28,304;
WILLIAM D. JACKSON, Registration No. 20,846;
HARRY J. WATSON, Registration No. 29,985;
GEORGE R. SCHULTZ, Registration No. 35,674;
DAVID W. CARSTENS, Registration No. 34,134; and
KRISTIN K. JORDAN, Registration No. 37,859.

000180

all of the firm of HARRIS, TUCKER & HARDIN, P.C., my attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith, and to file and prosecute any international patent applications filed thereon before any international authorities under the Patent Cooperation Treaty.

Send correspondence to: David W. Carstens
HARRIS, TUCKER & HARDIN, P.C.
13355 Noel Road, Suite 2100
Dallas, Texas 75240-6604

Direct telephone calls to: David W. Carstens
at (214) 233-5712

Atty. Docket No.: GLDT B8095CIP

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full name of inventor: 1-00
Golden Blount

Inventor's signature: Golden Blount

Date: 7-13-94, 1994

Residence (City, County, State): Dallas, Dallas, Texas TX

Citizenship: USA

Post Office Address: 4244 Bobbitt
Dallas, Texas 75229

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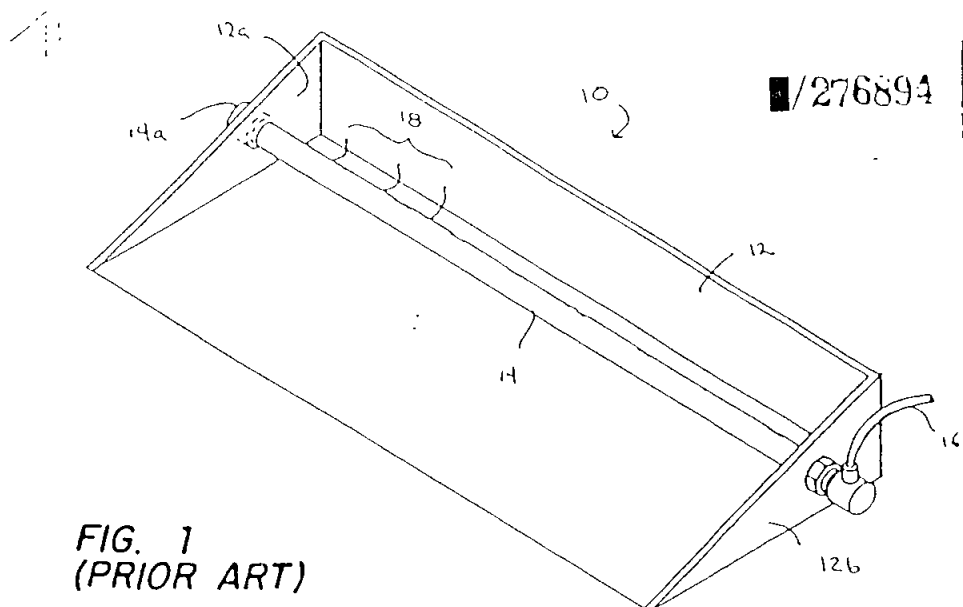


FIG. 1
(PRIOR ART)

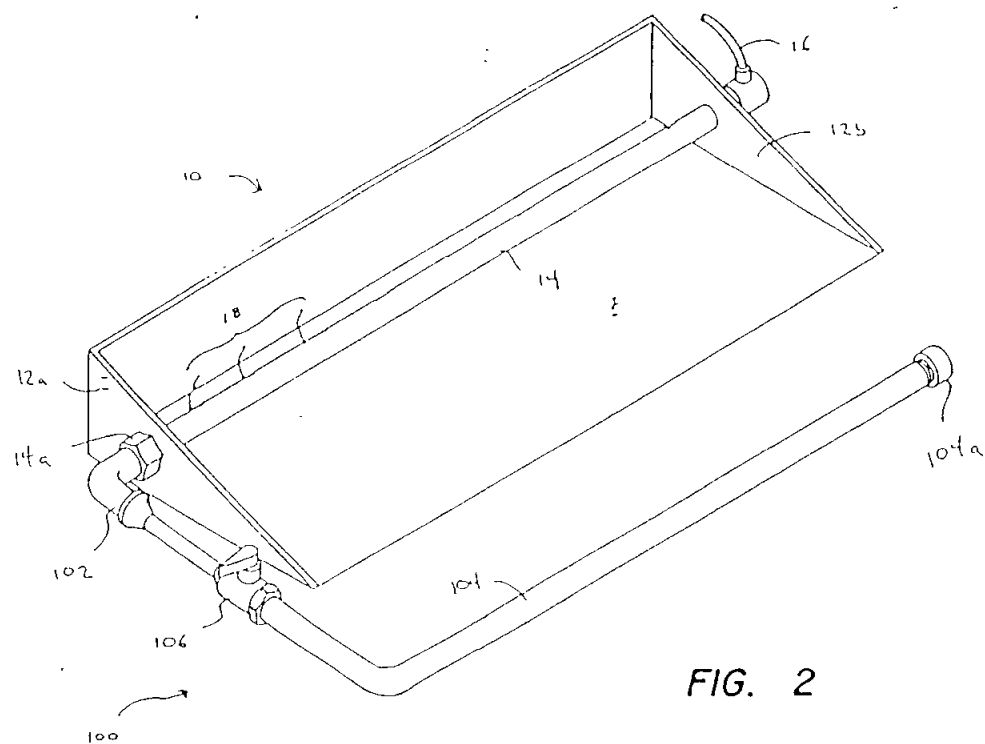


FIG. 2

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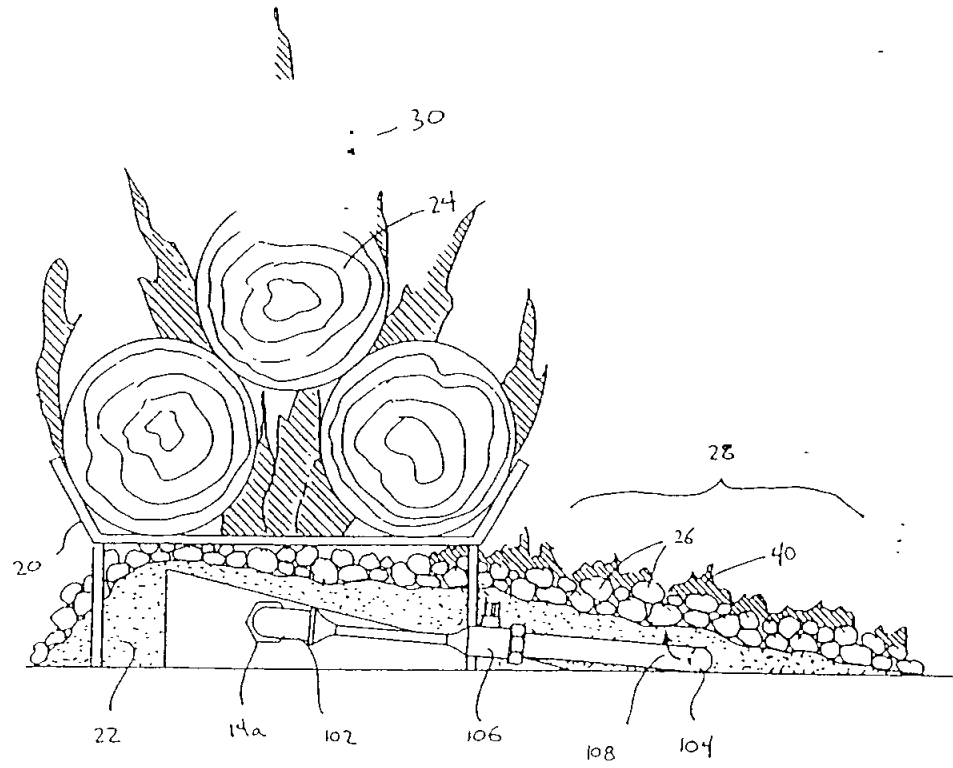


FIG. 3

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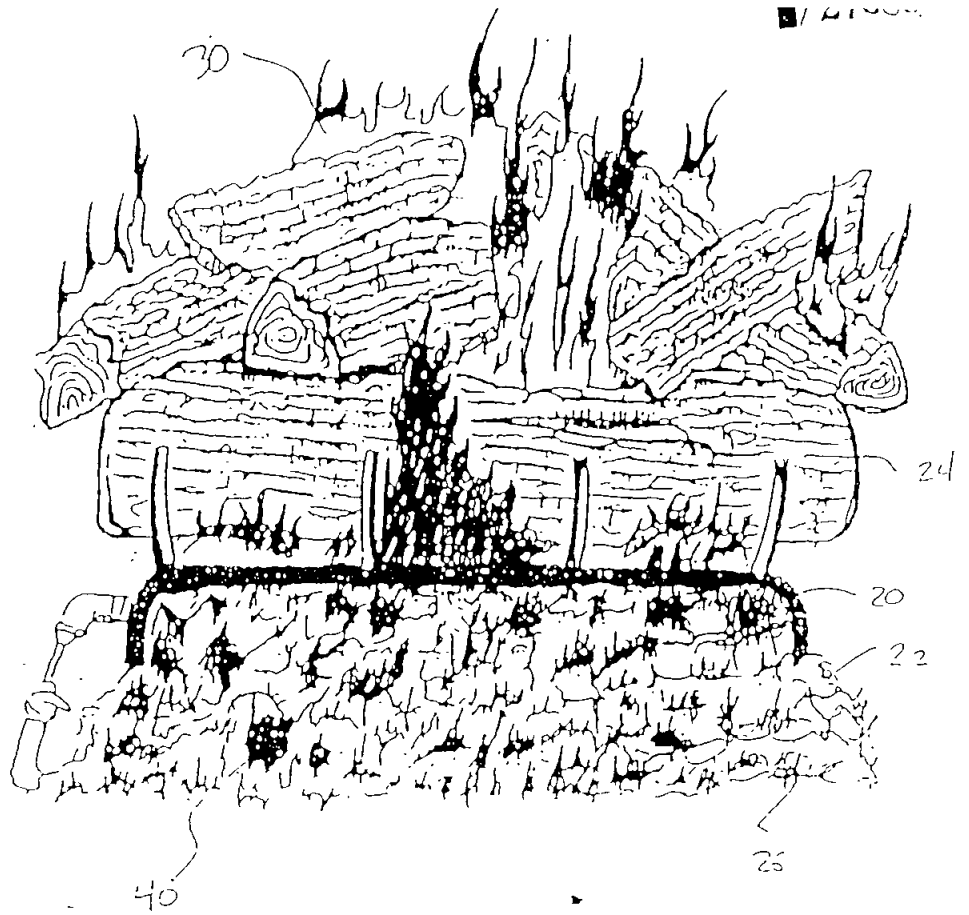


FIGURE 4

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Golden Blount

Serial No.: 08/276,894

Filed: July 19, 1994

For: SUPPLEMENTAL BURNER FOR RETROFITTING TO AN EXISTING
GAS LOG BURNER ASSEMBLY

Group Art Unit: 3406

Commissioner of Patents
and Trademarks
Washington, D. C. 20231

I hereby certify that this correspondence is being deposited
with the United States Postal Service as first class mail in an
envelope addressed to:
Commissioner of Patents and Trademarks,

Washington, D.C. 20231 on Dec 7, 1994
(Date of Deposit)

Maya B. Balaish

Sir:

INFORMATION DISCLOSURE STATEMENT

In accordance with 37 CFR §1.56, and in accordance with the provisions of 37 C.F.R. §§1.97 and 1.98, Applicant hereby makes disclosure of the patents, publications and other information listed on the accompanying form PTO-1449, which references are considered to be potentially material to the patentability of the invention disclosed in the above-referenced application. Copies of the listed references are submitted herewith.

Written notification that these references have been considered in their entirety by return of a copy of the enclosed form, completed by the Examiner, is respectfully requested.

000185

JT-APP 2057

The Commissioner is hereby authorized to charge any additional payment that may be due or credit any overpayment to Deposit Account 08-3105.

Respectfully submitted,

HARRIS, TUCKER & HARDIN, P.C.



David W. Carstens
Registration No. 34,134

Dated December 5, 1994
13355 Noel Road, Ste. 2100
Dallas, Texas 75240-6604
214/233-5712

42386

LIST OF REFERENCES CITED BY APPLICANT
(Use several sheets if necessary)APPLICANT
Golden BlountFILING DATE
7/19/94

GROUP

3406

#2

U. S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (if appropriate)
20	AA	5,081,981	1/21/1992	Beal	431	125	
20	AB	5,000,162	3/19/1991	Shimek et al.	431	125	
20	AC	5,052,370	10/1/1991	Karabin	126	512	
	AD						
	AE						
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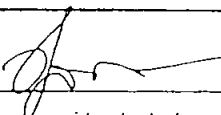
FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	AL							
	AM							
	AN							
	AO							
	AP							

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AR	
	AS	
	AT	

EXAMINER



DATE CONSIDERED

3/7/95

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

000187

JT-APP 2059

08/17/94 07/17/94 MOUNT

G GLNT009501P

EXAMINER

JONES, L

ART UNIT

PAPER NUMBER

DAVID W. CARSTENE
HARRIS, TUCHER & HARRIS
1335 NOEL ROAD, STE. 2100
DALLAS, TX 75240-6804

3406

DATE MAILED:

03/10/95

This is a communication from the examiner in charge of your application
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final

A shortened statutory period for response to this action is set to expire Three month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|--|
| 1. ☒ Notice of References Cited by Examiner, PTO-892. | 2. ☒ Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. ☒ Notice of Art Cited by Applicant, PTO-1449. | 4. ☐ Notice of Informal Patent Application, PTO-152. |
| 5. ☐ Information on How to Effect Drawing Changes, PTO-1474. | 6. ☐ _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-18 are pending in the application
Of the above, claims _____ are withdrawn from consideration
2. ☐ Claims _____ have been cancelled
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-18 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable, ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner, ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no _____; filed on _____
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213
14. ☐ Other

000188

EXAMINER'S ACTION

PTOL-328 (Rev. 2/93)

JT-APP 2060

FIRST OFFICE ACTION ON THE MERITS

Claims 1-18 are presented for examination.

GENERAL:

Receipt of the INFORMATION DISCLOSURE STATEMENT is acknowledged. An initialed copy of form PTO-1449 is enclosed.

OBJECTIONS TO THE DRAWINGS:

The drawings have been objected to by the Draftsperson, note form PTO-948. Correction is required.

REJECTIONS UNDER 35 U.S.C. § 112

Claims 1-17 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant recites in the preamble of the claims that the supplemental burner is "for retrofitting to an existing gas log burner". However, in the body of the claim a connector is recited as attached to the terminal end of the primary burner tube. Is the invention a supplemental burner tube connected to the primary burner tube to form a dual tube gas log burner assembly, or is it a retrofitting assembly consisting of a supplemental burner tube, a connector and a valve structure? In claims 6 and 16, no antecedent is found for "the upper ridge" of said supplemental burner tube.

REJECTIONS UNDER 35 U.S.C. § 103:

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

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JT-APP 2061

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Eiklor et al in view of Peterson and Henry.

Eiklor discloses a gas fired artificial log burner structure with a primary burner tube 12 and a supplemental burner tube 18. The primary and supplemental burner tubes both include apertures for the discharge of gas. Note, Eiklor discloses a valve 22 for control of the inlet of gas to the burner tubes.

Peterson discloses an artificial log burner tube with a valve 9 for control of the flow of gas to the burner.

Henry discloses a gas distribution apparatus for artificial logs in which primary and secondary tubes are joined to one another by connectors 22 and 24 (Figure 3).

The structure of the device of Eiklor shows a fireplace burner system in which the primary and supplemental burner tubes are assembled into a complete unit in which the supplemental tube differs in size from the primary burner tube. Henry teaches the use of a connecting device for joining primary and secondary gas burner tubes. One of ordinary skill in the art considering the noted prior art would find the use of a connector to join the primary and

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supplemental burner tubes clearly shown. Further, as Peterson discloses the use of a gas valve to control the flow of gas to the burner tube is well known in the art as a means to control the intensity of the flame.

Accordingly, it is considered to have been obvious at the time the invention was made to one having ordinary skill in the art to modify the structure of Eiklor to incorporate the use of a connector for joining the smaller diameter supplemental burner tube with the primary burner tube. Use of a valve to control the quantity of gas flow to the supplemental burner is considered obvious in view of the showing by Peterson of a valve to control gas flow to a burner. The arrangement of apertures and the material of which the burner tube is made is considered a matter of choice in design.

As regards claim 18 the method is considered obvious in view of the modifications to the disclosure of Eiklor by Peterson and Henry as described above.

The prior art made of record but not applied in a rejection is considered pertinent to applicant's disclosure.

GUIDE TO COMMUNICATING WITH THE PTO REGARDING THIS APPLICATION:

Inquiries regarding this or earlier communications from the Examiner should be directed to me, **Larry Jones** at telephone number (703) 308-1933. My normal working hours are 9:30 a.m. to 6:00 p.m. (ET), Monday through Friday.

An inquiry of a general nature or relating to the status of this application should be directed to the **Group Receptionist** whose telephone number is (703) 308-0861. The Receptionist is available 8:30 a.m. to 5:00 p.m. (ET), daily.

Fax transmissions may be made to the **Group 3400** fax number (703) 305-3463. Any transmitted document should clearly identify the application (by serial number) and the Examiner (**Larry Jones**) to whom the document is directed. The fax reception facility is available 24 hours a day.

060131.

JT-APP 2063

08/276,894
Art Unit 3406
PART III: DETAILED ACTION

5

March 15, 1995


LARRY JONES
PRIMARY EXAMINER
ART UNIT 3406

000132

JT-APP 2064

NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

PTO Draftpersons review all originally filed drawings regardless of whether they are designated as formal or informal. Additionally, patent Examiners will review the drawings for compliance with the regulations. Direct telephone inquiries concerning this review to the Drawing Review Branch, 703-305-8404.

The drawings filed (insert date) 7/19/94 are
A. ☒ not objected to by the Draftsperson under 37 CFR 1.84 or 1.152.
B. ☐ objected to by the Draftsperson under 37 CFR 1.84 or 1.152 as indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawings must be submitted according to the instructions on the back of this Notice.

1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings:

- Black ink. Color.
- ☐ Not black solid lines Fig(s) _____
- ☐ Color drawings are not acceptable until petition is granted.

2. PHOTOGRAPHS. 37 CFR 1.84(b)

- ☐ Photographs are not acceptable until petition is granted

3. GRAPHIC FORMS. 37 CFR 1.84(d)

- ☐ Chemical or mathematical formula not labeled as separate figure. Fig(s) _____
- ☐ Group of waveforms not presented as a single figure, using common vertical axis with time extending along horizontal axis. Fig(s) _____
- ☐ Individuals waveform not identified with a separate letter designation adjacent to the vertical axis. Fig(s) _____

4. TYPE OF PAPER. 37 CFR 1.84(e)

- ☐ Paper not flexible, strong, white, smooth, nonshiny, and durable. Sheet(s) _____
- ☒ Erasures, alterations, overwritings, interjections, cracks, creases, and folds not allowed. Sheet(s) all

5. SIZE OF PAPER. 37 CFR 1.84(f): Acceptable paper sizes:

- 21.6 cm. by 35.6 cm. (8 1/2 by 14 inches)
- 21.6 cm. by 33.1 cm. (8 1/2 by 13 inches)
- 21.6 cm. by 27.9 cm. (8 1/2 by 11 inches)
- 21.0 cm. by 29.7 cm. (DIN size A4)
- ☐ All drawing sheets not the same size. Sheet(s) _____
- ☐ Drawing sheet not an acceptable size. Sheet(s) _____

6. MARGINS. 37 CFR 1.84(g): Acceptable margins:

Paper size			
21.6 cm. X 35.6 cm. (8 1/2 X 14 inches)	21.6 cm. X 33.1 cm. (8 1/2 X 13 inches)	21.6 cm. X 27.9 cm. (8 1/2 X 11 inches)	21.0 cm. X 29.7 cm. (DIN Size A4)
T 5.1 cm. (2")	2.5 cm. (1")	2.5 cm. (1")	2.5 cm.
L 6.4 cm. (1 1/4")	6.4 cm. (1 1/4")	6.4 cm. (1 1/4")	2.5 cm.
B 6.4 cm. (1 1/4")	6.4 cm. (1 1/4")	6.4 cm. (1 1/4")	1.5 cm.
H 6.4 cm. (1 1/4")	6.4 cm. (1 1/4")	6.4 cm. (1 1/4")	1.0 cm.

- Margins do not conform to chart above.
- Sheet(s) _____
- Top (T) _____ Left (L) _____ Right (R) _____ Bottom (B) _____

7. VIEWS. 37 CFR 1.84(h)

REMINDER: Specification may require revision to correspond to drawing changes.

- ☐ All views not grouped together. Fig(s) _____
- ☐ Views connected by projection lines. Fig(s) _____
- ☐ Views contain center lines. Fig(s) _____

Partial views. 37 CFR 1.84(h)(2)

- ☐ Separate sheets not linked edge to edge. Fig(s) _____
- ☐ View and enlarged view not labeled separately. Fig(s) _____
- ☐ Long view relationship between different parts not clear and unambiguous. 37 CFR 1.84(h)(2)(ii) Fig(s) _____

Sectional views. 37 CFR 1.84(h)(3)

- ☐ Hatching not indicated for sectional portions of an object. Fig(s) _____
- ☐ Hatching of regularly spaced oblique parallel lines not spaced sufficiently. Fig(s) _____
- ☐ Hatching not at substantial angle to surrounding axes or principal lines. Fig(s) _____
- ☐ Cross section not drawn same as view with parts in cross section with regularly spaced parallel oblique strokes. Fig(s) _____
- ☐ Hatching of juxtaposed different materials not clearly indicated in way. Fig(s) _____

Alternate position. 37 CFR 1.84(h)(4)

- ☐ A separate view required for a new position. Fig(s) _____

Modified forms. 37 CFR 1.84(h)(5)

- ☐ Modified forms of construction must be shown in separate views. Fig(s) _____

8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i)

- ☐ View placed upon another view or within outline of another. Fig(s) _____
- ☐ Words do not appear in a horizontal, left-to-right fashion when page is either upright or turned so that the top becomes the right side, except for graphs. Fig(s) _____

9. SCALE. 37 CFR 1.84(j)

- ☐ Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction. Fig(s) _____
- ☐ Indication such as "actual size" or "scale 1/2" not permitted. Fig(s) _____
- ☐ Elements of same view not in proportion to each other. Fig(s) _____

10. CHARACTER OF LINES, NUMBERS, & LETTERS. 37 CFR 1.84(k)

- ☒ Lines, numbers & letters not uniformly thick and well defined, clean, durable, and black (except for color drawings). Fig(s) 1-4

11. SHADING. 37 CFR 1.84(m)

- ☐ Shading used for other than shape of spherical, cylindrical, and conical elements of an object, or for fluid parts. Fig(s) _____
- ☐ Solid black shading areas not permitted. Fig(s) _____

12. NUMBERS, LETTERS, & REFERENCE CHARACTERS. 37 CFR 1.84(p)

- ☒ Numbers and reference characters not plain and legible. 37 CFR 1.84(p)(1) Fig(s) 1-4
- ☐ Numbers and reference characters used in conjunction with brackets, inverted commas, or enclosed within outlines. 37 CFR 1.84(p)(1) Fig(s) _____
- ☐ Numbers and reference characters not oriented in same direction as the view. 37 CFR 1.84(p)(1) Fig(s) _____
- ☐ English alphabet not used. 37 CFR 1.84(p)(2) Fig(s) _____
- ☐ Numbers, letters, and reference characters do not measure at least 32 cm. (1/8 inch) in height. 37 CFR(p)(3) Fig(s) _____

13. LEAD LINES. 37 CFR 1.84(q)

- ☐ Lead lines cross each other. Fig(s) _____
- ☐ Lead lines missing. Fig(s) _____
- ☐ Lead lines not as short as possible. Fig(s) _____

14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.84(u)

- ☐ Number appears in top margin. Fig(s) _____
- ☐ Number not larger than reference characters. Fig(s) _____
- ☐ Sheets not numbered consecutively, and in Arabic numerals, beginning with number 1. Sheet(s) _____

15. NUMBER OF VIEWS. 37 CFR 1.84(u)

- ☐ Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____
- ☐ View numbers not preceded by the abbreviation Fig. Fig(s) _____
- ☐ Single view contains a view number and the abbreviation Fig. Numbers not larger than reference characters. Fig(s) _____

16. CORRECTIONS. 37 CFR 1.84(w)

- ☐ Corrections not durable and permanent. Fig(s) _____

17. DESIGN DRAWING. 37 CFR 1.152

- ☐ Surface shading shown not appropriate. Fig(s) _____
- ☐ Solid black shading not used for color contour. Fig(s) _____

ATTACHMENT TO PAPER 200

REVIEWER TBW

DATE 8/24/94

JT-APP 2065

276,894

3404

3

NOTICE OF REFERENCES CITED

APPLICANT(S)

Golden Blount

U.S. PATENT DOCUMENTS

	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
A	3042109	7/1962	Peterson	126	518	
B	5033455	7/1991	E:Kbr et al	126	512	
C	5263852	11/1993	Beck	431	125	
D	3871355	3/1975	Henry	431	125X	
E						
F						
G						
H						
I						
J						
K						

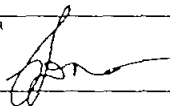
FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SITS DWG.	IP SPEC
L								
M								
N								
O								
P								
Q								

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

R	
S	
T	
U	

EXAMINER



DATE

3/7/95

* A copy of this reference is not being furnished with this office action.
(See Manual of Patent Examining Procedure, section 707.05 (a).)

000194



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION

Serial Number: 08/276,894
Filing Date: July 19, 1994
Applicant: Golden Blount
Title: Supplemental Burner for Retrofitting to an Existing
Gas Log Burner Assembly
Group Art Unit: 3406
Examiner: Larry Jones

Assistant Commissioner
for Patents
Washington, D. C. 20231

I hereby certify that this correspondence is being deposited
with the United States Postal Service with sufficient postage
as first class mail in an envelope addressed to:
Assistant Commissioner for Patents,
Box Non-Fee Amendment
Washington, D.C. 20231 on MAR 30 1995
(Date of Deposit)

Sir:

AMENDMENT

In response to the Office Action mailed March 30, 1995, please amend the above-
identified application as follows:

000195

JT-APP 2067

IN THE CLAIMS

1. (Once Amended) A retrofitting assembly for adding a supplemental burner [for retrofitting] to an existing gas log burner assembly having a primary burner tube with a terminal end, said assembly [supplemental burner] comprising:

- (a) a connector attached to the terminal end of the primary burner tube;
- (b) a supplemental burner tube attached to the connector; and
- (c) a valve interposed between the supplemental burner tube and the connector,

wherein the valve can control a flow of gas to the supplemental burner.

2. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 1 wherein said supplemental burner tube has a plurality of apertures.

3. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 2 wherein said apertures are evenly spaced.

4. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 2 wherein said apertures are clustered.

5. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 2 wherein said apertures are aligned along the supplemental burner tube.

6. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 2 wherein said apertures are located below [the] an upper ridge of said supplemental burner tube.

7. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 1 wherein supplemental burner tube is generally parallel with the primary burner tube.

8. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 1 wherein said supplemental burner tube is located forward of said primary burner tube.

9. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 1 wherein said valve has a rotatable lever which allows for a variety of positions between a fully closed position and a fully open position.

10. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 1 wherein said burner tube is made of steel.

11. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 2 wherein said apertures have a diameter between 1/32 and 1/8 inches.

12. (Once Amended) A retrofitting assembly [supplemental burner] for retrofitting to an existing gas log burner assembly having a primary burner tube with a terminal end, said supplemental burner comprising:

- Sub
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B1
- (a) a connector attached to the terminal end of the primary burner tube;
 - (b) a supplemental burner tube attached to the connector, said supplemental burner tube having a plurality of apertures; and
 - (c) a valve interposed between the supplemental burner tube and the connector;
- wherein the supplemental burner tube is generally parallel with and forward of the primary burner tube.

13. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 12 wherein said apertures are evenly spaced.

14. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 12 wherein said apertures are clustered.

15. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 12 wherein said apertures are aligned along the supplemental burner tube.

16. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 12 wherein said apertures are located below [the] an upper ridge of said supplemental burner tube.

17. (Once Amended) The retrofitting assembly [supplemental burner] of Claim 12 wherein said valve has a rotatable lever which allows for a variety of positions between a fully closed position and a fully open position.

Al

18. A method of installing a supplemental burner to a pan burner assembly having a primary burner tube with a capped terminal end, said method comprising:

- (a) uncapping the terminal end of the primary burner tube;
 - (b) sealingly attaching a connector to the uncapped primary burner tube terminal end;
 - 5 (c) sealingly attaching a supplemental burner tube to the connector; and
 - (d) interposing a valve between said connector and the supplemental burner tube.
-

REMARKS

Applicant respectfully requests reconsideration and further examination of the application under 37 C.F.R. §1.111. Applicant responds to each ground of rejection and objection as follows:

A. **The Examiner objects to the drawings.**

Formal drawings will be submitted upon the receipt of a Notice of Allowance.

B. **Claims 1-17 are rejected under 35 U.S.C. §112, second paragraph.**

In view of the Examiner's comments, the Applicant has amended the preamble to define the invention as a --retrofitting assembly-- for retrofitting to an existing gas log burner assembly having a primary burner tube. The retrofitting assembly is attached to the terminal end of the primary burner tube.

The Applicant has amended Claims 6 and 16 by replacing "the" with --an--.

C. **Claims 1-18 are rejected under 35 U.S.C. §103 are rejected in view of Eiklor, Peterson, and Henry.**

The Applicant has carefully reviewed each of the prior art references cited, and considers each distinguishable from the claims as amended. Not one of the references discloses a retrofitting assembly. Also, not one of the references teaches or even suggests the use of a valve between a primary burner tube and the supplemental burner tube to allow a user to limit the flow of gas to the supplemental burner.

Eiklor discloses an upper burner 12 and a lower burner 14 that are joined together to form a single dual burner that is attached to a special grate. The grate is an integral part of the burner system. A single valve 22 controls the flow of gas to both burners.

A source of natural or propane gas is supplied to the gas-fired burner 10 through a conventional gas supply valve 22. When opened, this gas supply valve 22 feeds the upper tubular gas pipe 16. Gas which is not discharged from the upper tubular gas pipe 16 moves towards junction 20, where it passes through a regulatory orifice 24. This regulatory orifice 24 controls the volume and pressure of the gas being fed to the lower tubular gas pipe 18.

Col. 3, lines 9 to 17. The orifice 24 is fixed. Claims 1 and 12 require the use of a valve between supplemental burner and the primary burner. This allows the user to vary the flame height for the supplemental burner. The orifice 24 in Eiklor '455 is fixed, preventing the user from varying the flow of gas, and thus the height of the flame, from the lower burner. Moreover, the Eiklor device is unsuitable as a retrofitting assembly.

Peterson '109 discloses an artificial log burner which involves a single burner tube with flame interceptor 23 positioned above. The interceptor is positioned to split the gas emitted from the burner into parallel sheets. There is no suggestion in either reference about the desirability or adding additional burner tubes. Therefore, there is no motivation to combine the references.

Henry discloses a pan burner that is installed inside a pan with a continuous sidewall which defines the firebed area. The burner can have two or three tubes in parallel. For example, Figure 2 shows tubes 17 and 18 connected by tube 23. Henry fails to disclose any means for allowing the user to limit the flow of gas to tube 17. Claims 1 and 12 both require

the positioning of a valve to control the flow to the supplemental burner. Also, there is no suggestion in Henry that his structure could be retrofitted to an existing gas log burner assembly.

For the forgoing reasons, applicant respectfully submits that the application is in condition for allowance, and respectfully requests such action. Should it facilitate allowance of the application, the Examiner is invited to telephone the undersigned attorney.

The Commissioner is hereby authorized to charge any additional payment that may be due or credit any overpayment to our Deposit Account 08-3105.

Respectfully submitted,

HARRIS, TUCKER & HARDIN, P.C.



David W. Carstens
Registration No. 34,134

Date: June 30, 1975

One Galleria Tower
13355 Noel Road, Suite 2100
Dallas, Texas 75240-6604
214/233-5712

47985



AMENDMENT TRANSMITTAL LETTER				Attorney Docket No. GLDT 88095CIP		
SERIAL NO. 08/276,894	FILING DATE 07/19/1994	EXAMINER Larry Jones	Group Art Unit 3606			
INVENTION SUPPLEMENTAL BURNER FOR RETROFITTING TO AN EXISTING GAS LOG BURNER ASSEMBLY						
TO THE COMMISSIONER OF PATENTS AND TRADEMARKS: Transmitted herewith is an amendment in the above-identified application. The fee has been calculated as shown below.						
CLAIMS AS AMENDED						Small Entity
(1)	(2) Claims Remaining After Amendment	(3)	(4) Highest No. Previously Paid for	(5) No. of Extra Claims Present	(6) RATE	(7) ADDITIONAL FEE
Total Claims	* 18	Minus	** 20	= 0	X \$11	= 0.00
Indep. Claims	* 3	Minus	** 3	= 0	X \$38	= 0.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT					\$	0.00
* If the entry in column 2 is less than the entry in column 4, write "0" in column 5. ** If the "Highest Number Previously Paid for" IN THIS SPACE is less than 10, write "10" in this space. ☒ No additional fee is required. ☐ A check in amount of \$0.00 is attached. ☒ Please charge any additional fees or credit overpayment to Deposit Account No. <u>08-3105</u>. A duplicate copy of this sheet is enclosed. Date <u>June 30, 1995</u> <u>David W. Carst</u> Attorney of Record David W. Carstens Registration No. 34,134						

PTO Form 3.52
\\TL-AMEND.PTO

Patent and Trademark Office - U.S. DEPARTMENT OF COMMERCE

000203

JT-APP 2075



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

03/27/94 07/19/94 COUNT

6 GLETTB8095CIP

34ME/1002

JONES, L. EXAMINER

DAVID W. CARSTENS
HARRIS, TUCKER & HARDIN
13355 NOEL ROAD, STE. 2100
DALLAS, TX 75240-6604

ART UNIT PAPER NUMBER

3406

5

DATE MAILED: 10/02/95

☐ This application has been examined ☒ Responsive to communication filed on 7/3/95 ☒ This action is made final

A shortened statutory period for response to this action is set to expire Three month(s), _____ day(s) from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|--|---|
| 1. ☒ Notice of References Cited by Examiner, PTO-892 | 2. ☒ Notice re Patent Drawing, PTO-948 |
| 3. ☐ Notice of Art Cited by Applicant, PTO-1449 | 4. ☐ Notice of Informal Patent Application, Form PTO-152 |
| 5. ☐ Information on How to Effect Drawing Changes, PTO-1474 | 6. ☐ _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-18 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-18 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____ Under 37 C.F.R. 1.84 these drawings are ☐ acceptable ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).
12. ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received.
☐ been filed in parent application, serial no. _____, filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.
14. ☐ Other _____

000204

EXAMINER'S ACTION

PTOL 326 (Rev. 9-89)

JT-APP 2076

**THIS OFFICE ACTION IS RESPONSIVE TO APPLICANT'S
AMENDMENT, FILED July 3, 1995**

Claims 1-18 are presented for reconsideration

REPEAT OF REJECTIONS ALREADY OF RECORD

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The rejection of claims 1-18 as unpatentable over Eiklor et al in view of Peterson and Henry, of record, page 3 of paper number 3 is repeated.

REMARKS

Applicant's arguments filed July 3, 1995 have been fully considered but they are not deemed to be persuasive.

Applicant argues the absence of a teaching in the prior art references of a retrofit assembly for an existing gas log burner. Although the preamble of the claims recite "A retrofitting assembly for adding a supplemental burner to an existing gas log burner assembly" the language of the claims clearly claims the "retrofitting assembly" components in combination with the existing primary burner, ("a connector attached to the terminal end of the primary burner tube", a "supplemental burner tube attached to the connector", "a valve interposed between the supplemental burner tube and the connector") Thus, applicant is claiming the combined assembly after it has been installed, not an assembly to be installed!

The difference between the prior art references to Eiklor, Henry and Peterson and the claimed invention are only in the preamble intent of a retrofit assembly.

000205

The prior art shows the primary burner tube, supplemental burner tube, a connector between burner tube elements and the use of a valve to control gas flow. Modification of the prior art structures to incorporate the use of a connector for joining the smaller diameter supplemental burner tube with the primary burner tube and the use of a valve to control gas flow to the supplemental burner tube to control the intensity of the flame would have been obvious to one having ordinary skill in the art at the time the invention was made. The structure claimed in the claims make clear the invention applicant seeks patent protection for. That invention is the retrofit elements joined to the primary burner elements. This structure is obvious in the prior art and the preamble language of a retrofitting assembly does not serve to define the focus of the claims beyond the elements being claimed.

FINALITY OF THIS OFFICE ACTION

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

GUIDE TO COMMUNICATING WITH THE PTO REGARDING THIS APPLICATION

000206

U.S. PATENT & TRADEMARK OFFICE
ART UNIT 3406

EXAMINER: LARRY JONES
CP-4-2A01 (703) 308-1933

JT-APP 2078

UNITED STATES UTILITY PATENT APPLICATION SERIAL NO. 08/276,894
PART III: DETAILED ACTION

Pg. 4

Inquiries regarding this or earlier communications from the Examiner should be directed to me, **Larry Jones** at telephone number (703) 308-1933. My normal working hours are 9:30 a.m. to 6:00 p.m. (ET), Monday through Friday.

An inquiry of a general nature or relating to the status of this application should be directed to the **Group Receptionist** whose telephone number is (703) 308-0861. The Receptionist is available 8:30 a.m. to 5:00 p.m. (ET), daily.

Fax transmissions may be made to the **Art Unit 3406** fax number (703) 308-7764. Any transmitted document should clearly identify the application (by **serial number**) and the Examiner (**Larry Jones**) to whom the document is directed. The fax reception facility is available 24 hours a day.

September 20, 1995


LARRY JONES
PRIMARY EXAMINER
ART UNIT 3406

000207

U.S. PATENT & TRADEMARK OFFICE
ART UNIT 3406

EXAMINER: LARRY JONES
CP-4-2A01 (703) 308-1933

JT-APP 2079

GLDT B8095CIP
DWC/jeb



55-215-
Ep 3406

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION

Serial Number: 08/276,894
Filing Date: July 19, 1994
Applicant: Golden Blount
Title: SUPPLEMENTAL BURNER FOR RETROFITTING TO AN EXISTING
GAS LOG BURNER ASSEMBLY
Group Art Unit: 3406
Examiner: Larry Jones

Assistant Commissioner of Patents
Washington, D. C. 20231

I hereby certify that this correspondence is being deposited
with the United States Postal Service with sufficient postage
as first class mail in an envelope addressed to:
Assistant Commissioner of Patents,
Washington, D.C. 20231 on Jan. 24 1996
(Date of Deposit)

[Signature]

Sir:

PETITION FOR EXTENSION OF TIME

Applicant respectfully requests a one month extension of time for filing a response to the October 2, 1995, Office Action. The response period is presently set to expire on January 2, 1996, and if this Request for Extension of Time is granted, the new response date will be February 2, 1996.

A check in the amount of \$55.00 is enclosed in payment of the fee for a one month delayed response.

000208

JT-APP 2080

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 08-3105. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

HARRIS, TUCKER & HARDIN, P.C.



David W. Carstens
Registration No. 34,134

Date: 1/23/96

One Galleria Tower
13355 Noel Road, Suite 2100
Dallas, Texas 75240-6604
214/233-5712

54911

GLDT B8095CIP



68
3/20/96
PATENT
7/3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION

Serial Number: 08/276,894
Filing Date: July 19, 1994
Applicant: Golden Blount
Title: Supplemental Burner for Retrofitting to an Existing
Gas Log Burner Assembly
Group Art Unit: 3406
Examiner: Larry Jones

Assistant Commissioner
for Patents
Washington, D. C. 20231

I hereby certify that this correspondence is being deposited
with the United States Postal Service with sufficient postage
as first class mail in an envelope addressed to:
Assistant Commissioner for Patents,
Box Non-Fee Amendment
Washington, D.C. 20231 on Jan 24 1996

Jan Brown
(Date of Deposit)

Sir:

AMENDMENT

In response to the Office Action mailed October 2, 1995, please amend the above-
identified application as follows:

Do not
enter *pr*

000210

JT-APP 2082

IN THE CLAIMS

1. (Twice Amended) A retrofitting assembly for adding a supplemental burner to an existing gas log burner assembly having a primary burner tube with a terminal end, said retrofitting assembly comprising:

[(a) a connector attached to the terminal end of the primary burner tube;]

B2 [(b)a a supplemental burner tube [attached to the] having a connector attached to its proximal end; and

[(c)b a valve attached [interposed] between the supplemental burner tube and the connector, wherein the valve can control a flow of gas to the supplemental burner.

12. (Once Amended) A retrofitting assembly for retrofitting to an existing gas log burner assembly having a primary burner tube with a terminal end, said supplemental burner comprising:

[(a) a connector attached to the terminal end of the primary burner tube;]

[(b)a a supplemental burner tube [attached to the] having a connector, said supplemental burner tube having a plurality of apertures; and

[(c)b a valve [interposed between] attached to the supplemental burner tube [and the connector; wherein the supplemental burner tube is generally parallel with and forward of the primary burner tube] wherein said supplemental burner can produce a flammable gas discharge pattern.

REMARKS

The Applicant has carefully reviewed the comments of the Examiner in the Office Action of October 2, 1995. In response, the Applicant has eliminated any reference to the primary burner assembly in the body of the independent claims.

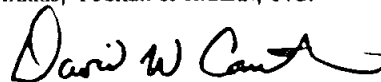
The Applicant requests that the Examiner reconsider his rejection of the claims in view of the changes. Applicant still asserts that none of the references cited teach or even suggest a retrofitting assembly to enhance the beauty and utility of a standard gas log assembly. To that end, the Applicant reasserts the distinctions discussed in his response dated June 30, 1995.

For the forgoing reasons, Applicant respectfully submits that the application is in condition for allowance, and respectfully requests such action. The Examiner is invited to telephone the undersigned attorney to discuss the amended claims further.

The Commissioner is hereby authorized to charge any additional payment that may be due or credit any overpayment to our Deposit Account 08-3105.

Respectfully submitted,

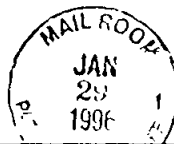
HARRIS, TUCKER & HARDIN, P.C.



David W. Carstens
Registration No. 34,134

Date: 1/23/96

One Galleria Tower
13355 Noel Road, Suite 2100
Dallas, Texas 75240-6604
214/233-5712
52391



AMENDMENT TRANSMITTAL LETTER				Attorney Docket No. GLDT 88095CIP		
SERIAL NO. 08/276,894	FILING DATE 07/19/1994	EXAMINER Larry Jones	Group Art Unit 3406			
INVENTION SUPPLEMENTAL BURNER FOR RETROFITTING TO AN EXISTING GAS LOG BURNER ASSEMBLY						
TO THE COMMISSIONER OF PATENTS AND TRADEMARKS: Transmitted herewith is an amendment in the above-identified application. The fee has been calculated as shown below.						
CLAIMS AS AMENDED Small Entity						
(1)	(2) Claims Remaining After Amendment	(3)	(4) Highest No. Previously Paid for	(5) No. of Extra Claims Present	(6) RATE	(7) ADDITIONAL FEE
Total Claims	18	Minus	20	0	X \$11	0.00
Indep. Claims	3	Minus	3	0	X \$38	0.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT					\$ 0.00	
* If the entry in column 2 is less than the entry in column 4, write "0" in column 5. ** If the "Highest Number Previously Paid for" IN THIS SPACE is less than 10, write "10" in this space. ☒ No additional fee is required. ☐ A check in amount of \$1.00 is attached. ☒ Please charge any additional fees or credit overpayment to Deposit Account No. <u>08-3105</u>. A duplicate copy of this sheet is enclosed. Date <u>1/23/96</u> Attorney of Record David W. Carstens Registration No. 34,134						

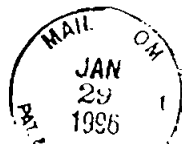
PTO Form 3.52
\\IL-AMEND.PTO

Patent and Trademark Office - U.S. DEPARTMENT OF COMMERCE

000214

JT-APP 2086

GLDT B8095CIP



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TP

PATENT APPLICATION

Serial Number: 08/276,894
Filing Date: July 19, 1994
Applicant: Golden Blount
Title: Supplemental Burner for Retrofitting to an Existing Gas Log Burner Assembly
Group Art Unit: 3406
Examiner: L. Jones

Commissioner of Patents
and Trademarks
Washington, D. C. 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:
Commissioner of Patents and Trademarks,

Washington, D.C. 20231 on Jan. 24 1996
(Date of Deposit)

Golden Blount

Sir:

DECLARATION OF GOLDEN BLOUNT

1. My name is Golden Blount. I am over the age of 21 and fully competent to make the following statements.
2. I am the inventor of the supplemental burner for retrofitting to an existing gas log burner assembly described in the above-identified application. I am also the president of J. H.

000215

JT-APP 2087

Mullins & Associates, Inc. d/b/a Golden Blount, a company devoted to the production of gas log systems and accessories.

3. My company has been producing a supplemental burner, called the CEBB, for retrofitting to existing gas log burner assemblies. The CEBB embodies the elements of the claims in the above-identified application.

4. Our CEBB product has experienced substantial commercial success since its introduction over two years ago. I have attached, as Exhibit A, a number of invoices and summaries showing the number of sales for the CEBB. You will note that this product has peak sales during the winter months, with less substantial sales during the remainder of the year. For this reason, the non-peak months are combined. A summary of the sales reveals:

<u>Period</u>	<u>No. Units Sold</u>
November 1993	519
December 1993	941
January 1994	382
February 1994 - July 1994	415
August 1994	355
September 1994	261
October 1994	1658
November 1994	1518
December 1994	~900
January 1995	301
February 1995 - July 1995	1023
August 1995	344
September 1995	979
October 1995	1123
November 1995	1908
December 1995	841

Note, we can only provide partial sales figures for December 1995 at this time.

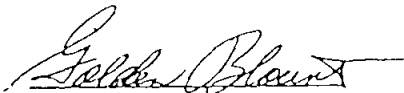
000216

5. We are extremely pleased by our growing sales and anticipate continued growth over the coming years.

6. Our distributors have also commented on the benefits of CEBB product. Specifically, many have commented on the long-felt need for a supplemental burner that improves the appearance and heat production of the ember bed in-front of the primary gas log assembly. Many of these comments are attached as Exhibit B.

7. In view of the wide spread acceptance of our supplemental burner, our significant increases in sales, and our satisfaction of a long-felt industry need, we ask that the claims presently pending in this application be allowed.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: 
Golden Blount

Date: 1-23-96

54913

000217

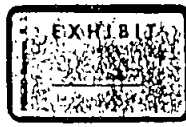
JT-APP 2089

ITEM GB-CEBB-18 TO GB-CEBB-36
PERIOD: 09/93 TO 08/94

Dec '93 - Nov '94

ITEM	D	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	TOTAL
GB-CEBB-18	SALES	3786	346	178	18	56	24	120	172	632	502	3427	2321	11542
	UNITS	216	18	10	1	3	1	6	7	33	25	163	116	599
GB-CEBB-21	SALES	4113	965	-202	152	54	18	170	301	1698	570	9015	4227	21581
	UNITS	206	50	3	8	3	1	9	16	86	29	433	260	1104
GB-CEBB-24	SALES	6487	3612	1464	314	228	274	673	928	2850	3149	15714	15268	50957
	UNITS	337	189	84	16	12	19	34	48	153	165	757	782	25022
GB-CEBB-30	SALES	3700	2491	1007	153	110	94	238	881	1603	880	6493	7472	25022
	UNITS	176	113	56	8	5	4	11	40	79	41	284	378	1155
GB-CEBB-36	SALES	132	250	54	20	22	0	27	85	67	22	445	464	1619
	UNITS	6	12	3	1	1	0	1	4	4	1	21	22	78
REPORT SALES		18219	7574	2501	657	470	410	1228	2327	6850	5123	35094	70280	110777
REPORT UNITS		941	382	156	34	24	25	61	115	255	261	1553	1018	5270

END OF REPORT



*Super
gathering
phases*

000213



Golden Blount

4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO 031423

PAGE 3

DATE 1/22/95

B7
CASUAL LINE
1065 E STOREY
WINTERGARDEN, FL 34787

2
ATLANTA PATIO & FIREPLACE
6170 McDONOUGH DR
NORCROSS GA 30093

CUSTOMER P.O. NO.	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC #	WH	FREIGHT	SHIP VIA
	11/22/95	JOHN BABCOCK	10% 30 NET 21	NOTAX	025607	01	PREPAID	U.S. SHIP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSIC
11-CEBB-30	BURNER FOR 30" GAS LOGS	12	12	0	EA	21.48	EA	257.76
11-CEBB-24	BURNER FOR 24" GAS LOGS	22	22	0	EA	20.98	EA	461.56
11-CEBB-21	BURNER FOR 21" GAS LOGS	22	22	0	EA	20.98	EA	461.56
11-CEBB-36	BURNER FOR 36" GAS LOGS	2	2	0	EA	23.48	EA	46.96
								.00
BOXES	RH24 LOGS	6	6	0	EA	2.12	EA	12.72
BOXES	RH24DA	6	6	0	EA	1.39	EA	8.34
BOXES	RH21 LOGS	6	6	0	EA	1.95	EA	11.70
BOXES	RH21DA	6	6	0	EA	1.23	EA	7.38
								.00
11-K-111-1210	12" BAG OF CINDERS	35	35	0	EA	2.84	EA	99.40
11-K-1010	10" BAG OF SAND	20	20	0	EA	2.84	EA	56.80
11-K-1010	10" BAG OF SAND	20	20	0	EA	2.84	EA	56.80
								.00
		MERCHANDISE	MISC	DISCOUNT	TAX	FREIGHT	TOTAL DUE	
							CONTINUED	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE. ANNUAL RATE 18

000219

JT-APP 2091



Golden Blount

4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

REFRINT
NO031547

PAGE 2

DATE 12/29/95

1641
CASUAL FURNITURE WORLD
1500 HANES HALL BLVD
WINSTON SALEM, NC 27103

1
CASUAL FURNITURE WORLD
1500 HANES HALL BLVD
WINSTON SALEM NC 27103-13

CUSTOMER P.O. NO.	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
IRGARA	1/29/95	96	10% 30 NET 31	NOTAX	025529	01	PREPAID U.S. SHIP	
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENS
11-30-RA-LP	BURNER ASSEMBLY - LP	5	5	0	1A	54.26	1A	271.30
10KINAT	SAFETY PILOT CONTROL KIT-NG	150	150	0	1A	50.36	1A	554.00
10KILP	SAFETY PILOT CONTROL KIT-LP	20	20	0	1A	56.04	1A	1120.80
11-CEBB-24	BURNER FOR 24" GAS LOGS	100	100	0	1A	20.98	1A	2098.00
11-CEBB-30	BURNER FOR 30" GAS LOGS	30	30	0	1A	23.48	1A	704.40
11-101B	10# BAG OF SAND	30	30	0	1A	2.84	1A	85.20
PLEASE DEDUCT 4516.46 IF PAID BY 12/29/95		MERCHANDISE	MISC.	DISCOUNT	TAX	FREIGHT	TOTAL	
		45164.55	.00	.00	.00	.00	45164.55	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE. ANNUAL RA

000220

JT-APP 2092



Golden Blount

4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO031570

PAGE 2

DATE 1/29/95

17
FIREPLACE/PATIO OF GREENVILLE
7600 PELHAM ROAD
GREENVILLE, SC 29615-9507

SNME
FIREPLACE/PATIO OF GREENVILLE
7600 PELHAM ROAD
GREENVILLE, SC 29615-9507

CUSTOMER P.O. NO	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
103	1/29/95	9 AT BARCOCK	10% 30 NET 31	NOTAX	025421	01 BELL		U.S. SHIP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSIO
4-CEBB-24	BURNER FOR 24" GAS LOGS	10	10	0	EA	20.98	EA	209.80
4-CEBB-30	BURNER FOR 30" GAS LOGS	05	05	0	EA	23.48	EA	995.80
4-CEBB-36	BURNER FOR 36" GAS LOGS	1	1	0	EA	23.48	EA	23.48
4-CEBB-21	BURNER FOR 21" GAS LOGS	49	49	0	EA	20.98	EA	028.02
								.00
100R	5/8" GRATE FOR 18 BURNER	5	5	0	EA	12.18	EA	60.90
100R	5/8" GRATE FOR 21 BURNER	5	5	0	EA	13.40	EA	67.00
100R	5/8" GRATE FOR 24 BURNER	5	5	0	EA	14.21	EA	71.05
								.00
4-RH18-BAN-S	AGA RH-18 BURNER ASSY N/G-S	1	1	0	EA	102.99	EA	102.99
4-RH24-BAN-S	AGA RH-24 BURNER ASSY N/G-S	1	1	0	EA	108.67	EA	108.67
4-RH30-BAN-S	AGA RH-30 BURNER ASSY N/G-S	1	1	0	EA	116.79	EA	116.79
4-RH21-BAN-S	AGA RH-21 BURNER ASSY N/G-S	1	1	0	EA	102.99	EA	102.99
								.00
4-RH-16	MOUNTAIN OAK GAS LOGS	0	0	0	EA	95.43	EA	763.44
		MERCHANDISE	MISC	DISCOUNT	TAX	FREIGHT	TOTAL DUE	
							CONTINUED	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE. ANNUAL RATE 18

000271

JT-APP 2093



Golden Blount
4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO031570

PAGE 3

DATE 1/29/95

77
FIREPLACE/PATIO OF GREENVILLE
7600 PELHAM ROAD
GREENVILLE, SC 29615-9507

SAME
FIREPLACE/PATIO OF GREENVILLE
7600 PELHAM ROAD
GREENVILLE, SC 29615-9507

CUSTOMER P.O. NO.	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
003	1/29/95	AL RABCOCK	10% 30 NET 31	NOTAX	075471	CL	BILL	U.S. SHIP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSION
1-16-BA	BURNER ASSEMBLY	0	0	0	EA	.00	EA	.00
1-RH-16	MOUNTAIN OAK GAS LOGS	20	20	0	EA	101.12	EA	2022.40
1-18-BA	BURNER ASSEMBLY	20	20	0	EA	.00	EA	.00
3-RH-21	MOUNTAIN OAK GAS LOGS	50	50	0	EA	101.12	EA	5056.00
1-21-BA	BURNER ASSEMBLY	50	50	0	EA	.00	EA	.00
11-RH-24	MOUNTAIN OAK GAS LOGS	18	18	0	EA	115.31	EA	2075.58
11-24-BA	BURNER ASSEMBLY	18	18	0	EA	.00	EA	.00
12-RH-30	MOUNTAIN OAK GAS LOGS	54	54	0	EA	135.64	EA	7324.56
12-30-BA	BURNER ASSEMBLY	54	54	0	EA	.00	EA	.00
12-CEH8-10	BURNER FOR 30" GAS LOGS	36	36	0	EA	27.48	EA	985.28
-MERCHANDISE		MISC	DISCOUNT	TAX	FREIGHT	TOTAL DUE		
						CONTINUE		

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE. ANNUAL RATE 18

000222

JT-APP 2094



Golden Blount
4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

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NO031570

PAGE 4

DATE 1/29/95

77
FIREPLACE/PATIO OF GREENVILLE
7600 PELHAM ROAD
GREENVILLE, SC 29615-9507

SAME
FIREPLACE/PATIO OF GREENVILLE
7600 PELHAM ROAD
GREENVILLE, SC 29615-9507

CUSTOMER P.O. NO	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
001	1/29/95	AL BABCOCK	10% 30 NET 31	NO TAX	025471	CL	BILL	U.S. SHIP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSION
11-CF-BU-16	BURNER FOR 36" GAS LOGS	3	3	0	EA	23.48	EA	70.44
1K-CIN-12-LG	12# BAG OF CINDERS	15	15	0	EA	2.84	EA	42.60
1K	ALUMINUM CONNECT KIT W/FIT	12	12	0	EA	5.28	EA	63.36
P MIXER	FOR 10"	10	10	0	EA	5.69	EA	56.90
1K-CIN-12-LG	12# BAG OF CINDERS	15	15	0	EA	2.84	EA	42.60
1K-RH-36	MOUNTAIN OAK GAS LOGS	3	3	0	EA	174.22	EA	522.66
11-36-BA	BURNER ASSEMBLY	3	3	0	EA	.00	EA	.00
11-CF-BU-36	BURNER FOR 36" GAS LOGS	3	3	0	EA	23.48	EA	70.44
PLEASE DEDUCT 2362.00 IF PAID BY 12/29/95		MERCHANDISE	MISC.	DISCOUNT	TAX	FREIGHT	TOTAL DUE	
		23620.01	.00	.00	.00	600.00	24270.01	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE ANNUAL RATE 18%

000223

JT-APP 2095



Golden Blount

4200 WESTGROVE DR DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO031570

PAGE 1

DATE 1/29/95

17
FIREPLACE/PATIO OF GREENVILLE
7600 PELHAM ROAD
GREENVILLE, SC 29615-9507

SAME
FIREPLACE/PATIO OF GREENVILLE
7600 PELHAM ROAD
GREENVILLE, SC 29615-9507

CUSTOMER PO NO.	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
605	1/29/95	AL BABCOCK	10% 30 NET 31	NOTAX	025A71	01	BILL	U.S. SHIP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENS
311GR	5/8" GRATE FOR 10 BURNER	1	1	0	EA	.00	EA	.00
321GR	5/8" GRATE FOR 21 BURNER	1	1	0	EA	.00	EA	.00
	ABOVE WERE MISSING FROM ORIGINAL BURNER BOXES							.00
BURNER PAN	FOR 30"	1	1	0	EA	.00	EA	.00
BURNER PAN	FOR 24"	2	2	0	EA	.00	EA	.00
	TO REPLACE BURNERS WITH BAD THREADS							.00
P MIXER	LP AIR MIXER	3	3	0	EA	.00	EA	.00
	INCORRECT SIZE IN INNER PART							.00
G-RH-10	MOUNTAIN OAK GAS LOGS	2	2	0	EA	.00	EA	.00
	BOTTOM LOGS ONLY - TO REPLACE BROKEN							.00
B-CERB-10	BURNER FOR 10" GAS LOGS	37	37	0	EA	20.98	EA	776.76
		MERCHANDISE	MISC	DISCOUNT	TAX	FREIGHT	TOTAL DUE	
						(CONTINUE)		

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE ANNUAL RATE

000224

JT-APP 2096



Golden Blount
4200 WESTGROVE DR DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO. REPRINT
029499
PAGE 1
DATE 09/01/95

TO
TYNDALL ENTERPRISES
ROUTE 1, BOX 152A
LAUREL, DE 19956

SHIPPED
SAME
TYNDALL ENTERPRISES
ROUTE 1, BOX 152A
LAUREL, DE 19956

CUSTOMER P.O. NO.	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
	09/01/95	9R	10% 30 NET 31	NOTAX	023013R	01	PREPAID	US SHIP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSION
GB-CFBB-10	BURNER FOR 10" GAS LOGS	5	5	0	EA	20.90	EA	104.50
GB-CFBB-21	BURNER FOR 21" GAS LOGS	10	0	10	EA	25.17	EA	.00
GB-CFBB-24	BURNER FOR 24" GAS LOGS	75	75	0	EA	20.90	EA	1573.50
GB-CFBB-30	BURNER FOR 30" GAS LOGS	30	30	0	EA	23.40	EA	704.10
LG EMBERS	LARGE BAG OF EMBERS	30	30	0	EA	3.15	EA	94.50
SAND-10LB	10# BAG OF SAND	30	30	0	EA	3.15	EA	94.50
VERMIC-J10	1# BAG OF VERMICULITE	30	30	0	EA	3.15	EA	94.50
DLK-CTN-12LB	12# BAG OF CINDERS	30	30	0	EA	3.15	EA	94.50
5% EARLY ORDER DISCOUNT DEDUCTED BELOW								.00
								.00
								.00
		MERCHANDISE	MISC.	DISCOUNT	TAX	FREIGHT	TOTAL DUE	
PLEASE DEDUCT 262.28-- IF PAID BY 10/01/95		2760.00	.00	100.04	.00	.00	2622.74	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE ANNUAL RATE 18%

000225

JT-APP 2097



Golden Blount
4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250 3113

INVOICE

NO. 030416

PAGE 2

DATE 10/20/95

1668
THULMAN EASTERN
14290 SULLYFIELD CIRCLE
SUITE 100
CHANTILLY, VA 22021

THULMAN EASTERN
10315 CHAPEL HILL RD
MORRISVILLE, NC 27560

C1723

CUSTOMER P.O. NO.	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC #	WH	FREIGHT	SHIP VIA
H003223	10/20/95	19 KEN-TRAIL	10% 30 NET 31	NOTAX	024532	01	COLLECT	OLD DUN
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSIC
AGA-SS24	AGA SS-24 GAS LOGS	5	5	0	EA	60.67	EA	303.35
A-SS24-BAL-M	AGA SS-24 BURNER ASSY LP -M	5	5	0	EA	147.66	EA	738.30
GB-CEBB-10	BURNER FOR 10" GAS LOGS	20	20	0	EA	20.90	EA	419.00
GB-CEBB-21	BURNER FOR 21" GAS LOGS	10	10	0	EA	20.90	EA	209.00
GB-CEBB-24	BURNER FOR 24" GAS LOGS	30	30	0	EA	20.90	EA	629.40
GB-RCS-1001	BATTERY REMOTE W/4 SETTINGS	5	0	0	EA	85.28	EA	.00
GB-RCS-1001	BATTERY REMOTE ON/OFF	5	5	0	EA	64.90	EA	324.90
AGA-SS24	AGA SS-24 GAS LOGS	5	5	0	EA	60.67	EA	303.35
A-SS24-BAL-M	AGA SS-24 BURNER ASSY N/G-M	5	5	0	EA	141.97	EA	709.85
SPCK1LP	SAFETY PILOT CONTROL KIT-IP	20	20	0	EA	.00	EA	.00
MY-SPCK1LP	MILLIVOLT PILOT KIT	1	1	0	EA	95.02	EA	95.02
GB-RCS-1001	BATTERY REMOTE ON/OFF	1	1	0	EA	64.90	EA	64.90
		MERCHANDISE	MISC	DISCOUNT	TAX	FREIGHT	TOTAL DL	
							CONTINUED	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE. ANNUAL RATE

000226

JT-APP 2098



Golden Blount

4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO. 031684

PAGE 1

DATE 12/04/95

1061
FIREPLACES UNLIMITED
4811 W-L00P 289
LUBBOCK, TX 79424

SAME
FIREPLACES UNLIMITED
4811 W-L00P 289
LUBBOCK, TX 79424

CUSTOMER P.O. NO	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
	12/04/95	99	10% 30 NET 31	NOTAX	025841	01	COLLECT	CENTRAL
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSION
16LONGKEY	BLUE FLAME 5/16" LONG KEY	4	4	0	EA	2.76	EA	11.04
PLIT-24	SPLIT OAK GAS LOGS	5	5	0	EA	136.80	EA	684.00
PLIT-24-BA	BURNER ASSEMBLY	5	5	0	EA	.00	EA	.00
PLIT-30	SPLIT OAK GAS LOGS	2	2	0	EA	159.30	EA	318.60
PLIT-30-BA	BURNER ASSEMBLY	2	2	0	EA	.00	EA	.00
MH-24	MOUNTAIN OAK GAS LOGS	2	2	0	EA	122.80	EA	245.60
MH-24-BA	BURNER ASSEMBLY	2	2	0	EA	.00	EA	.00
CB-30	BURNER FOR 30" GAS LOGS	10	10	0	EA	23.40	EA	234.00
CB-24	BURNER FOR 24" GAS LOGS	12	12	0	EA	20.90	EA	250.80
PLEASE DEDUCT 175.50 IF PAID BY 01/03/96		MERCHANDISE	MISC.	DISCOUNT	TAX	FREIGHT	TOTAL DUE	
		1755.00	.00	.00	.00	.00	1755.00	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE ANNUAL RATE 18%

000227

JT-APP 2099



Golden Blount

4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO. 031689

PAGE 1

DATE 12/05/95

6007
GRILL DOCTOR
200 SPRING CREEK VILLAGE
DALLAS, TX 75248

SAME
GRILL DOCTOR
200 SPRING CREEK VILLAGE
DALLAS, TX 75248

CUSTOMER P.O. NO.	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
	12/05/95	99	10% 30 NET 31	NOTAX	025623	01	PREPAID	PICKUP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSION
CFRB-18	BURNER FOR 18" GAS LOGS	5	5	0	EA	20.98	EA	104.90
LIT-21	SPLIT OAK GAS LOGS	1	1	0	EA	115.00	EA	115.00
LIT-21 BA	BURNER ASSEMBLY	1	1	0	EA	.00	EA	.00
PLEASE DEDUCT 727.61. IF PAID BY 01/04/96		MERCHANDISE	MISC	DISCOUNT	TAX	FREIGHT	TOTAL DUE	
		7276.05	.00	.00	.00	.00	7276.05	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE. ANNUAL RATE 18%

000228

JT-APP 2100



Golden Blount

4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO. 031689

PAGE 1

DATE 12/05/95

1067
GRILL DOCTOR
200 SPRING CREEK VILLAGE
DALLAS, TX 75249

SAME
GRILL DOCTOR
200 SPRING CREEK VILLAGE
DALLAS, TX 75248

CUSTOMER P.O. NO.	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
	12/05/95	99	0% 30 NET 31	NOTAX	025623	01	PREPAID	PICKUP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTEN
GB-RM-24	MOUNTAIN OAK GAS LOGS	15	15	0	EA	121.41	EA	1821.15
RM-24-BA	BURNER ASSEMBLY	15	15	0	EA	.00	EA	.00
GB-RM-30	MOUNTAIN OAK GAS LOGS	10	10	0	EA	142.29	EA	1422.90
RM-30-BA	BURNER ASSEMBLY	10	10	0	EA	.00	EA	.00
SPLIT-24	SPLIT OAK GAS LOGS	10	10	0	EA	129.96	EA	1299.60
SPLIT-24-BA	BURNER ASSEMBLY	10	10	0	EA	.00	EA	.00
SPLIT-30	SPLIT OAK GAS LOGS	10	10	0	EA	151.34	EA	1513.40
SPLIT-30-BA	BURNER ASSEMBLY	10	10	0	EA	.00	EA	.00
GB-CERB-30	BURNER FOR 30" GAS LOGS	20	20	0	EA	23.48	EA	469.60
GB-CERB-24	BURNER FOR 24" GAS LOGS	20	20	0	EA	20.98	EA	419.60
GB-CERB-21	BURNER FOR 21" GAS LOGS	5	5	0	EA	20.98	EA	104.90
		MERCHANDISE	MISC.	DISCOUNT	TAX	FREIGHT	TOTAL	
							CONTINUED	

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE. ANNUAL

000229

JT-APP 2101



Golden Blount

4200 WESTGROVE DR. DALLAS, TEXAS 75248 (214) 250-3113

INVOICE

NO. 032140

PAGE 1

DATE 12/14/95

1415
J & D ENERGY PRODUCT
11700 BELDEN COURT
LIVONIA, MI 48150

SAME
J & D ENERGY PRODUCT
11700 BELDEN COURT
LIVONIA, MI 48150

CUSTOMER P.O. NO	DATE SHIPPED	SALESPERSON	TERMS	TAX CODE	DOC. #	WH	FREIGHT	SHIP VIA
0851	12/14/95	98	10% 30 NET 31	NOTAX	025905	01	PREPAID	U.S. SHIP
ITEM	DESCRIPTION	ORDERED	SHIPPED	BACK ORDERED	UM	PRICE	UM	EXTENSION
PLIT-18-BA	BURNER ASSEMBLY	85	85	0	EA	40.45	EA	3438.25
PLIT-24-BA	BURNER ASSEMBLY	210	100	110	EA	46.13	EA	4613.00
0-KM-24	MOUNTAIN OAK GAS LOGS LOGS ONLY	33	33	0	EA	69.19	EA	2283.27
PLIT-18	SPLIT OAK GAS LOGS LOGS ONLY	85	85	0	EA	60.79	EA	5047.15
PLIT-24	SPLIT OAK GAS LOGS	107	100	0	EA	77.32	EA	7732.00
PLIT-24	SPLIT OAK GAS LOGS LOGS ONLY	0	87	0	EA	77.32	EA	6726.84
0-CFBR-18	BURNER FOR 18" GAS LOGS	6	6	0	EA	20.98	EA	125.88
0-CFBR-24	BURNER FOR 24" GAS LOGS	10	10	0	EA	20.98	EA	209.80
0-CFBR-30	BURNER FOR 30" GAS LOGS	4	4	0	EA	23.48	EA	93.92
		MERCHANDISE	MISC.	DISCOUNT	TAX	FREIGHT	TOTAL DUE	
						CONTINUED		

ALL BILLS DUE AND PAYABLE IN U.S. FUNDS IN DALLAS COUNTY, TEXAS. PAST DUE ACCOUNTS ARE SUBJECT TO A 1 1/2% MONTHLY SERVICE CHARGE. ANNUAL RATE

000270

JT-APP 2102

THE FIREPLACE SHOP INC.
18 D LOOP 336 WEST
CONROE, TX 77301

December 6, 1995

Golden Blount
4200 Westgrove Drive
Dallas, TX 75248

re: Gas Logs

Golden:

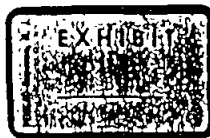
I just wanted to let you know how your gas logs are doing this year in our store. Sales have increased substantially this year over sales of other brands. The deep bark natural look and good coloring is great, but the optional CEBB front burner is nothing but fantastic. I didn't burn the front burner in my display in 1994; so I was really impressed with the heat and great look it gives.

I have never in my twenty-five years in the fireplace business seen anything quite so innovative. The CEBB burner puts you and me way ahead of the competition and the consumer is amazed. I wish I had displayed the front burner when you first invented it three years ago.

Keep up the good work.

Sincerely,

Gerald W. Jones



000231

JT-APP 2103

From The F-W-Wire Corp Inc
1108 N Loop 351 W
Curtis Tx

12-6-95

To Golden Blount
4200 West Grove DR
Dallas Tx

Re C/S Lys

Golden

I just wanted to let you know how your
gas lgs are doing this year in our store.
Sales have increased substantially this year
over sales of other brands. The deep dark
natural oak look and good coloring is great,
but the optional CEFB front burner is
nothing but fantastic. I didn't burn the front
burner in my display in 1994, so I was really
impressed with the heat and great look it gave
I never in my twenty five years in the
fireplace business seen anything quite so
innovative. The CEFB burner puts you and
me way ahead of competition and the
consumer is aware. I wish I had displayed
the front burner when you first invented
it three years ago. Keep up the good work.

Sincerely

David Wilson

000232

DATE: 12-8-9.

TO: STEVE BLOUNT

FROM: THE HEARTH & PATIO SHOP
2316 MAIN STREET
TUCKER, GEORGIA 30084PHONE: 770 934 8646
FAX: 770 908 8833

PAGES, INCLUDING THIS ONE:

RE: CEBB.

Here are some thoughts:

1. It is unique. No other system has a separate control to let the customer determine how much ember glow and flames to see.
2. It sells. Embers are what made these things (Radco logs) popular years ago. Now they see more embers, a deeper ember bed than anything else. 000233
Of course they want it. They

even want the CEBB to retrofit on their existing logs.

3. Heat. I try to present all RADCO vented logs as similar in heat output but customers constantly remark that the Golden Blounts heat much more than any other they've felt. The fire marshal even agreed and attributed it to the extra infra red coming off the CEBB. (And when I turn it off I can feel a drop in radiant heat.)

000234

To sum it up, the CEBB
makes a good log great. We
can honestly declare we've got
a 2 burner system. With this
thing we're kicking butt... without
it we wouldn't. DON'T CHANGE IT!

Charlie Hoff

000235

JT-APP 2107



12-27-95

December 27, 1995

Mr. Steve Blount
Golden Blount
4200 Westgrove Drive
Dallas, Texas 75248

Dear Steve,

Just a short note to point out a few bits of interest. It amazes us that the gas log has been out for so many years and only until your log was introduced, that such an improvement could be accomplished.

The combination of equipment with the front burner you call the CEBB and it's valve has brought the realism of an ember bed and heat to a room. Until this product was available, the thought of a beautiful look and heat was only a figment of the imagination.

We would just like to say thanks for a job well done.

We wish you well for the holidays and look forward to seeing you in January.

Sincerely,

FIREPLACE & PATIO OF GREENVILLE, INC.


Leo Dahlin
President

000237

JT-APP 2108



CASUAL FURNITURE WORLD

Porch • Patio • Fireplace

November 28, 1995

To Whom It May Concern:

Casual Furniture World has successfully been marketing the CE88 from Golden Blount for the past two years in all four of our stores. We believe it to truly be of benefit not only as a sales feature for us as retailers, but also to the consumer because of the additional heat it provides.

The CE88 has helped our company gain market share in a market place where everyone is saying "ME TOO". The CE88 is truly unique and is without a doubt the best sales tool for a retailer and also a tremendous bargain for the consumer.

We would like very much for you to give Golden Blount the credit which it is due for developing such a product.

Thank you,

A handwritten signature in cursive script, appearing to read "Eddie Rowell".

Eddie Rowell
President

000236

JT-APP 2109

HARRIS, TUCKER & HARDIN, P.C.

WILLIAM D. HARRIS, JR.
L. DAN TUCKER
ROY W. HARDIN
WILLIAM D. JACKSON
HARRY J. WATSON
GEORGE R. SCHULTZ
DAVID W. CARSTENS
KRISTIN K. JORDAN
MICHAEL W. PAPER
CRAIG I. COX



ATTORNEYS AT LAW
ONE GALLERIA TOWER
13335 NOEL ROAD, SUITE 2100
DALLAS, TEXAS 75240-6656
214/233-5712
TELECOMMER 214/934-9333
WRITER'S DIRECT DIAL 214/716-3570

PATENT, TRADEMARK,
COPYRIGHT & UNFAIR
COMPETITION MATTERS

OF COUNSEL:
JACK A. KANTZ
HENRY CROGUELL

January 23, 1996

Assistant Commissioner of Patents
Washington, D.C. 20231

Re: SUPPLEMENTAL BURNER FOR RETROFITTING TO AN
EXISTING GAS LOG BURNER ASSEMBLY
Serial No.: 08/276,894
Filing Date: July 19, 1994
Our File: GLDT B8095CIP

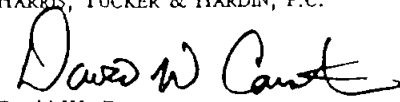
Dear Sir:

Enclosed for filing please find a Petition for Extension of Time, Amendment Transmittal Letter, Amendment, Declaration of Golden Blount with Exhibits, a check in the amount of \$55 to cover the requisite extension fees and a postcard acknowledgement.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 08-3105.

Very truly yours,

HARRIS, TUCKER & HARDIN, P.C.


David W. Carstens

DWC/jeb
Enc.

55611

000238

JT-APP 2110



AMENDMENT TRANSMITTAL LETTER				Attorney Docket No. GLOT 8809SCIP		
SERIAL NO. 08/276,894	FILING DATE 07/19/1994	EXAMINER Larry Jones	Group Art Unit 3406			
INVENTION SUPPLEMENTAL BURNER FOR RETROFITTING TO AN EXISTING GAS LOG BURNER ASSEMBLY						
TO THE COMMISSIONER OF PATENTS AND TRADEMARKS: Transmitted herewith is an amendment in the above-identified application. The fee has been calculated as shown below.						
CLAIMS AS AMENDED						Small Entity
(1) Total Claims	(2) Claims Remaining After Amendment	(3) Minus	(4) Highest No. Previously Paid for	(5) No. of Extra Claims Present	(6) RATE	(7) ADDITIONAL FEE
18			20	0	X \$11	0.00
Indep. Claims	3		3	0	X \$38	0.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT					\$	0.00
* If the entry in column 2 is less than the entry in column 4, write "0" in column 5. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 10, write "10" in this space. ☒ No additional fee is required. ☐ A check in amount of \$0.00 is attached. ☒ Please charge any additional fees or credit overpayment to Deposit Account No. <u>08-3105</u>. A duplicate copy of this sheet is enclosed. <u>1/23/96</u> Date Attorney of Record David W. Carstens Registration No. 34,134						

PTO Form 3.52
1TL-AMEND.PTO

Patent and Trademark Office - U.S. DEPARTMENT OF COMMERCE

49047

000239

JT-APP 2111

GLDT-B8095CIP2

045000-217

GP
PATENT
3406



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial Number: Unknown 08, 276,894
Filing Date: Herewith 7/19/94-17

Applicant: Golden Blount

Title: GAS-FIRED ARTIFICIAL LOGS AND
COALS-BURNER ASSEMBLY

Group Art Unit: 3406

Examiner: Larry Jones

Box Patent Application
Assistant Commissioner of Patents
Washington, D. C. 20231

Sir:

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date below in an envelope as "Express Mail Post Office to Addressee" Mailing Label No. EM19625103US addressed to, Assistant Commissioner for Patents, Washington, DC 20231 on

April 2, 1996
(Date of Deposit)

Henry Crookell
Henry Crookell

PETITION FOR EXTENSION OF TIME

Applicant respectfully requests a 3-month extension of time for filing the enclosed continuation-in-part patent application in response to the October 2, 1996, final Office Action. The response period is presently set to expire on January 2, 1996, and if this Request for Extension of Time is granted, the new response date will be April 2, 1996.

A check in the amount of \$450.00 is enclosed in payment of the fee for a 3-month delayed response.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 08-3105.

Respectfully submitted,

HARRIS, TUCKER & HARDIN, P.C.

Henry Crookell
Henry Crookell
Registration No. 25,847

Date: April 2, 1996

One Galleria Tower
13355 Noel Road, Suite 2100
Dallas, Texas 75240-6604
214/233-5712

310 US 04/05/96 00275074
1.17 450.00 01

57870

000240

JT-APP 2112



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
03/276,894	07/19/94	BLOUNT	G

GLDTB8095CIP

JONES, L. EXAMINER

14M1/0430

DAVID W. CARSTENS
HARRIS, TUCKER & HARRIN
13345 NOEL ROAD, SUITE 2100
DALLAS, TX 75240-6604

ART UNIT	PAPER NUMBER
3406	10

Below is a communication from the EXAMINER in charge of this application
COMMISSIONER OF PATENTS AND TRADEMARKS

DATE MAILED 04/00/96

ADVISORY ACTION

THE PERIOD FOR RESPONSE

☐ is extended to run _____ from the date of the Final Rejection

☐ continues to run _____ from the date of the Final Rejection

☐ expires three months from the date of the final rejection or as of the mailing date of this Advisory Action, whichever is later. In no event however will the statutory period for response expire later than six months from the date of the Final Rejection.

Any extension of time must be obtained by filing a petition under 37 CFR 1.138(a), the proposed response and the appropriate fee. The date on which the response, the petition, and the fee have been filed is the date of the response and also the date for the purposes of determining the period of extension and the corresponding amount of the fee. Any extension fee pursuant to 37 CFR 1.17 will be calculated from the date that the shortened statutory period for response expires as set forth above.

☐ Appellant's Brief is due in accordance with 37 CFR 1.192(a).

☒ Applicant's response to the final rejection, filed January 29, 1996, has been considered with the following effect, but it is not deemed to place the application in condition for allowance:

1 ☒ The proposed amendments to the claim and/or specification will not be entered and the final rejection stands because:

- a ☐ There is no convincing showing under 37 CFR 1.116(b) why the proposed amendment is necessary and was not earlier presented.
- b ☒ They raise new issues that would require further consideration and/or search. (See Note)
- c ☐ They raise the issue of new matter. (See Note)
- d ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal.
- e ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: The proposed amendment raises a new issue: the patentability of the supplemental burner, valve and connector combination absent the primary burner and the consideration of commercial success as evidenced by the declaration of Mr. Blount.

2 ☐ Newly proposed or amended claims _____ would be allowed if submitted in a separately filed amendment canceling the non-allowable claims.

3 ☒ Upon the filing of an appeal, the proposed amendment ☐ will be ☒ will not be, entered and the status of the claims in this application would be as follows:

Allowed claims: NONE

Claims objected to: NONE

Claims rejected: 1-18

However:

- a ☐ The rejection of claims _____ on references is deemed to be overcome by applicant's response.
- b ☐ The rejection of claims _____ on non-reference grounds only is deemed to be overcome by applicant's response.

4 ☐ The affidavit, exhibit or request for reconsideration has been considered but does not overcome the rejection.

5 ☒ The affidavit or exhibit will not be considered because applicant has not shown good and sufficient reasons why it was not earlier presented.

☐ The proposed drawing correction ☐ has ☐ has not been approved by the examiner.

☐ Other

THIS OFFICE ACTION IS RESPONSIVE TO APPLICANT'S

AMENDMENT, FILED January 29, 1996

Receipt is acknowledged of the amendment after final and the declaration filed January 29, 1996.

REMARKS

Applicant's arguments filed January 29, 1996 have been fully considered but they are not deemed to be persuasive.

The declaration points out the commercial success of what is identified as the claimed invention. The commercial success is noted

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed. 2nd 545 (1966), 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. § 103 are summarized as follows:

- 1 *Determining the scope and contents of the prior art;*
- 2 *Ascertaining the differences between the prior art and the claims at issue, and*
- 3 *Resolving the level of ordinary skill in the pertinent art.*

Secondary factors such as commercial success are measured in light of the differences between the prior art and the claims at issue. Although applicant proposes to limit the claims to the supplemental burner tube, the connector and valve attached thereto this only serves to open the proposed claims to a different rejection. The essence of the invention is still embodied in the idea of a supplemental burner tube which connects to the remainder of the burner system by way of a connector and which includes a valve to control the flow of gas to the supplemental burner tube. The prior art patent to Eiklor et al shows all of this except a

distinct connector and valve. The additionally applied references to Henry and Peterson teach the combination of a connector and a supplemental burner tube as well as the use of a control valve to control the flow of gas to a burner tube. The use of control valves in combination with gas burner tubes is so well known as to not even require a reference to prove its existence

This combination of references when compared to the claims at issue leave very little to differ over. Thus the secondary considerations when considered in the light of this difference carries much less weight in affecting a decision of patentability.

Thus the rejection of the claims as presented in the Final Rejection stands. The proposed claims will not be entered as they do not place the application in condition for allowance and they do not place the application in better condition for appeal. The proposed claims raise a new issues (the patentability of the supplemental burner, valve and connector combination absent the primary burner and the consideration of commercial success as evidenced by the declaration of Mr. Blount)

The extended period for response including the additional 3 month extension expired April 2, 1996

GUIDE TO COMMUNICATING WITH THE PTO REGARDING THIS APPLICATION

Inquiries regarding this or earlier communications from the Examiner should be directed to me, **Larry Jones** at telephone number (703) 308-1933. My normal working hours are 9:30 a.m. to 6:00 p.m. (ET), Monday through Friday.

An inquiry of a general nature or relating to the status of this application should be directed to the **Group Receptionist** whose telephone number is (703) 308-0861. The Receptionist is available 8:30 a.m. to 5:00 p.m. (ET), daily.

U.S. PATENT & TRADEMARK OFFICE
ART UNIT 3406

EXAMINER: LARRY JONES
CP-4-2A01 (703)308-1933

000243

JT-APP 2115

UNITED STATES UTILITY PATENT APPLICATION SERIAL NO. 08/276,894
PART III: DETAILED ACTION

Pg. 4

Fax transmissions may be made to the Art Unit 3406 fax number (703) 308-7764. Any transmitted document should clearly identify the application (by serial number) and the Examiner (Larry Jones) to whom the document is directed. The fax reception facility is available 24 hours a day.

April 25, 1996



LARRY JONES
PRIMARY EXAMINER
ART UNIT 3406

U.S. PATENT & TRADEMARK OFFICE
ART UNIT 3406

EXAMINER: LARRY JONES
CP-4-2A01 (703)308-1933

000244

JT-APP 2116



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
03/276,894	07/19/94	BL OUNT	G GLDTR8095CIP

DAVID W. CARSTENS
HARRIS, TUCKER & HARDIN
13355 NOEL ROAD, STE. 2100
DALLAS, TX 75240-6604

34M1/0530

JONES, L. EXAMINER	
ART UNIT	PAPER NUMBER
3406	11

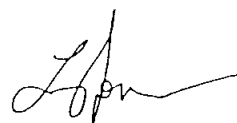
DATE MAILED:

05/30/96

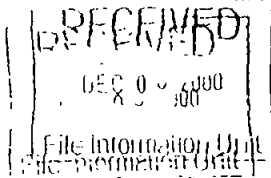
NOTICE OF ABANDONMENT

This application is abandoned in view of:

1. ☒ Applicant's failure to respond to the Office letter, mailed 10/2/95.
2. ☐ Applicant's letter of express abandonment which is in compliance with 37 C.F.R. 1.138.
3. ☐ Applicant's failure to timely file the response received _____ within the period set in the Office letter.
4. ☐ Applicant's failure to pay the required issue fee within the statutory period of 3 months from the mailing date of _____ of the Notice of Allowance.
☐ The issue fee was received on _____.
☐ The issue fee has not been received in Allowed Files Branch as of _____.
In accordance with 35 U.S.C. 151, and under the provisions of 37 C.F.R. 1.318(b), applicant(s) may petition the Commissioner to accept the delayed payment of the issue fee if the delay in payment was unavoidable. The petition must be accompanied by the issue fee, unless it has been previously submitted, in the amount specified by 37 C.F.R. 1.17 (f), and a verified showing as to the causes of the delay.
If applicant(s) never received the Notice of Allowance, a petition for a new Notice of Allowance and withdrawal of the holding of abandonment may be appropriate in view of *Deigar Inc. v. Schuyler*, 172 U.S.P.Q. 513.
5. ☐ Applicant's failure to timely correct the drawings and/or submit new or substitute formal drawings by _____ as required in the last Office action.
☐ The corrected and/or substitute drawings were received on _____.
6. ☐ The reason(s) below.


LARRY JONES
PRIMARY EXAMINER
ART UNIT 346

REQUEST FOR ACCESS OF ABANDONED APPLICATION UNDER 37 CFR 1.14(a)



In re Application of	
Application Number 08/726894	Filed 7-19-94
Group Art Unit	Examiner <i>[Signature]</i>

Paper No.

Assistant Commissioner for Patents
 Washington, DC 20231

I hereby request access under 37 CFR 1.14(a)(3)(iv) to the application file record of the above-identified ABANDONED application, which is: (CHECK ONE)

- ☒ (A) referred to in United States Patent Number 5988159, column .
- ☐ (B) referred to in an application that is open to public inspection as set forth in 37 CFR 1.11, i.e., Application No. , filed , on page of paper number .
- ☐ (C) an application that claims the benefit of the filing date of an application that is open to public inspection, i.e., Application No. , filed , or
- ☐ (D) an application in which the applicant has filed an authorization to lay open the complete application to the public.

Please direct any correspondence concerning this request to the following address:

Paul Beggs
 Signature
Paul Beggs
 Typed or printed name

12-6-94
 Date

FOR PTO USE ONLY

Approved by: *[Signature]*
 (Initials)

Unit:

Burden Hour Statement: This form is assumed to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

000700

US005988159A

United States Patent [19]
Blount

(11) Patent Number: 5,988,159
(45) Date of Patent: Nov. 23, 1999

[54] GAS-FIRED ARTIFICIAL LOGS AND
COALS-BURNER ASSEMBLY
[76] Inventor: Golden Blount, 5310 Harbor Town,
Dallas, Tex. 75287

5,033,455 7/1991 Baker et al. 126/512
5,052,370 10/1991 Karabla 126/512
5,081,081 1/1992 Best 126/92 R
5,263,852 11/1993 Beck 431/125

[21] Appl. No.: 08/626,498
[22] Filed: Apr. 2, 1996

Primary Examiner—Larry Jones
Attorney, Agent, or Firm—L. Dan Tucker

Related U.S. Application Data

[63] Continuation-in-part of application No. 08/276,894, Jul. 19,
1994, abandoned, which is a continuation-in-part of appli-
cation No. 08/061,727, May 17, 1993, abandoned.

[51] Int. Cl.⁶ F23C 1/18
[52] U.S. Cl. 126/512; 126/500; 126/540;
431/125
[58] Field of Search 431/125; 126/512,
126/500, 524, 540, 503

References Cited

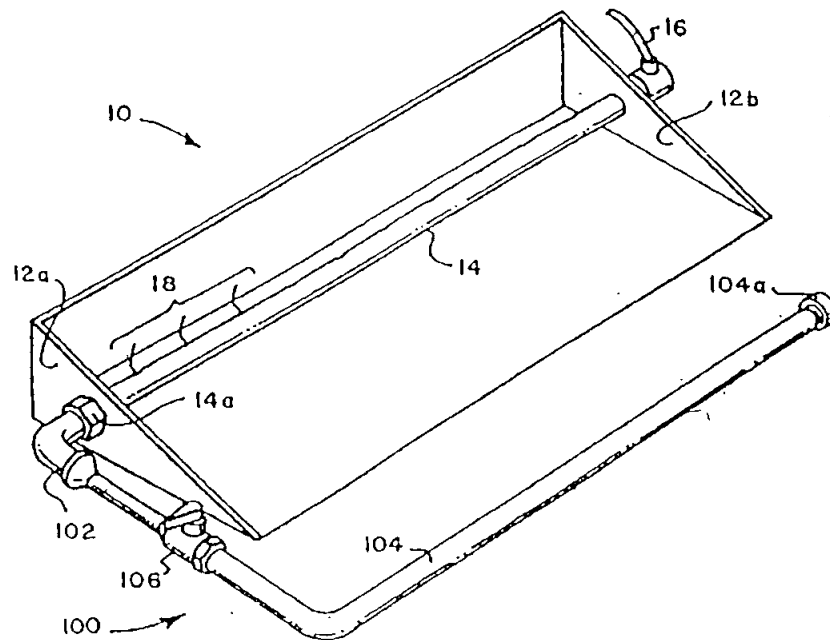
U.S. PATENT DOCUMENTS

3,042,109 7/1962 Peterson 126/512
3,871,355 3/1975 Henry 431/125 X
5,000,162 3/1991 Sklenski et al. 126/512

[57] ABSTRACT

A gas-fired artificial logs and coals-burner assembly is provided for fireplace use in cooperation with decorative gas logs, and artificial coals and embers decorative items by placement forward of the gas logs in the fireplace arrangement, a secondary elongated coals- and embers-burner tube apparatus. The assembly provides gas-fired artificial logs, coals- and embers-burner apparatus for fireplaces wherein gas flow through primary burner tube is the source of gas flow to a secondary coals- and embers-burner tube positioned forward and below the primary burner tube with multiple discharge ports in the secondary tube directed away from the front of the fireplace, thus enhancing the natural burn in cooperation of the fireplace draft as well as the aesthetic beauty of the imitation burning logs, coals and embers.

19 Claims, 3 Drawing Sheets

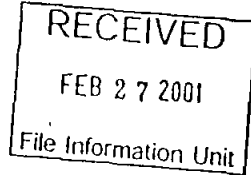


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FIG. 1

JT-APP 2119

REQUEST FOR ACCESS OF ABANDONED APPLICATION UNDER 37 CFR 1.14(a)



In re Application of	
Application Number 08/276894	Filed 7-19-94
Group Art Unit	Examiner

Paper No. 413

Assistant Commissioner for Patents
Washington, DC 20231

I hereby request access under 37 CFR 1.14(a)(3)(iv) to the application file record of the above-identified ABANDONED application, which is: (CHECK ONE)

- ☒ (A) referred to in United States Patent Number 5988159, column _____.
- ☐ (B) referred to in an application that is open to public inspection as set forth in 37 CFR 1.11, i.e., Application No. _____, filed _____, on page _____ of paper number _____.
- ☐ (C) an application that claims the benefit of the filing date of an application that is open to public inspection, i.e., Application No. _____, filed _____, or
- ☐ (D) an application in which the applicant has filed an authorization to lay open the complete application to the public.

Please direct any correspondence concerning this request to the following address:

Henry Duong
Signature
HENRY DUONG
Typed or printed name

2-27-01
PTO/ST/68
FOR PTO/ST/68 ONLY
Approved by: [Signature]
File Information Unit
Unit:

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. The time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

000248

JT-APP 2120

US 5,988,159A

United States Patent [19]
Blount

[11] Patent Number: 5,988,159
[45] Date of Patent: Nov. 23, 1999

[54] GAS-FIRED ARTIFICIAL LOGS AND
COALS-BURNER ASSEMBLY

[76] Inventor: Golden Blount, 5310 Harbor Town,
Dallas, Tex. 75287

[21] Appl. No.: 08/626,498

[22] Filed: Apr. 2, 1996

Related U.S. Application Data

[63] Continuation-in-part of application No. 08/276,894, filed 10/19/94, abandoned, which is a continuation-in-part of application No. 08/061,727, May 17, 1993, abandoned

[51] Int. Cl.⁶ F23C 1/18

[52] U.S. Cl. 126/512, 126/500, 126/540,
431/125

[58] Field of Search 431/125, 126/512,
126/500, 524, 540, 503

[56] References Cited

U.S. PATENT DOCUMENTS

3,042,109 7/1962 Peterson ... 126/512
3,871,355 3/1975 Henry ... 431/125 X
5,000,162 3/1991 Shumek et al ... 126/512

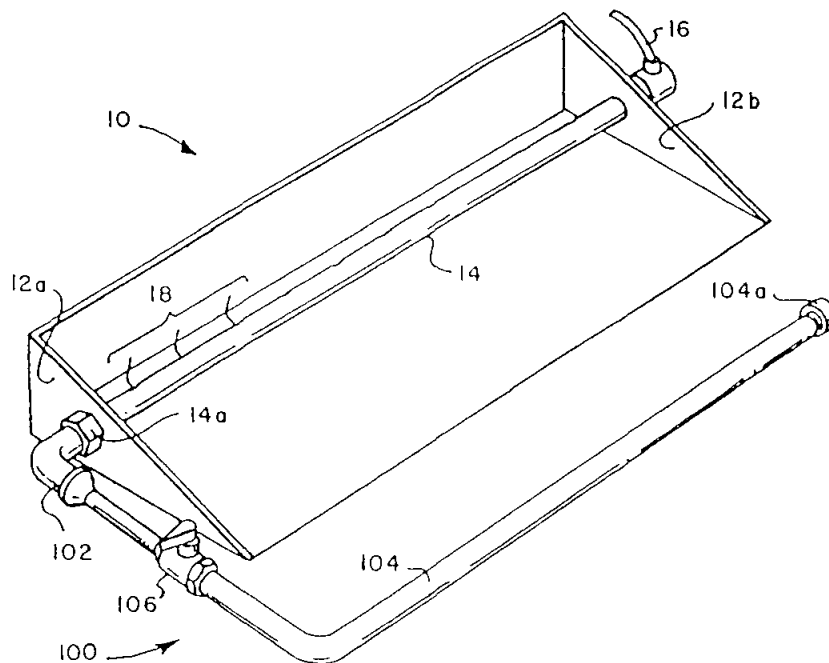
5,033,455 7/1991 Eklor et al. ... 126/512
5,052,370 10/1991 Karabin ... 126/512
5,081,981 1/1992 Beal ... 126/92 R
5,263,852 11/1993 Beck ... 431/125

Primary Examiner—Larry Jones
Attorney, Agent, or Firm—L. Dan Tucker

[57] ABSTRACT

A gas-fired artificial logs and coals-burner assembly is provided for fireplace use in cooperation with decorative gas logs, and artificial coals and embers decorative items by placement forward of the gas logs in the fireplace arrangement, a secondary elongated coals- and embers-burner tube apparatus. The assembly provides gas-fired artificial logs, coals- and embers-burner apparatus for fireplaces wherein gas flow through primary burner tube is the source of gas flow to a secondary coals- and embers-burner tube positioned forward and below the primary burner tube with multiple discharge ports in the secondary tube directed away from the front of the fireplace, thus enhancing the natural burn in cooperation of the fireplace draft as well as the aesthetic beauty of the imitation burning logs, coals and embers.

19 Claims, 3 Drawing Sheets



0002

JT-APP 2121

PATENT APPLICATION FEE DETERMINATION RECORD						Application or Docket Number 276894	
Effective October 1, 1992							
CLAIMS AS FILED - PART I						SMALL ENTITY OR OTHER THAN SMALL ENTITY	
(Column 1)		(Column 2)					
FOR	NUMBER FILED	NUMBER EXTRA		RATE	FEE	RATE	FEE
BASIC FEE					\$355.00		\$710.00
TOTAL CLAIMS	18	minus 20 =		x \$11 =		x \$22 =	
INDEPENDENT CLAIMS	3	minus 3 =		x 37 =		x 74 =	
MULTIPLE DEPENDENT CLAIM PRESENT				+115 =		+230 =	
				TOTAL	355	OR TOTAL	
* If the difference in column 1 is less than zero, enter "0" in column 2							
CLAIMS AS AMENDED - PART II						SMALL ENTITY OR OTHER THAN SMALL ENTITY	
(Column 1)		(Column 2)		(Column 3)			
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE
	Total	Minus	**	=	x \$11 =	OR x \$22 =	
	Independent	Minus	***	=	x 37 =	OR x 74 =	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			+115 =	OR +230 =		
				TOTAL	OR TOTAL		
(Column 1)		(Column 2)		(Column 3)			
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE
	Total	Minus	**	=	x \$11 =	OR x \$22 =	
	Independent	Minus	***	=	x 37 =	OR x 74 =	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			+115 =	OR +230 =		
				TOTAL	OR TOTAL		
(Column 1)		(Column 2)		(Column 3)			
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE	RATE	ADDITIONAL FEE
	Total	Minus	**	=	x \$11 =	OR x \$22 =	
	Independent	Minus	***	=	x 37 =	OR x 74 =	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			+115 =	OR +230 =		
				TOTAL	OR TOTAL		
(Column 1)		(Column 2)		(Column 3)			
				TOTAL	OR TOTAL		
				ADDITIONAL FEE	OR ADDITIONAL FEE		

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20"
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3"
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1

FORM PTO 875
(Rev. 10-92)

Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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JT-APP 2122

SHEETS OF
DRAWING

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DATE	
MONTH	DAY

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FILING DATE
MONTH DAY YEAR

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JT-APP 2124

PACE DATA ENTRY CODING SHEET

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

1ST EXAMINER (B) *mf*

DATE

8/12

APPLICATION NUMBER

276091 /

TYPE
ADBI

FILING DATE

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SPECIAL

GROUP

3	7	0	6
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CLASS	7	3
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SHEETS OF

DRAWING			2
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TOTAL CLAIMS

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INDEPENDENT CLAIMS

SMALL
ENTITY?

FILING FEE

6	5	4
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FOREIGN

LICENSE

ATTORNEY DOCKET NUMBER

CONTINUITY DATA

STATUS	PARENT APPLICATION
CODE	SERIAL NUMBER

PCT APPLICATION SERIAL NUMBER

PARENT PATENT

PARENT FILING
DATE

MONTH	DAY	YEAR
12	15	1964

MONTH	DAY	YEAR
12	15	1964

PCT/FOREIGN APPLICATION DATA

FOREIGN
PRIORITY
CLAIMED

COUNTRY
CODE[illegible]

FOREIGN
FILING DATE

MONTH DAY YEAR

MONTH	DAY	YEAR
12	15	1964

U S DEPARTMENT OF COMMERCE
Patent and Trademark Office

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**SHEETS OF
DRAWING**

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PARENT PATENT

PATIENT NUMBER

[illegible][illegible]

FOREIGN

FILING DATE
MONTH DAY YEAR

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PAGE DATA ENTRY CODING SHEET

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

APPLICATION NUMBER	276894	TYPE APPL	1	FILING DATE	07/19/94	SPECIAL HANDLING	0	GROUP ART UNIT	3406	CLASS	431	DATE	8/15/94	SHEETS OF DRAWING	3
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TOTAL CLAIMS	118	INDEPENDENT CLAIMS	3	SMALL ENTITY?	1	FILING FEE	355	FOREIGN LICENSE	N	ATTORNEY DOCKET NUMBER	92DT88695CIT
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CONTINUITY DATA

STATUS CODE	PARENT APPLICATION SERIAL NUMBER	PCT APPLICATION SERIAL NUMBER	PARENT PATENT NUMBER	PARENT FILING DATE
P	C	T	/	/
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P	C	T	/	/
P	C	T	/	/
P	C	T	/	/

PCT/FOREIGN APPLICATION DATA

FOREIGN PRIORITY CLAIMED		COUNTRY CODE		PCT/FOREIGN APPLICATION SERIAL NUMBER		FOREIGN FILING DATE	
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SHEETS OF DRAWING	3
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ATTORNEY DOCKET NUMBER

NAME	BOOK	NUMBER
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MONTH DAY YEAR

UTILITY SERIAL NUMBER	626498	PATENT DATE	NOV 23 1999	PATENT NUMBER	598199
SERIAL NUMBER	05/126,498	FILING DATE	04/02/99	CLASS	31
		CLASS	124	SUBCLASS	124 5R
		GROUP ART UNIT	1400	EXAMINER	JONES

GOLDEN BLOUNT, DALLAS, TX.

APPLICANTS

CONTINUING DATA**

VERIFIED THIS APPLN IS A CIP OF 08/276,894 07/19/94 ABD
WHICH IS A CIP OF 08/061,727 05/17/93 ABN

FOREIGN/PCT APPLICATIONS** NOAR

VERIFIED

FOREIGN FILING LICENSE GRANTED 05/12/99 ***** SMALL ENTITY *****

Foreign priority claimed 35 USC 119 conditions met	☐ yes ☒ no	AS FILED	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEP CLAIMS	FILING FEE RECEIVED	ATTORNEYS DOCKET NO
Verified and Acknowledged	Examiner's Initials	→	TX	3	13	2	\$375.00	GLT-R3095C1

ADDRESS

HENRY CLOSKELL
HARRIS TUCKER AND HARRIN
ONE GALLERIA TOWER SUITE 2100 2200 Ross Avenue
4555 NOEL ROAD Suite 2200
DALLAS TX 75240-6604
75201-6776

LOCKE, Liddell + Sapp

TITLE

EAS-PIRED ARTIFICIAL LOGS AND COALS-BURNED ASSEMBLY

U.S. DEPT. OF COMM./PAT. & TM.—PTO 436L (Rev. 12-94)

PARTS OF APPLICATION FILED SEPARATELY		NOTICE OF ALLOWANCE MAILED		APPROVED	
ISSUE FEE		Amount Due		Date Paid	
\$605		\$605		8-4-99	
Label Area		LARRY JONES PRIMARY EXAMINER ART UNIT 366 374.3 Primary Examiner		PREPARED FOR ISSUE	
		WARNING: The information disclosed herein may be restricted. Unauthorized disclosure may be prohibited by the United States Code, Title 35, Sections 122, 181 and 368. Possession outside the U.S. Patent & Trademark Office is restricted to authorized employees and contractors only.			

P10-436A
8-92)

Formal Drawings () shts) set

000258 ISSUE FEE IN FILE

EXHIBIT

D-4

JT-APP 2130

Date
Entered
or
Counted

CONTENTS

Date
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or
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7/1/94	1. Application	375 papers.	
	2. IDS		7-19-96
	3. Status letter		Nov. 19, 1996
3/27	4. Reg (3)		4-3-97 clt
11/12	5. ABANDONED		Nov. 12, 1997
	6. Amendment A		7/13/98
	7. Reply to 1.132(h)		7/13/98
	8. Petition Granted		11/5/98
	9. Interview Summary		Jan. 19, 1999 lrb
1/19	10. Examiner's Amendment A		5-5-99
10-29-99	11. Formal Drawings 3 sheet set		8-9-99
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(FRONT)

08/22/98 APPLICANT'S NAME (PLEASE PRINT) Golden Blount		CROSS REFERENCE(S) CLASS SUBCLASS (ONE SUBCLASS PER BLOCK) 12L 500 540 431 125	
PATENT OFFICE ORIGINAL PATENT NUMBER		ASSISTANT EXAMINER (PLEASE STAMP OR PRINT FULL NAME) 3743 Larry J. J...	
INTERNATIONAL CLASSIFICATION F23C 1/10		PRIMARY EXAMINER (PLEASE STAMP OR PRINT FULL NAME)	

ISSUE CLASSIFICATION SLIP

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

Claim	Date
1	20
2	21
3	22
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5	24
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11	30
12	31
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SYMBOLS	
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•	Respected
N	Non-elected
!	Interference
A	Appeal
O	Objected

SEARCHED			
Class	Sub.	Date	Exmr.
431	125	3/24/97	Ø
126	512 500 524 540 503	()	()
<i>Added to date 1/20/98 10</i>			

INTERFERENCE SEARCHED			
Class	Sub.	Date	Exmr.
126	540	1/20/98	Ø
431	512 500 125	()	()

SEARCH NOTES		
	Date	Exmr.
<i>Revised Parent file</i>	3/24/97	Ø
000761		



US005988159A

United States Patent [19]
Blount

[11] Patent Number: 5,988,159
[45] Date of Patent: Nov. 23, 1999

[54] GAS-FIRED ARTIFICIAL LOGS AND
COALS-BURNER ASSEMBLY

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5,033,455 7/1991 Eldor et al 126/512
5,052,370 10/1991 Karuba 126/512
5,081,981 1/1992 Beal 126/92 R
5,263,852 11/1993 Beck 431/125

[21] Appl. No.: 08/626,498

[22] Filed: Apr. 2, 1996

Primary Examiner—Larry Jones
Attorney, Agent, or Firm—L. Dan Tucker

[57] ABSTRACT

Related U.S. Application Data

[63] Continuation in-part of application No. 08/276,894 Jul. 19, 1994, abandoned, which is a continuation-in-part of application No. 08/061,727 May 17, 1993, abandoned.

[51] Int. Cl.⁶ F23C 1/18

[52] U.S. Cl. 126/512, 126/500, 126/540, 431/125

[58] Field of Search, 431/125; 126/512, 126/500, 524, 540, 503

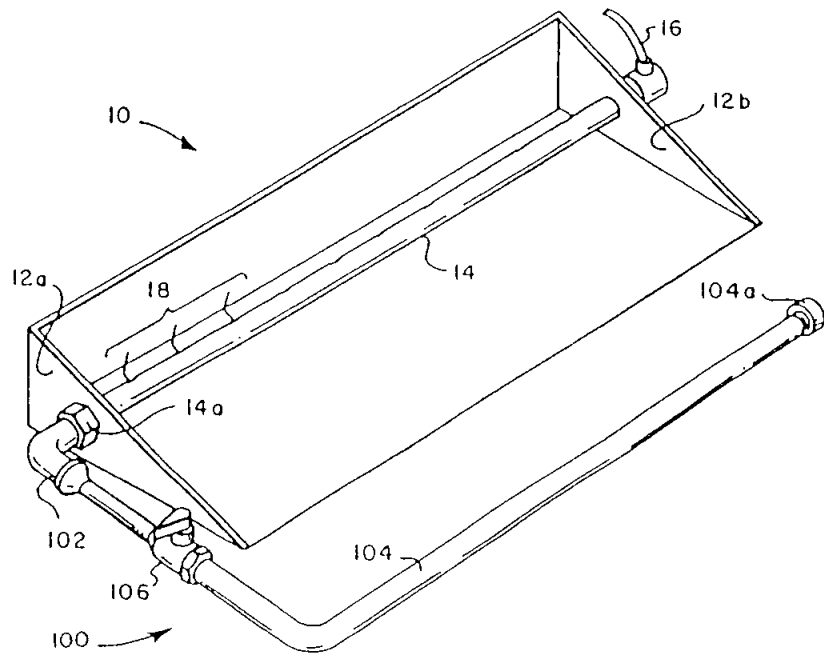
[56] References Cited

U.S. PATENT DOCUMENTS

3,042,109 7/1962 Peterson 126/512
3,871,355 3/1975 Henry 431/125 X
5,000,162 3/1991 Shumek et al 126/512

A gas-fired artificial logs and coals-burner assembly is provided for fireplace use in cooperation with decorative gas logs, and artificial coals and embers decorative items by placement forward of the gas logs in the fireplace arrangement, a secondary elongated coals- and embers-burner tube apparatus. The assembly provides gas-fired artificial logs, coals- and embers-burner apparatus for fireplaces wherein gas flow through primary burner tube is the source of gas flow to a secondary coals- and embers-burner tube positioned forward and below the primary burner tube with multiple discharge ports in the secondary tube directed away from the front of the fireplace, thus enhancing the natural burn in cooperation of the fireplace draft as well as the aesthetic beauty of the imitation burning logs, coals and embers.

19 Claims, 3 Drawing Sheets



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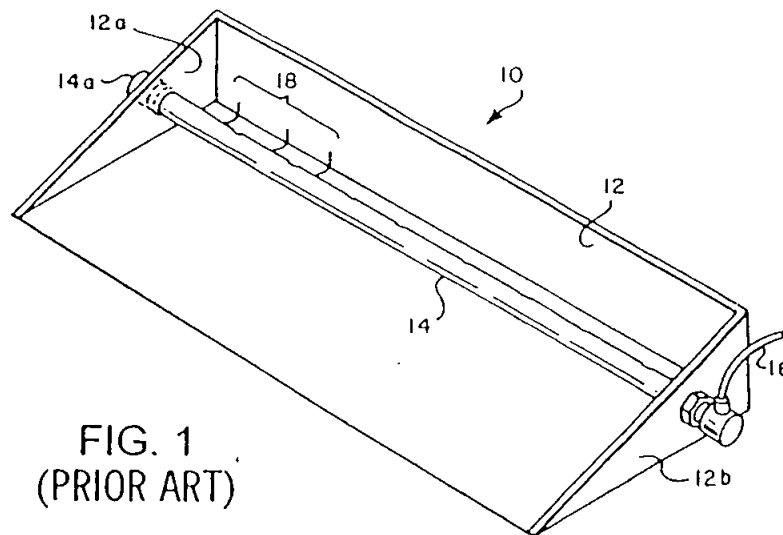


FIG. 1
(PRIOR ART)

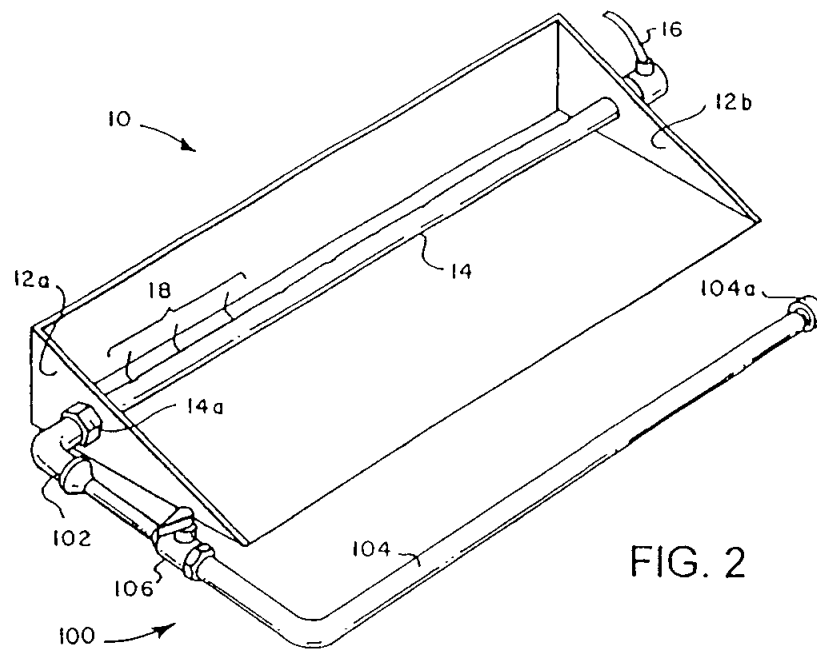
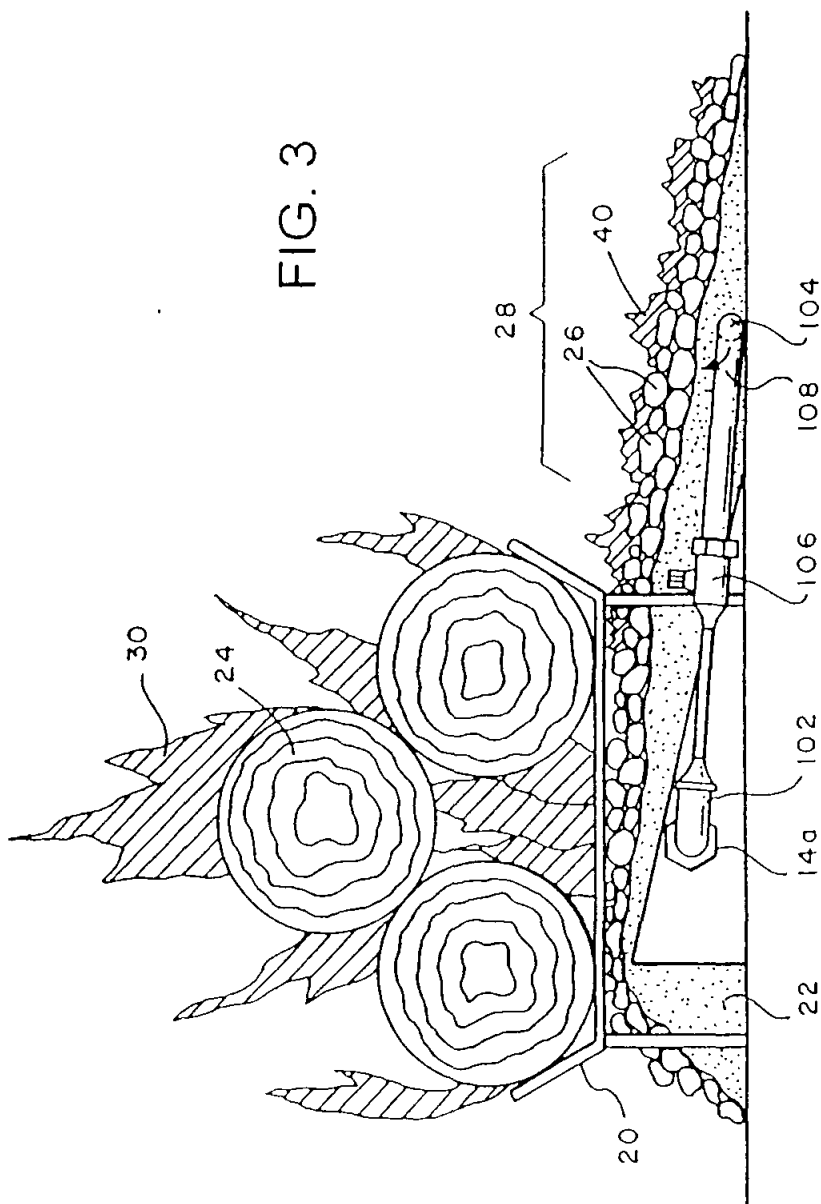


FIG. 2

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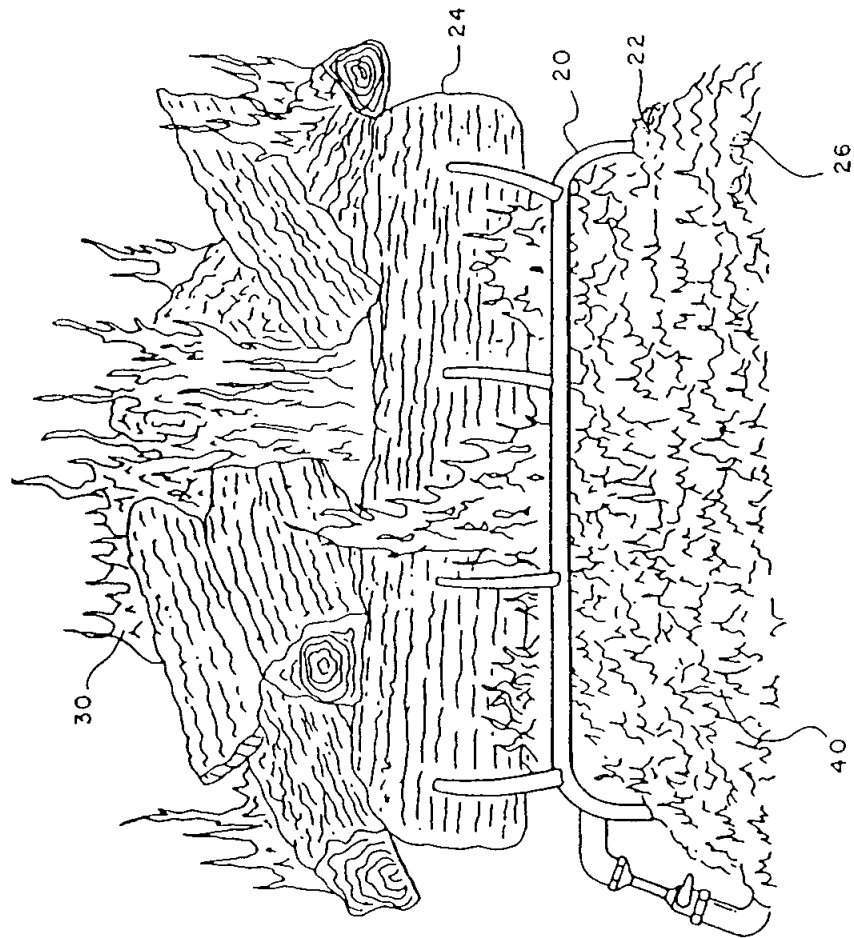
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FIG. 3



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FIG. 4



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GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY

The present application is a continuation-in-part application of U.S. patent application Ser. No. 08/276,894, filed Jul. 19, 1994, now abandoned, entitled "A Supplemental Burner for Retrofitting to an Existing Gas Log Burner Assembly" which is a continuation-in-part application of U.S. patent application Ser. No. 08/061,727, filed May 17, 1993, entitled "Controlled Ember Bed Burner" which is now abandoned.

TECHNICAL FIELD OF THE INVENTION

The present invention relates to a gas-fired artificial logs and coals-burner assembly for a fireplace to be used with decorative gas logs and coals or embers decorative items placed forward of the gas logs in the fireplace arrangement. In another aspect, the invention relates to coals- and embers-burner apparatus suitable for attaching to a terminal end of a gas-fired primary artificial burner, the coals- and embers-burner assembly utilizing a valve between the primary artificial logs burner and the coals- and embers-burner.

In yet another aspect, the invention relates to a gas-fired artificial logs, coals- and embers-burner assembly for fireplace wherein gas flow through a primary burner tube is the source for gas flow to a secondary coals burner tube positioned forward and below the primary burner tube with the multiple discharge ports in the secondary tube directed away from the front of the fireplace.

The present further relates to efficient gas burners for burning natural gas, manufactured gas and propane gaseous fuels within a fireplace environment. In addition, the invention provides an efficient burner system for burning gaseous fuels in a manner which provides decorative flames and decorative coals and embers which simulate wood burning.

Gas logs are usually made of a fire resistant ceramic material; however, when gas flames are directed against such ceramic materials, the gas flame is cooled by the artificial logs and many times produces a highly inefficient and dirty yellow flame. Such a flame further indicates incomplete burn of the gaseous materials due to a lack of sufficient burn temperature and oxygen supply thus creating excessive soot and carbon monoxide. Various attempts have been made in correcting these decorative fireplace gas log deficiencies.

Further it is known that gas burners or gas nozzles can be buried below a level of sand and vermiculite. These burner systems are referred to as sand pan burners which disburse the gasses through the fireproof material and permit the gas permeating through the porous material to ignite upon entering the atmosphere. Such systems allow disbursement of the flames over a large area or bed of material. Such disbursement of flames creates a more efficient burn which further simulates the action of burning wood, ashes and embers in a fireplace.

Prior art burner systems for artificial decorative logs and sand pan type burners are incorporated in various prefabricated fireplaces or existing masonry fireplaces, however, such systems are required to meet the ANSI emission standards which have been adapted by the American Gas Institute. Accordingly, it is very desirable to provide a clean burning gas-fired artificial logs and coals-burner assembly which meet the present ANSI emission standards.

Gas logs are increasingly popular in homes. Decorative artificial logs are placed on a grate which is located over a gas burner. The burner is typically a tube with spaced

apertures. Sand is poured over the gas burner to hide it from sight. Artificial embers are then spread across the sand. In use, gas flows through the burner and escapes through the spaced apertures. The gas filters up through the sand underneath the artificial logs. The gas is ignited and creates flames between the logs. The height of the flame is controlled by a primary valve which can be manipulated by the user.

Gas logs can, under these conditions, provide a great deal of heat to a room. Also, gas logs require virtually no effort to light. Natural logs, on the other hand, must be properly cured before burning. Even then, kindling is usually needed. And once lit, it is difficult to control the rate of burning. Beyond convenience, gas logs are also aesthetically pleasing. However, the standard gas logs burner only creates flames around the artificial logs. Natural logs, when burned will break apart to produce beautiful burning embers in front of the main log stack. A need exists to produce a more realistic aesthetic burn with gas logs.

Due to the popularity of gas logs, a number of advances have been patented. For example, U.S. Pat. No. 5,000,162 to Shimek et al. discloses a "Clean Burning Glowing Ember and Gas Log Burner System." This unit is marketed under the trademark Heat-N-Glow as the Model 5000GDVMH as a self-contained fireplace and wall heater for mobile homes. The system is a low-BTU system whose main objective is to minimize carbon monoxide creation and soot deposit on the logs. A burner system is provided with a first branch and a second branch. The first branch is supported on a prefabricated grate between a first and second decorative log. The second branch is forward of the logs and is protected under a metal mesh. A very light layer of special ember material is spread on top of the mesh. Shimek et al. '162 is only sold as a complete system of logs, burner and special ember material. It cannot be fitted to existing pan burners which are by far the most common burner in use, the combination resulting in the assembly of the invention. Thus, the Shimek burner system is an expensive option.

The Shimek burner system provides a metal trim piece or refractory material in front of the second burner pipe branch so that it is not easily viewed by a person standing in front of the fireplace. The second branch only illuminates a thin line of ember material. Neither the first or second branch can be covered by sand as is common in other units. The gas apertures in the branches are located on the upper surface of both branches. Thus, sand could easily clog the apertures. Moreover, the flow of gas into the second branch cannot be regulated.

U.S. Pat. No. 5,052,370 to Karabin discloses a "Gas Burner Assembly Including Emberizing Material." The gas burner comprises a first and second gas-burner assembly. The first gas-burner assembly is formed by a pair of parallel burner tubes connected by a third burner tube. The second gas-burner assembly is located forward of the first assembly and is generally T-shaped. The second burner only illuminates a thin line of ember material. A single gas source supplies both burner assemblies. An igniter is provided to ignite the gas from the main burner assembly. The flame from that burning gas ignites the gas from the second burner assembly. As with the Shimek et al. burner assembly, the flow of gas to the second burner assembly cannot be controlled.

Finally, U.S. Pat. No. 5,081,981 to Beal discloses yet another burner and is entitled "Yellow Flame Gas Fireplace Burner Assembly." The Beal reference is primarily concerned with producing a clean yellow flame. The burner assembly includes a U-shaped burner tube. The front portion

of the burner tube is forward of the artificial logs and provides flame for ember material. However, as with the Shimek reference above, the forward portion of the burner tube is hidden from view by a portion of the grate. The Iteal system does not contemplate the present assembly. Furthermore, as with both the Shimek and Karabin references, there is no means provided to control separately the flow of gas into the front burner tube.

A need exists for an inexpensive assembly for improving the performance and aesthetic appeal of pan-type gas burners. The assembly should distribute gas under artificial coals or embers in front of the gas-fired logs. The assembly should also provide a method of controlling the flow of gas to a secondary burner, thus controlling the height of the coals and embers bed flames and the amount of heat radiated into a room. A need further exists for an assembly which can safely operate even if completely covered by sand and enhances gas burn of both primary log burner and secondary coals and embers burner by gas flow control and burn direction.

These present and long-felt needs for gas logs and glowing coals- and embers-burner systems will burn clean and closely simulate the natural flames produced by burning wood logs have not yet been met by the art. Therefore, it is desirable to produce a reliable and efficient gas logs and glowing coals- and embers-burner assembly which produces the desired efficiency of burn while providing decorative flames that closely simulate burning wood logs while at the same time providing useable heat and still meet EPA regulations and the ANSI emissions and safety standards.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a highly efficient gas-burner assembly for use with artificial, decorative logs and glowing coals and embers wherein the assembly provides control for the glowing coals and embers independently of the gas logs burn.

It is another primary object of the present invention to provide a novel burner assembly which closely simulates the flames, embers and coals of natural wood logs burn.

It is another principle object of the present invention to provide a novel burner assembly which has low carbon monoxide emission characteristics.

It is yet another object of the present invention to provide an efficient low carbon monoxide emission burner assembly that combines long decorative gas flames with short or low smoldering glowing embers and coals in the same assembly.

It is another object of the present invention to provide a gas flow communicating primary and secondary burner tubes with the gas distribution ports of the secondary burner tube directed away from the opening of the fireplace and utilizing the natural draft of the fireplace to enhance the overall efficiency of the burn of the two burners.

The present burner assembly is the combination of an inexpensive primary gas logs burner assembly in gas flow communication with a secondary coals- and embers-burner tube positioned forward and below the primary burner which operates to enhance the natural draft of the fireplace to improve efficiency of burn and aesthetic appeal of the gas-fired artificial logs, coals- and embers-burner assembly. The secondary burner can distribute gas under artificial coals and embers in front of the gas logs with control of the gas flow to the secondary burner being readily adjustable by a valve in the connection means between the primary and secondary burners. The secondary burner receives gas through the primary burner, the connection means, and the gas flow is regulated selectively by the valve which is

interposed between the primary and secondary burners in the connection means. The control of gas flow thus controls the height of the coals and embers bed flames and the amount of radiant heat which is produced in the front of the fireplace and is distributed into the room. The amount of radiant heat can be enhanced by utilizing the control valve for increasing the amount of gas being burned in the secondary burner or the utilization of even a tertiary burner along with the secondary burner which are provided forward of the gas logs arrangement in the fireplace. The secondary burner can operate efficiently when completely covered with sand and artificial coals and embers materials, there being no need for a new grate to hide the secondary burner.

The ability to regulate the flow of gas to the secondary burner is an especially important feature. In addition, the gas flow from the secondary burner away from the opening of the fireplace and, in effect, toward the primary burner is also of special importance because of the utilization of the fireplace natural draft and direction of flames to more completely burn the gas, avoid any pockets of gas in front of the gas logs. The direction of the gas dispersion from the secondary burner ensures that through the action of the natural draft of the fireplace and the burning logs from the primary burner that complete and total combustion in an efficient manner will be achieved of the gas flowing from the secondary burner which is positioned somewhat forward of the primary burner.

People buy gas logs primarily for convenience, but this does not mean that they want to give up on the beauty of burning real logs. Standard pan burners only provide part of that beauty. Having roaring flames throughout the logs is greatly complemented by lower flames in front of the gas logs throughout a coals and embers bed. None of the prior art references above feature or even suggest a variable control means for accomplishing lower flames in the coals and embers bed. Moreover, every fireplace drafts differently. Such differences in fireplace construction and drafting, i.e., fireplace draft, as well as sizing and manufacture of present artificial fireplace burner apparatus dictates that variable control of the secondary burner, the coals and embers burner which operates independently of the primary logs burner is necessary. Volume and velocity of air entering the firebox varies according to the size of the room, height of the ceilings, and size of the firebox. None of the prior art references compensate for the varying drafts of fireplaces and therefore fail to accommodate all fireplaces while attempting to provide the maximum aesthetic beauty desired and efficiency of burn.

Most importantly, the gas-fired artificial logs, coals- and embers-burner assembly through the secondary burner control afforded by the valve, allows the user to selectively increase the amount of gas being burned forward of the artificial logs. This control also affords a greater introduction of radiant heat to the room as desired on colder days. As previously discussed, artificial gas logs can act as a heat sink and absorb heat produced by the flames. The heat generated by the secondary burner is largely radiant and is projected into the room, which affords quick heating of the room while also providing the aesthetic beauties of a gas-fired artificial logs, coals- and embers-burner assembly operation.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention, and for further details and advantages thereof reference is now made to the following Detailed Description taken in conjunction with the accompanying drawings, in which:

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FIG. 1 provides a perspective view of a prior art pan burner used with artificial gas logs.

FIG. 2 provides a gas-fired artificial logs primary pan tube burner and secondary coals and embers tube burner;

FIG. 3 illustrates the effect of the present assembly in providing logs, coals and embers flames; and

FIG. 4 is a front view of the assembly illuminating the coals and embers bed and gas logs flames.

DETAILED DESCRIPTION OF THE DRAWINGS

The present assembly provides a number of advantages over the burner assemblies disclosed in the prior art. FIG. 1 illustrates a standard pan burner 10 which is used in the vast majority of artificial log sets. The pan burner 10 has an open frame 12 which supports a burner tube 14. An inlet 16 is connected to a gas source (not shown). A plurality of apertures, as evidenced by gas plumes 18, are spaced along the length of the burner tube 14. Gas escapes through the apertures and filters through sand (not shown). Gas which escapes from the sand is initially ignited to create flames. These flames are continually fed by the escaping gas. The burner tube 14 is supported by the side walls 12a, 12b of the frame 12. The burner tube 14 extends beyond the side wall 12a and is capped.

FIG. 2 illustrates a secondary burner apparatus 100 which embodies the present invention in combination with primary burner tube 14. The secondary burner apparatus 100 can be retrofitted to the terminal end 14a of the burner tube 14 in the pan burner 10. The cap must be removed from the terminal end 14a. A connector 102 is then attached to the uncapped end of burner tube 14. The connector 102 is fitted to the secondary burner tube 104 creating an enclosed fluid path for the gas. The connections between the connector 102 and the terminal end 14a should be adequately sealed to prevent leakage. Likewise, the connection between the connector 102 and the secondary burner tube 104 should also be properly sealed. A valve 106 is interposed in this fluid path. The valve 106 can be variably positioned to give the user the ability select the amount of gas entering the secondary burner. The secondary burner tube 104 is generally parallel to the primary burner tube 14. The terminal portion of the secondary burner tube 104a is closed. The primary and secondary burner tubes are typically made of steel.

A plurality of apertures 108 are along the length of the secondary burner tube 104. The apertures 108 can be evenly spaced or clustered. The apertures 108 are typically between $\frac{1}{32}$ and $\frac{1}{8}$ inch in diameter, but are preferably $\frac{1}{16}$ of an inch in diameter. More importantly, the apertures are located along the radial edge of the secondary burner tube 104, below the upper ridge of the tube. By avoiding the upper ridge, the apertures are less likely to be clogged by sand. Gas passing through the valve 106 enters the secondary burner tube 104 and escapes through the spaced apertures. The apertures can be evenly spaced or clustered.

These various spaced apertures or gas discharge ports are most important in their position in regard to both the primary and secondary tube burners. In the secondary burner tube 104, the gas is discharged in a direction away from the opening of the fireplace or in another aspect is directed somewhat toward or directly toward the primary burner tube 14. The effects of such gas burn direction enhances the aesthetic beauty of the overall logs, coals, and embers burn, but, more importantly, provide several safety features of the gas-fired artificial logs, coals- and embers-burner assembly. First, the natural draft of the fireplace provides a more efficient burn of the gas and avoids high or intolerable levels

of carbon monoxide. Even more importantly is that the backward direction of gas flow direction toward the primary burner from the secondary burner avoids creation of pockets of gas in the sand and other coverage material of these burners which could possibly create a flash explosion due to accumulated gas. For example, if the gas is directed from the secondary burner 104 toward the opening of the fireplace, then two independent sources of gas pocketing occurs—one on the gas logs primary burner which may or may not be covered by granular materials as well as that generated by the secondary burner which is removed from about four to eight or ten inches in front of the primary burner. Lighting of such gas distribution pockets would be hazardous and uniformity of coordinated burn utilizing natural draft of the fireplace would be lost. If the secondary burner 104 discharges gas in a vertical direction, apertures in the sand or coverage granular material will occur and one would lose the aesthetic beauty of the applications of distribution of gas for burning and creating flame coals' and embers' appearance.

In the gas-fired artificial logs, coals- and embers-burner assembly of the invention, the primary elongated burner tube can be comprised of a one-half inch pipe while the secondary coals- and embers-burner elongated tube can be of a one-quarter inch pipe. These dimensional relationships can be varied depending on the needs for gas volume and the size of the fireplace. The spacing between the primary and secondary burner tubes can also be varied within reasonable lengths of from about four to eight or ten inches depending on the size and depth of the coals and embers bed one requires. The secondary elongated burner tube can also have adjustments for height, meaning distance elevated from the floor of the fireplace, again depending on the depth and size of the coals and embers fire bed. In all of these dimensional relationships, the present invention provides an adjustable burn facility for the secondary elongated burner tube which controls the amount of coals and embers flame and glow, again depending on the individual's desires, size of the room, size of the fireplace and the amount of natural draft through the fireplace.

FIGS. 3 and 4 illustrate the effect of the secondary burner apparatus 100 once connected to the pan burner 10. As discussed, a grate 20 is located above the pan burner which is covered with sand 22. The grate 20 can hold at least one artificial log 24. Artificial ember material 26 which glows when heated can be strewn under and around the artificial logs and on top of the sand. Flames 30 fed by gas from the primary burner tube 14 rise through the artificial logs 24. Flames 40 fed by gas from the secondary burner tube 104 can rise through the artificial ember bed 28. As illustrated, the flames 40 can be lower than the flames 30, thus providing an aesthetically pleasing sight.

Although preferred embodiments of the invention have been described in the foregoing Detailed Description and illustrated in the accompanying drawings, it will be understood that the invention is not limited to the embodiments disclosed, but is capable of numerous rearrangements, modifications, and substitutions of parts and elements without departing from the spirit of the invention. Accordingly, the present invention is intended to encompass such rearrangements, modifications, and substitutions of parts and elements as fall within the scope of the invention.

What is claimed is:

1. A gas-fired artificial logs and coals-burner assembly for fireplace comprising:
an elongated primary burner tube including a plurality of gas discharge ports;

a secondary coals burner elongated tube positioned forwardly of the primary burner tube;
 a support means for holding the elongated primary burner tube in a raised level relative to the forwardly position secondary coals burner elongated tube;
 the secondary coals burner elongated tube including a plurality of gas discharge ports;
 the elongated primary burner tube and the secondary coals burner elongated tube communicating through tubular connection means wherein the gas flow to the secondary elongated coals burner tube is fed through the primary burner tube and the tubular connection means;
 a valve for adjusting gas flow to the secondary coals burner elongated tube positioned in the tubular gas connection means; and
 the primary burner tube being in communication with a gas source with a gas flow control means therein for controlling gas flow into said primary burner tube.

2. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the support means for the primary burner tube is comprised of an open frame pan for supporting the primary burner tube in an elevated position relative to the fireplace floor.

3. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the secondary coals burner elongated tube discharge ports are directed toward the primary burner elongated tube at an angle of from about 5 to about 75 degrees based on the plane of the fireplace floor.

4. The gas-fired artificial logs and coals-burner assembly according to claim 3 wherein the secondary coals burner elongated tube discharge ports directed toward the primary burner tube utilizes the fireplace natural draft in achieving combustion of both gas sources in sufficient air to maintain satisfactory levels of CO.

5. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the secondary coals burner elongated tube is substantially parallel to the primary burner tube and has a smaller inside diameter than the primary burner tube with the valve adjusting gas flow for coals burn and forwarding heat radiation from the fireplace.

6. The gas-fired artificial logs and coals-burner assembly according to claim 4 wherein the primary burner tube is comprised of a standard half-inch pipe and the secondary burner tube is comprised of a standard quarter-inch pipe.

7. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the elongated primary burner tube and the secondary coals burner elongated tube are spaced apart on different planes at from about four to about eight inches.

8. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the secondary coals burner elongated tube is of a smaller diameter than the primary burner tube which allows for a lower profile of coals and sand coverage.

9. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the secondary coals burner elongated tube is adjustable in height relative to the floor of the fireplace and the elevated primary burner tube.

10. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein at least two secondary coal burner elongated tubes are utilized for artificial coal burn and radiant heat generation.

11. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the primary and secondary burner tubes have apertures of from about $\frac{1}{2}$ inch to about $\frac{1}{4}$ inch.

12. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the gas flow adjustment valve has a removable handle, the gas flow adjustment allowing a variety of settings from full closed to full open.

13. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the connection means is comprised of a connector attached to the terminal end of the primary burner tube at a first end of a connector and attached to the secondary coals burner elongated tube to a connector second end with the valve interposed between the primary burner tube and the secondary burner tube.

14. The gas-fired artificial logs and coals-burner assembly according to claim 13 wherein the connector generally is shaped outward from the first end connected to the primary burner tube, directed generally perpendicular to the burner tubes alignment and inward to the second end connected to the secondary burner tube, the valve and connector being positioned generally exterior of the primary and secondary burner tube fire zones.

15. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the open frame pan and primary elongated burner tube is positioned under an artificial logs and grate support means.

16. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the primary elongated burner tube is covered with sand and the secondary elongated burner tube is covered with sand, mica, and fibrous materials which simulate coals and ember burn.

17. A gas-fired artificial coals- and embers-burner apparatus suitable for attaching to a gas-fired primary artificial log burner tube said primary artificial log burner tube having a terminal end comprising:
 a secondary coals burning elongated tube;
 a connector means for connecting said terminal end in communication with the secondary burner tube, the secondary burner tube positioned substantially parallel, forward and below the primary burner tube, the connector means having interposed between the primary and secondary burner tubes a gas flow adjustment valve, the primary and secondary burner tubes having a plurality of gas discharge ports, the secondary burner tube being in gas flow communication with the primary burner tube being the connection means, a gas distribution ports of the secondary burner tube directed away from the fireplace opening.

18. The gas-fired artificial coals- and embers-burner apparatus according to claim 1, wherein the gas distribution ports of the secondary burner tube are directed toward the primary burner tube at from about 5 degrees to about 75 degrees elevation from the fireplace floor.

19. A gas burner assembly for use in a fireplace comprising:
 a primary burner tube having a first end and a second end, said first end adapted to be connected to a gas source with a gas flow control means for controlling the amount of gas flowing into said primary burner tube;
 a second burner tube;
 a connector tube attached to said second end of said primary burner tube and to said second burner tube to provide fluid communication between said primary burner tube and said second burner tube; and
 a valve disposed in said connector tube for selectively controlling the flow of gas from said primary burner tube into said second burner tube.

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JT-APP 2141

PATENT APPLICATION SERIAL NO. 08/626498

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

08/04/12/93 00825498
3/5/05 CR 6101

PTO-1556
(5/87)

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08/626498

PATENT

Docket No.: GLDT-B8095CIP2

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the continuation in part patent application of

Inventor: Golden Blount

For: GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY

Enclosed are the following papers: *AL RO*

- 1. U.S. 7*
- X Two checks in the amount of \$375 and \$450
 - X This New Application Transmittal with Certificate of Express Mailing and attached fee sheet
 - X Petition for Extension of Time (3-month)
 - 12 Pages of specification
 - 4 Pages of claims
 - 1 Page(s) of Abstract
 - 3 Sheets of informal drawing (Figs. 1 - 11)
 - X Declaration and Power of Attorney
 - X Declaration Claiming Small Entity Status
 - X Postcard acknowledgment.

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date, April 2, 1996, in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EM319625103US addressed to: Box Patent Application, Assistant Commissioner for Patents, Washington, DC 20231.

Henry Crookell
(Signature of person mailing paper)
Printed Name: Henry Crookell

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The filing fee has been calculated as shown below:

SMALL ENTITY

FOR:	NO. FILED	NO. EXTRA	RATE	FEE
BASIC FEE				\$ 375.00
TOTAL CLAIMS	18-20 =	0	\$	\$
INDEP. CLAIMS	2-3 =	0	\$	\$
MULTIPLE DEPENDENT CLAIM PRESENTED				\$ 0.00

TOTAL \$ 375.00

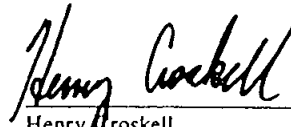
A check in the amount of \$ 375.00 for the filing fee is enclosed.

A check in the amount of \$ 450.00 for the Petition for Extension of Time (3-months) is enclosed.

The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 08-3105. A duplicate copy of this sheet is enclosed.

Any additional fees required under 37 C.F.R. 1.16.

Date: April 2, 1996


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JT-APP 2145

GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY**Abstract of the Invention**

A gas-fired artificial logs and coals-burner assembly is provided for fireplace use in cooperation with decorative gas logs, and artificial coals and embers decorative items by
5 placement forward of the gas logs in the fireplace arrangement, a secondary elongated coals-
and embers-burner tube apparatus. The assembly provides gas-fired artificial logs, coals-
and embers-burner apparatus for fireplaces wherein gas flow through primary burner tube
is the source of gas flow to a secondary coals- and embers-burner tube positioned forward
and below the primary burner tube with multiple discharge ports in the secondary tube
10 directed away from the front of the fireplace, thus enhancing the natural burn in cooperation
of the fireplace draft as well as the aesthetic beauty of the imitation burning logs, coals and
embers.

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08/62649

GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY

The present application is a continuation-in-part application of ~~copending~~ Patent Application Serial No. 08/276,894, filed July 19, 1994, entitled "A Supplemental Burner for Retrofitting to an Existing Gas Log Burner Assembly" which is a continuation-in-part
5 application of Patent Application Serial No. 08/061,727, filed May 17, 1993, entitled "Controlled Ember Bed Burner" which is now abandoned.

Technical Field of the Invention

The present invention relates to a gas-fired artificial logs and coals-burner assembly for a fireplace to be used with decorative gas logs and coals or embers decorative items
10 placed forward of the gas logs in the fireplace arrangement. In another aspect, the invention relates to coals- and embers-burner apparatus suitable for attaching to a terminal end of a gas-fired primary artificial burner, the coals- and embers-burner assembly utilizing a valve between the primary artificial logs burner and the coals- and embers-burner.

In yet another aspect, the invention relates to a gas-fired artificial logs, coals- and
15 embers-burner assembly for fireplace wherein gas flow through a primary burner tube is the source for gas flow to a secondary coals burner tube positioned forward and below the primary burner tube with the multiple discharge ports in the secondary tube directed away from the front of the fireplace.

The present further relates to efficient gas burners for burning natural gas,
20 manufactured gas and propane gaseous fuels within a fireplace environment. In addition, the invention provides an efficient burner system for burning gaseous fuels in a manner which provides decorative flames and decorative coals and embers which simulate wood burning.

Gas logs are usually made of a fire resistant ceramic material; however, when gas flames are directed against such ceramic materials, the gas flame is cooled by the artificial logs and many times produces a highly inefficient and dirty yellow flame. Such a flame further indicates incomplete burn of the gaseous materials due to a lack of sufficient burn
5 temperature and oxygen supply thus creating excessive soot and carbon monoxide. Various attempts have been made in correcting these decorative fireplace gas log deficiencies.

Further it is known that gas burners or gas nozzles can be buried below a level of sand and vermiculite. These burner systems are referred to as sand pan burners which disburse the gasses through the fireproof material and permit the gas permeating through the porous
10 material to ignite upon entering the atmosphere. Such systems allow disbursal of the flames over a large area or bed of material. Such disbursal of flames creates a more efficient burn which further simulates the action of burning wood, ashes and embers in a fireplace.

Prior art burner systems for artificial decorative logs and sand pan type burners are incorporated in various prefabricated fireplaces or existing masonry fireplaces; however,
15 such systems are required to meet the ANSI emission standards which have been adapted by the American Gas Institute. Accordingly, it is very desirable to provide a clean burning gas-fired artificial logs and coals-burner assembly which meet the present ANSI emission standards.

Gas logs are increasingly popular in homes. Decorative artificial logs are placed on
20 a grate which is located over a gas burner. The burner is typically a tube with spaced apertures. Sand is poured over the gas burner to hide it from sight. Artificial embers are then spread across the sand. In use, gas flows through the burner and escapes through the spaced apertures. The gas filters up through the sand underneath the artificial logs. The gas

is ignited and creates flames between the logs. The height of the flame is controlled by a primary valve which can be manipulated by the user.

Gas logs can, under these conditions, provide a great deal of heat to a room. Also, gas logs require virtually no effort to light. Natural logs, on the other hand, must be properly cured before burning. Even then, kindling is usually needed. And once lit, it is difficult to control the rate of burning. Beyond convenience, gas logs are also aesthetically pleasing. However, the standard gas logs burner only creates flames around the artificial logs. Natural logs, when burned will break apart to produce beautiful burning embers in front of the main log stack. A need exists to produce a more realistic aesthetic burn with gas logs.

Due to the popularity of gas logs, a number of advances have been patented. For example, U.S. Patent No. 5,000,162 to Shimek et al. discloses a "Clean Burning Glowing Ember and Gas Log Burner System." This unit is marketed under the trademark Heat-N-Glow as the Model 5000GDVMH as a self-contained fireplace and wall heater for mobile homes. The system is a low-BTU system whose main objective is to minimize carbon monoxide creation and soot deposit on the logs. A burner system is provided with a first branch and a second branch. The first branch is supported on a prefabricated grate between a first and second decorative log. The second branch is forward of the logs and is protected under a metal mesh. A very light layer of special ember material is spread on top of the mesh. Shimek et al. '162 is only sold as a complete system of logs, burner and special ember material. It cannot be fitted to existing pan burners which are by far the most common burner in use, the combination resulting in the assembly of the invention. Thus, the Shimek burner system is an expensive option.

The Shimek burner system provides a metal trim piece or refractory material in front of the second burner pipe branch so that it is not easily viewed by a person standing in front of the fireplace. The second branch only illuminates a thin line of ember material. Neither the first or second branch can be covered by sand as is common in other units. The gas
5 apertures in the branches are located on the upper surface of both branches. Thus, sand could easily clog the apertures. Moreover, the flow of gas into the second branch cannot be regulated.

U.S. Patent No. 5,052,370 to Karabin discloses a "Gas Burner Assembly Including Emberizing Material." The gas burner comprises a first and second gas-burner assembly.
10 The first gas-burner assembly is formed by a pair of parallel burner tubes connected by a third burner tube. The second gas-burner assembly is located forward of the first assembly and is generally T-shaped. The second burner only illuminates a thin line of ember material. A single gas source supplies both burner assemblies. An igniter is provided to ignite the gas from the main burner assembly. The flame from that burning gas ignites the gas from the
15 second burner assembly. As with the Shimek et al. burner assembly, the flow of gas to the second burner assembly cannot be controlled.

Finally, U.S. Patent No. 5,081,981 to Beal discloses yet another burner and is entitled "Yellow Flame Gas Fireplace Burner Assembly." The Beal reference is primarily concerned with producing a clean yellow flame. The burner assembly includes a U-shaped
20 burner tube. The front portion of the burner tube is forward of the artificial logs and provides flame for ember material. However, as with the Shimek reference above, the forward portion of the burner tube is hidden from view by a portion of the grate. The Beal system does not contemplate the present assembly. Furthermore, as with both the Shimek

and Karabin references, there is no means provided to control separately the flow of gas into the front burner tube.

A need exists for an inexpensive assembly for improving the performance and aesthetic appeal of pan-type gas burners. The assembly should distribute gas under artificial
5 coals or embers in front of the gas-fired logs. The assembly should also provide a method of controlling the flow of gas to a secondary burner, thus controlling the height of the coals and embers bed flames and the amount of heat radiated into a room. A need further exists for an assembly which can safely operate even if completely covered by sand and enhances gas burn of both primary log burner and secondary coals and embers burner by gas flow
10 control and burn direction.

These present and long-felt needs for gas logs and glowing coals- and embers-burner systems will burn clean and closely simulate the natural flames produced by burning wood logs have not yet been met by the art. Therefore, it is desirable to produce a reliable and efficient gas logs and glowing coals- and embers-burner assembly which produces the desired
15 efficiency of burn while providing decorative flames that closely simulate burning wood logs while at the same time providing useable heat and still meet EPA regulations and the ANSI emissions and safety standards.

Summary of the Invention

It is a primary object of the present invention to provide a highly efficient gas-burner
20 assembly for use with artificial, decorative logs and glowing coals and embers wherein the assembly provides control for the glowing coals and embers independently of the gas logs burn.

It is another primary object of the present invention to provide a novel burner assembly which closely simulates the flames, embers and coals of natural wood logs burn.

It is another principle object of the present invention to provide a novel burner assembly which has low carbon monoxide emission characteristics.

5 It is yet another object of the present invention to provide an efficient low carbon monoxide emission burner assembly that combines long decorative gas flames with short or low smoldering glowing embers and coals in the same assembly.

It is another object of the present invention to provide a gas flow communicating primary and secondary burner tubes with the gas distribution ports of the secondary burner
10 tube directed away from the opening of the fireplace and utilizing the natural draft of the fireplace to enhance the overall efficiency of the burn of the two burners.

The present burner assembly is the combination of an inexpensive primary gas logs burner assembly in gas flow communication with a secondary coals- and embers-burner tube positioned forward and below the primary burner which operates to enhance the natural draft
15 of the fireplace to improve efficiency of burn and aesthetic appeal of the gas-fired artificial logs, coals- and embers-burner assembly. The secondary burner can distribute gas under artificial coals and embers in front of the gas logs with control of the gas flow to the secondary burner being readily adjustable by a valve in the connection means between the primary and secondary burners. The secondary burner receives gas through the primary
20 burner, the connection means, and the gas flow is regulated selectively by the valve which is interposed between the primary and secondary burners in the connection means. The control of gas flow thus controls the height of the coals and embers bed flames and the amount of radiant heat which is produced in the front of the fireplace and is distributed into

the room. The amount of radiant heat can be enhanced by utilizing the control valve for increasing the amount of gas being burned in the secondary burner or the utilization of even a tertiary burner along with the secondary burner which are provided forward of the gas logs arrangement in the fireplace. The secondary burner can operate efficiently when completely
5 covered with sand and artificial coals and embers materials, there being no need for a new grate to hide the secondary burner.

The ability to regulate the flow of gas to the secondary burner is an especially important feature. In addition, the gas flow from the secondary burner away from the opening of the fireplace and, in effect, toward the primary burner is also of special
10 importance because of the utilization of the fireplace natural draft and direction of flames to more completely burn the gas, avoid any pockets of gas in front of the gas logs. The direction of the gas dispersion from the secondary burner ensures that through the action of the natural draft of the fireplace and the burning logs from the primary burner that complete and total combustion in an efficient manner will be achieved of the gas flowing from the
15 secondary burner which is positioned somewhat forward of the primary burner.

People buy gas logs primarily for convenience, but this does not means that they want to give up on the beauty of burning real logs. Standard pan burners only provide part of that beauty. Having roaring flames throughout the logs is greatly complemented by lower flames in front of the gas logs throughout a coals and embers bed. None of the prior art references
20 above feature or even suggest a variable control means for accomplishing lower flames in the coals and embers bed. Moreover, every fireplace drafts differently. Such differences in fireplace construction and drafting, i.e., fireplace draft, as well as sizing and manufacture of present artificial fireplace burner apparatus dictates that variable control of the secondary

burner, the coals and embers burner which operates independently of the primary logs burner is necessary. Volume and velocity of air entering the firebox varies according to the size of the room, height of the ceilings, and size of the firebox. None of the prior art references compensate for the varying drafts of fireplaces and therefore fail to accommodate all
5 fireplaces while attempting to provide the maximum aesthetic beauty desired and efficiency of burn.

Most importantly, the gas-fired artificial logs, coals- and embers-burner assembly through the secondary burner control afforded by the valve, allows the user to selectively increase the amount of gas being burned forward of the artificial logs. This control also
10 affords a greater introduction of radiant heat to the room as desired on colder days. As previously discussed, artificial gas logs can act as a heat sink and absorb heat produced by the flames. The heat generated by the secondary burner is largely radiant and is projected into the room, which affords quick heating of the room while also providing the aesthetic beauties of a gas-fired artificial logs, coals- and embers-burner assembly operation.

15 **Brief Description of the Drawings**

For a more complete understanding of the present invention, and for further details and advantages thereof, reference is now made to the following Detailed Description taken in conjunction with the accompanying drawings, in which:

FIGURE 1 provides a perspective view of a prior art pan burner used with artificial
20 gas logs;

FIGURE 2 provides a gas-fired artificial logs primary pan tube burner and secondary coals and embers tube burner;

FIGURE 3 illustrates the effect of the present assembly in providing logs, coals and embers flames; and

FIGURE 4 is a front view of the assembly illuminating the coals and embers bed and gas logs flames.

5 **Detailed Description of the Drawings**

The present assembly provides a number of advantages over the burner assemblies disclosed in the prior art. FIGURE 1 illustrates a standard pan burner 10 which is used in the vast majority of artificial log sets. The pan burner 10 has an open frame 12 which supports a burner tube 14. An inlet 16 is connected to a gas source (not shown). A
10 plurality of apertures, as evidenced by gas plumes 18, are spaced along the length of the burner tube 14. Gas escapes through the apertures and filters through sand (not shown). Gas which escapes from the sand is initially ignited to create flames. These flames are continually fed by the escaping gas. The burner tube 14 is supported by the side walls 12a, 12b of the frame 12. The burner tube 14 extends beyond the side wall 12a and is capped.

15 FIGURE 2 illustrates a secondary burner apparatus 100 which embodies the present invention in combination with primary burner tube 14. The secondary burner apparatus 100 can be retrofitted to the terminal end 14a of the burner tube 14 in the pan burner 10. The cap must be removed from the terminal end 14a. A connector 102 is then attached to the uncapped end of burner tube 14. The connector 102 is fitted to the secondary burner tube
20 104 creating an enclosed fluid path for the gas. The connections between the connector 102 and the terminal end 14a should be adequately sealed to prevent leakage. Likewise, the connection between the connector 102 and the secondary burner tube 104 should also be properly sealed. A valve 106 is interposed in this fluid path. The valve 106 can be variably

positioned to give the user the ability select the amount of gas entering the secondary burner. The secondary burner tube 104 is generally parallel to the primary burner tube 14. The terminal portion of the secondary burner tube 104a is closed. The primary and secondary burner tubes are typically made of steel.

5 A plurality of apertures 108 are along the length of the secondary burner tube 104. The apertures 108 can be evenly spaced or clustered. The apertures 108 are typically between 1/32 and 1/8 inch in diameter, but are preferably 1/16 of an inch in diameter. More importantly, the apertures are located along the radial edge of the secondary burner tube 104, below the upper ridge of the tube. By avoiding the upper ridge, the apertures are
10 less likely to be clogged by sand. Gas passing through the valve 106 enters the secondary burner tube 104 and escapes through the spaced apertures. The apertures can be evenly spaced or clustered.

These various spaced apertures or gas discharge ports are most important in their position in regard to both the primary and secondary tube burners. In the secondary burner
15 tube 104, the gas is discharged in a direction away from the opening of the fireplace or in another aspect is directed somewhat toward or directly toward the primary burner tube 14. The effects of such gas burn direction enhances the aesthetic beauty of the overall logs, coals, and embers burn, but, more importantly, provide several safety features of the gas-fired artificial logs, coals- and embers-burner assembly. First, the natural draft of the
20 fireplace provides a more efficient burn of the gas and avoids high or intolerable levels of carbon monoxide. Even more importantly is that the backward direction or gas flow direction toward the primary burner from the secondary burner avoids creation of pockets of gas in the sand and other coverage material of these burners which could possibly create

a flash explosion due to accumulated gas. For example, if the gas is directed from the secondary burner 104 toward the opening of the fireplace, then two independent sources of gas pocketing occurs -- one on the gas logs primary burner which may or may not be covered by granular materials as well as that generated by the secondary burner which is removed from about four to eight or ten inches in front of the primary burner. Lighting of such gas distribution pockets would be hazardous and uniformity of coordinated burn utilizing natural draft of the fireplace would be lost. If the secondary burner 104 discharges gas in a vertical direction, apertures in the sand or coverage granular material will occur and one would lose the aesthetic beauty of the applications of distribution of gas for burning and creating flame coals' and embers' appearance.

In the gas-fired artificial logs, coals- and embers-burner assembly of the invention, the primary elongated burner tube can be comprised of a one-half inch pipe while the secondary coals- and embers-burner elongated tube can be of a one-quarter inch pipe. These dimensional relationships can be varied depending on the needs for gas volume and the size of the fireplace. The spacing between the primary and secondary burner tubes can also be varied within reasonable lengths of from about four to eight or ten inches depending on the size and depth of the coals and embers bed one requires. The secondary elongated burner tube can also have adjustments for height, meaning distance elevated from the floor of the fireplace, again depending on the depth and size of the coals and embers fire bed. In all of these dimensional relationships, the present invention provides an adjustable burn facility for the secondary elongated burner tube which controls the amount of coals and embers flame and glow, again depending on the individual's desires, size of the room, size of the fireplace and the amount of natural draft through the fireplace.

FIGURES 3 and 4 illustrate the effect of the secondary burner apparatus 100 once connected to the pan burner 10. As discussed, a grate 20 is located above the pan burner which is covered with sand 22. The grate 20 can hold at least one artificial log 24. Artificial ember material 26 which glows when heated can be strewn under and around the
5 artificial logs and on top of the sand. Flames 30 fed by gas from the primary burner tube 14 rise through the artificial logs 24. Flames 40 fed by gas from the secondary burner tube 104 can rise through the artificial ember bed 28. As illustrated, the flames 40 can be lower than the flames 30, thus providing an aesthetically pleasing sight.

Although preferred embodiments of the invention have been described in the
10 foregoing Detailed Description and illustrated in the accompanying drawings, it will be understood that the invention is not limited to the embodiments disclosed, but is capable of numerous rearrangements, modifications, and substitutions of parts and elements without departing from the spirit of the invention. Accordingly, the present invention is intended to encompass such rearrangements, modifications, and substitutions of parts and elements as
15 fall within the scope of the invention.

WHAT IS CLAIMED IS:

1 1. A gas-fired artificial logs and coals-burner assembly for fireplace comprising:
2 an elongated primary burner tube including a plurality of gas discharge ports;
3 a support means for holding the elongated primary burner tube in a raised level
4 relative to a forward position secondary coals burner elongated tube;
5 the secondary coals burner elongated tube including a plurality of gas discharge ports
6 directed away from the fireplace opening;
7 the elongated primary burner tube and the secondary coals burner elongated tube
8 communicating through tubular connection means wherein the gas flow to the secondary
9 elongated coals burner tube is fed through the primary burner tube and the tubular
10 connection means;
11 a valve for adjusting gas flow to the secondary coals burner elongated tube positioned
12 in the tubular gas connection means; and
13 the assembly being in communication with a gas source through gas flow control
14 means.

1 2. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the support means for the primary burner tube is comprised of an open frame pan
3 for supporting the primary burner tube in an elevated position relative to the fireplace floor.

1 3. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the secondary coals burner elongated tube discharge ports are directed toward the
3 primary burner elongated tube at an angle of from about 5 to about 75 degrees based on the
4 plane of the fireplace floor.

1 4. The gas-fired artificial logs and coals-burner assembly according to claim 3
2 wherein the secondary coals burner elongated tube discharge ports directed toward the
3 primary burner tube utilizes the fireplace natural draft in achieving combustion of both gas
4 sources in sufficient air to maintain satisfactory levels of CO.

1 5. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the secondary coals burner elongated tube is substantially parallel to the primary
3 burner tube and has a smaller inside diameter than the primary burner tube with the valve
4 adjusting gas flow for coals burn and forwarding heat radiation from the fireplace.

1 6. The gas-fired artificial logs and coals-burner assembly according to claim 4
2 wherein the primary burner tube is comprised of a standard half-inch pipe and the secondary
3 burner tube is comprised of a standard quarter-inch pipe.

1 7. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the elongated primary burner tube and the secondary coals burner elongated tube
3 are spaced apart on different planes at from about four to about eight inches.

1 8. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the secondary coals burner elongated tube is of a smaller diameter than the primary
3 burner tube which allows for a lower profile of coals and sand coverage.

1 9. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the secondary coals burner elongated tube is adjustable in height relative to the floor
3 of the fireplace and the elevated primary burner tube.

1 10. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein at least two secondary coal burner elongated tubes are utilized for artificial coal burn
3 and radiant heat generation.

1 11. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the primary and secondary burner tubes have apertures of from about 1/32 inch to
3 about 1/8 inch.

1 12. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the gas flow adjustment valve has a removable handle, the gas flow adjustment
3 allowing a variety of settings from full closed to full open.

1 13. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the connection means is comprised of a connector attached to the terminal end of
3 the primary burner tube at a first end of a connector and attached to the secondary coals
4 burner elongated tube to a connector second end with the valve interposed between the
5 primary burner tube and the secondary burner tube.

1 14. The gas-fired artificial logs and coals-burner assembly according to claim 13
2 wherein the connector generally is shaped outward from the first end connected to the
3 primary burner tube, directed generally perpendicular to the burner tubes alignment and
4 inward to the second end connected to the secondary burner tube, the valve and connector
5 being positioned generally exterior of the primary and secondary burner tube fire zones.

1 15. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the open frame pan and primary elongated burner tube is positioned under an
3 artificial logs and grate support means.

1 16. The gas-fired artificial logs and coals-burner assembly according to claim 1
2 wherein the primary elongated burner tube is covered with sand and the secondary elongated
3 burner tube is covered with sand, mica, and fibrous materials which simulate coals and
4 ember burn.

17. A gas-fired artificial coals- and embers-burner apparatus suitable for attaching
to a terminal end of a gas-fired primary artificial log burner tube comprising:
a connector means for connecting the primary burner terminal end in communication
with a secondary burner tube, the secondary burner tube positioned substantially parallel,
forward and below the primary burner tube, the connector means having interposed between
the primary and secondary burner tubes a gas flow adjustment valve, the primary and
secondary burner tubes having a plurality of gas discharge ports, the secondary burner tube
in gas flow communication with the primary burner tube through the connection means, the
gas distribution ports of the secondary burner tube directed away from the fireplace opening.
18. The gas-fired artificial coals- and embers-burner apparatus according to
claim 1, wherein the gas distribution ports of the secondary burner tube are directed toward
the primary burner tube at from about 5 degrees to about 75 degrees elevation from the
fireplace floor.

DECLARATION CLAIMING SMALL ENTITY
STATUS PURSUANT TO 37 CFR 1.9(f) and 1.27 (b)

SOLE INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that:

I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled:

"GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY"

described in the specification filed herewith.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract of law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern, or organization.
☐ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name and address of inventor: Golden Blount
5310 Harbor Town
Dallas, Texas 75287

Inventor's Signature  Date: April 2, 1996

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JT-APP 2164

**CONTINUATION-IN-PART
DECLARATION AND POWER OF ATTORNEY**

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled "GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY", the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to herein.

I acknowledge the duty to disclose to the Office all information known to me to be material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

NONE

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose to the Office all information known to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

U.S. Patent Application Serial Number 08/276,894, filed July 19, 1994, entitled "A Supplemental Burner for Retrofitting to an Existing Gas Log Burner Assembly" and U.S. Patent Application Serial No. 08/061,727, filed May 27, 1993, and entitled "Controlled Ember Bed Burner" by the inventor herein.

I hereby acknowledge the duty to disclose material information as defined in §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

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000793

JT-APP 2165

9 And I hereby appoint HENRY CROSKELL, Registration No. 25,847; HARRY J. WATSON, Registration No. 29,985; L. DAN TUCKER, Registration No. 22,670; WILLIAM D. HARRIS, JR., Registration No. 19,243; ROY W. HARDIN, Registration No. 28,304; WILLIAM D. JACKSON, Registration No. 20,846; KRISTIN K. JORDAN, Registration No. 37,859; Craig J. Cox, Registration No. P-39,643; and Michael Piper, Registration No. P-39,800, all of the firm of HARRIS, TUCKER & HARDIN, P.C. my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. I request that all correspondence be addressed to:

Henry Croskell
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214/233-5712

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of inventor: Golden Blount

1-021 Inventor's signature

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51 (1-3)

1-3

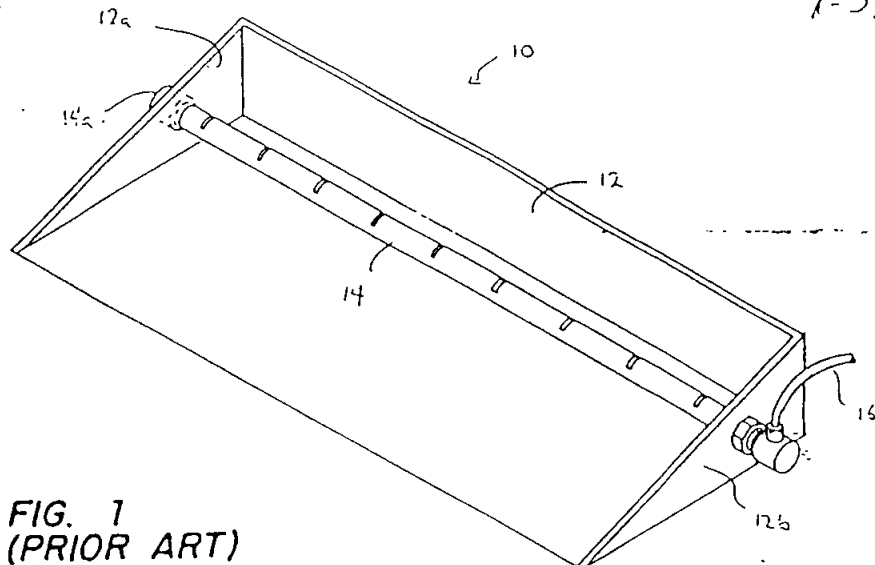


FIG. 1
(PRIOR ART)

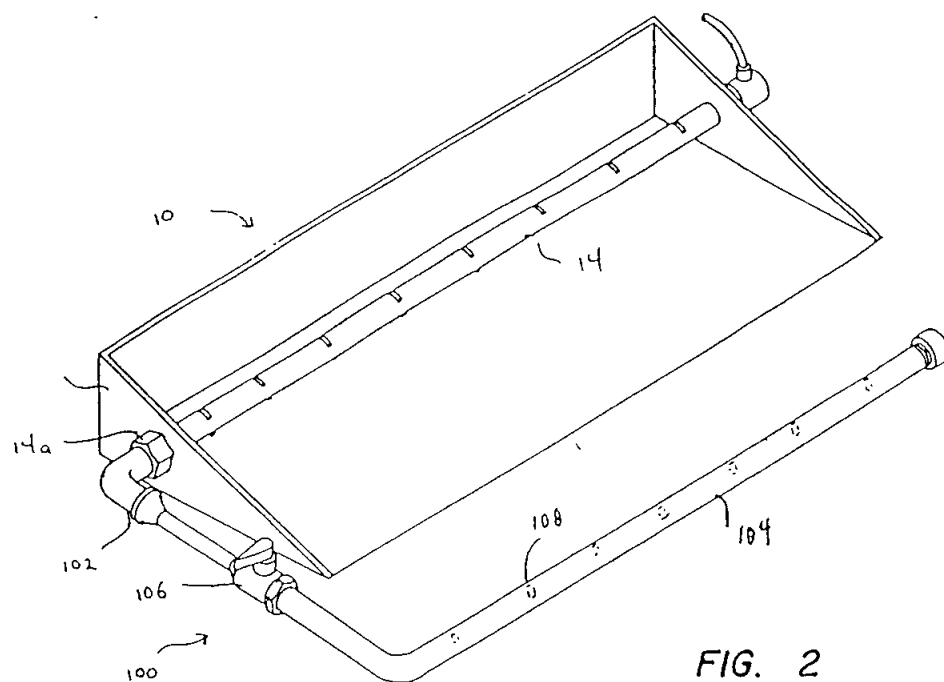


FIG. 2

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2.3

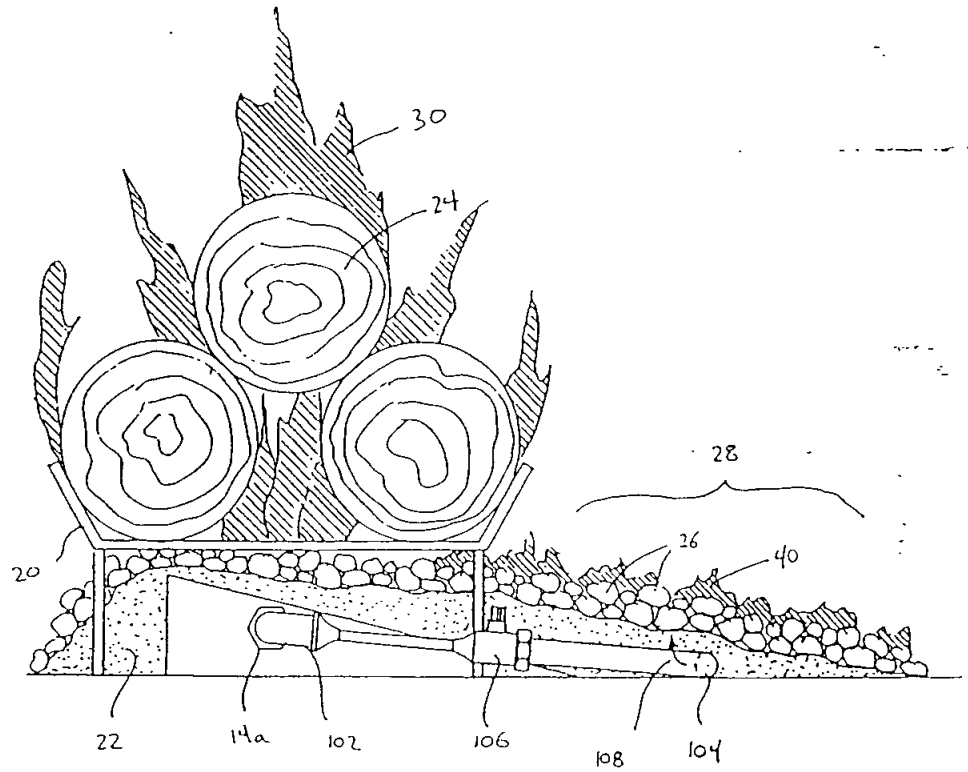


FIG. 3

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3-3

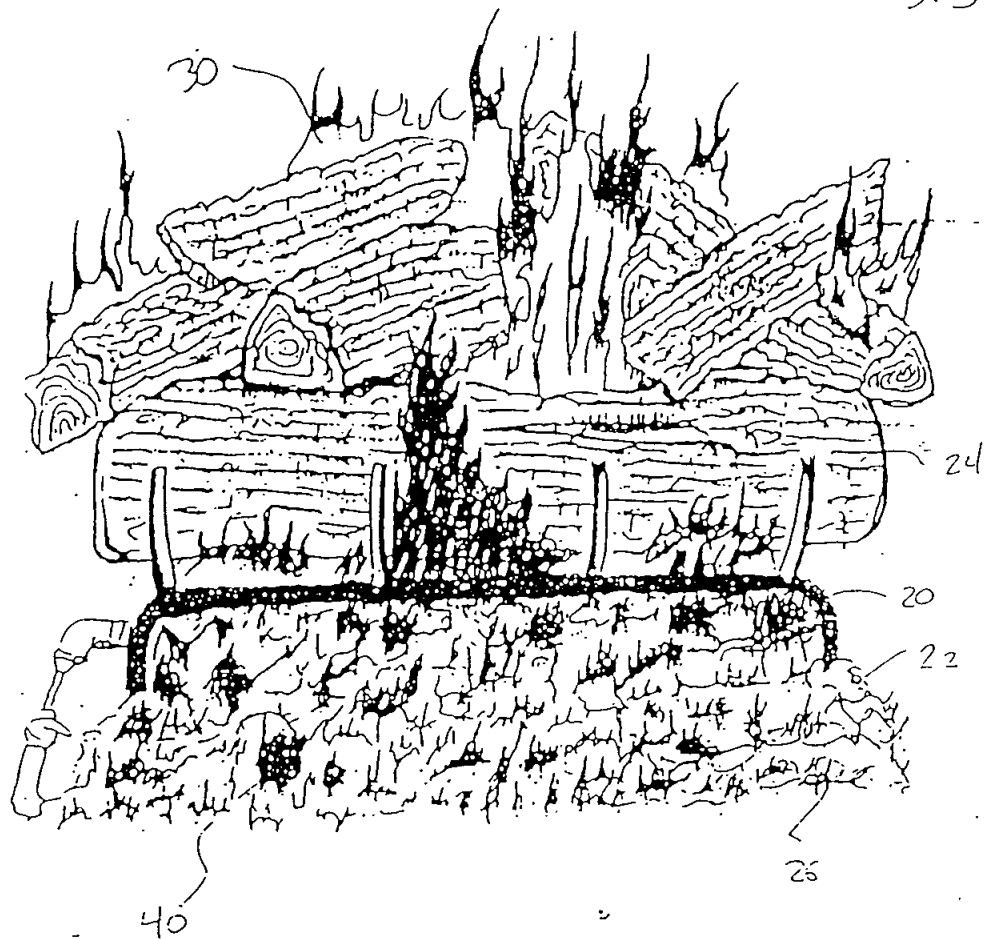


FIGURE 4

000297

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GLDT-B8095CH



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Blount

Serial Number: 08/626,498

Filing Date: April 2, 1996

Title: GAS-FIRED ARTIFICIAL LOGS AND
COALS-BURNER ASSEMBLY

Group Art Unit: 3406

Examiner: Unassigned

Assistant Commissioner of Patents
Washington, DC 20231

Sir:

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents; Washington, DC 20231 on

July 15, 1996

(Date of Deposit)

Mary Ann Cox
Mary Ann Cox

INFORMATION DISCLOSURE STATEMENT

In accordance with 37 CFR §1.56, and in accordance with the provisions of 37 C.F.R. §§1.97 and 1.98, Applicant hereby makes disclosure of the patents, publications and other information listed on the accompanying form PTO-1449, which references are considered to be potentially material to the patentability of the invention disclosed in the above-referenced application.

Copies of the listed references are submitted herewith.

Written notification that these references have been considered in their entirety by return of a copy of the enclosed form, completed by the Examiner, is respectfully requested.

Respectfully submitted,

HARRIS, TUCKER & HARDIN, P.C.

Henry Groskell

Henry Groskell

Registration No. 25,847

Date: July 15, 1996
One Galleria Tower
13355 Noel Road, Suite 2100
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61121

000298

JT-APP 2170

FORM PTO-1449 (REV. 7-80)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. CLOT-88095CIP2		SERIAL NO. 08/626,498	
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)				APPLICANT Blount			
				FILING DATE April 2, 1996		GROUP 2406	
U. S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (if appropriate)	
JA	AA	5,263,852	11-23-88 (1995)	Beck	431	125	/
JB	AB	5,081,981	01-21-92 (1998)	Beal	126	92R	
J1	AC	5,052,370	10-01-91 (1991)	Karabin	126	512	
J2	AD	5,033,455	07-22-91 (1991)	Riklor et al.	126	512	
J3	AE	5,000,162	03-19-91 (1991)	Shimek et al.	126	512	
J4	AF	3,871,355	03-18-74 (1974)	Henry	126	512	
J5	AG	3,042,109	07-03-62 (1962)	Peterson	126	512	
	AH						
	AI						
	AJ						
	AK						
FOREIGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	AL						
	AM						
	AN						
	AO						
	AP						
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AR						
EXAMINER				DATE CONSIDERED			
[Signature]				3/24/97			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

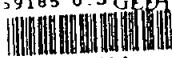
f:\forms\pco\pto-1449.doc

8/1/96

000299

JT-APP 2171

59185 U.S. GPO B8095CIP2



11/19/96

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

15 Ka. in B
12-5-96
#3

In re application of: G. Blount

Serial Number: 08/626,498

Filed: April 2, 1996

Group: 3406

For: GAS-FIRED ARTIFICIAL LOGS
AND COALS-BURNER ASSEMBLY

Examiner: Unknown

Commissioner of Patents
and Trademarks
Washington, D. C. 20231

Sir:

STATUS INQUIRY

In reference to the patent application filed April 2, 1996, and the Filing Receipt (copy enclosed) which we received on May 22, 1996, please advise when we may expect to receive a first Examiner's Action in this case.

Respectfully submitted,

HARRIS, TUCKER & HARDIN, P.C.


Henry Croskell
Registration No. 25,847

Date: November 15, 1996
One Galleria Tower
13355 Noel Road, Suite 2100
Dallas, Texas 75247
(972) 233-5712
65341

000300

JT-APP 2172

FILING RECEIPT



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

DOCKETED

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
08/626,498	04/02/96	3406	\$375.00	GLDT-B8095CI	23	18	2

HENRY CROSKELL
HARRIS TUCKER AND HARDIN
ONE GALLERIA TOWER SUITE 2100
13355 NOEL ROAD
DALLAS TX 75240-6604

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Application Processing Division's Customer Correction Branch within 10 days of receipt. Please provide a copy of the Filing Receipt with the changes noted thereon.

Applicant(s)

GOLDEN BLOUNT, DALLAS, TX.

CONTINUING DATA AS CLAIMED BY APPLICANT-

THIS APPLN IS A CIP OF 08/276,894 07/19/94
WHICH IS A CIP OF 08/061,727 05/17/93. ABN

FOREIGN FILING LICENSE GRANTED 05/16/96

* SMALL ENTITY *

TITLE

GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY

PRELIMINARY CLASS: 431

(see reverse)

000301

JT-APP 2173

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/626,498	04/02/96	BLOUNT	G GLDT-B6095C1

HENRY CROSKELL
HARRIS TUCKER AND HARDIN
ONE GALLERIA TOWER SUITE 2100
13355 NOEL ROAD
DALLAS TX 75240-6604

EXAMINER	
JONES, L	
ART UNIT	PAPER NUMBER
3406	4
DATE MAILED: 04/03/97	

This is a communication from the examiner in charge of your application
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is FINAL
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire _____ month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-18 is/are pending in the application
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-18 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d)
- ☐ All ☐ Some ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of Reference Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____
- ☐ Interview Summary, PTO-413
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152

-- SEE OFFICE ACTION ON THE FOLLOWING PAGES --

PTOL-326 (Rev. 10/95)

000302

JT-APP 2174

OFFICE ACTION ON THE MERITS: FIRST

Claims 1-18 are presented for examination.

GENERAL

Receipt of the INFORMATION DISCLOSURE STATEMENT, paper number two is acknowledged. An initialed copy of form PTO-1449 is enclosed.

THE DRAWINGS

This application has been filed with informal drawings which are acceptable for examination purposes. Formal drawings will be required at allowance.

THE SPECIFICATION

The status of the parent application referred to at the first page of the specification must be updated.

REJECTIONS UNDER 35 U.S.C. § 112

Claim 17 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no antecedent basis for "the primary burner terminal end".

REJECTIONS UNDER 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. § 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-18 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Eiklor et al in view of Peterson and Henry.

Eiklor discloses a gas fired artificial log burner structure with a primary burner tube 12 and a supplemental burner tube 18. The primary and supplemental burner tubes both include apertures for the discharge of gas. Note, Eiklor discloses a valve 22 for control of the inlet of gas to the burner tubes.

Peterson discloses an artificial log burner tube with a valve 9 for control of the flow of gas to the burner.

Henry discloses a gas distribution apparatus for artificial logs in which primary and secondary tubes are joined to one another by connectors 22 and 24 (Figure 3).

The structure of the device of Eiklor shows a fireplace burner system in which the primary and supplemental burner tubes are assembled into a complete unit in which the supplemental tube differs in size from the primary burner tube. Henry teaches the use of a connecting device for joining primary and secondary gas burner tubes. One of ordinary skill in the art considering the noted prior art would find the use of a connector to join the primary

and supplemental burner tubes clearly shown. Further, Peterson discloses the use of a gas valve to control the flow of the burner tube is well known in the art as a means to control the intensity of the flame.

Accordingly, it is considered to have been obvious at the time the invention was made to one having ordinary skill in the art to modify the structure of Eriklor to incorporate the use of a connector for joining the smaller diameter supplemental burner tube with the primary burner tube. Use of a valve to control the quantity of gas flow to the supplemental burner is considered obvious in view of the showing by Peterson of a valve to control gas flow to a burner. The arrangement of apertures and the material of which the burner tube is made is considered a matter of choice in design.

REMARKS

The prior art made of record but not applied in a rejection is considered pertinent to applicant's disclosure.

GUIDE TO COMMUNICATING WITH THE PTO REGARDING THIS APPLICATION

Inquiries regarding this or earlier communications from the Examiner should be directed to me, **Larry Jones** at telephone number (703) 308-1933. My normal working hours are 9:30 a.m. to 6:00 p.m. (ET), Monday through Friday.

An inquiry of a general nature or relating to the status of this application should be directed to the **Group Receptionist** whose telephone number is (703) 308-0861. The Receptionist is available 8:30 a.m. to 5:00 p.m. (ET), daily.

Fax transmissions may be made to the **Art Unit 3406** fax number (703) 308-7764. Any transmitted document should clearly identify the application (by **serial number**) and the Examiner (**Larry Jones**) to whom the document is directed. The fax reception facility is available 24 hours a day.

U.S. PATENT & TRADEMARK OFFICE
EXAMINER:LARRY JONES

ART UNIT 3406
CP-4-2A01 703-308-1933

000305

JT-APP 2177

March 24, 1997

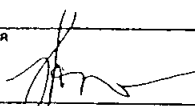

LARRY JONES
PRIMARY EXAMINER
ART UNIT 3406

U.S. PATENT & TRADEMARK OFFICE
EXAMINER:LARRY JONES

ART UNIT 3406
CP-4-2A01 703-308-1933

000306

JT-APP 2178

FORM PTO-892 (REV. 2-92)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		SERIAL NO. 626,498	GROUP/ART UNIT 3406	ATTACHMENT TO PAPER NUMBER	4		
NOTICE OF REFERENCES CITED				APPLICANT(S) Blount					
U.S. PATENT DOCUMENTS									
•	A	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE		
	A	5263852	11/1993	Beck	431	125			
	B	5033455	7/1991	Eiklor et al	126	512			
	C	3871355	3/1975	Henry	431	125X			
	D	3042109	7/1962	Peterson	126	512			
	E	5000162	3/1991	Shimok et al	126	512			
	F	5052370	10/1991	Karabin	126	512			
	G	5081981	1/1992	Beal	126	92R			
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FOREIGN PATENT DOCUMENTS									
•	L	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS DWG	PP. SPEC.
	L								
	M								
	N								
	O								
	P								
	Q								
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)									
	R								
	S								
	T								
	U								
EXAMINER 			DATE 3/20/97			000307			
* A copy of this reference is not being furnished with this office action. (See Manual of Patent Examining Procedure, section 707.05 (a).)									



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/628,498	04/02/96	ELOUNT	G GLDT-B8095CI

34M1/1112
HENRY CROSKELL
HARRIS TUCKER AND HARDIN
ONE GALLERIA TOWER SUITE 2100
13355 NOEL ROAD
DALLAS TX 75240-6604

EXAMINER	
JONES, L	
ART UNIT	PAPER NUMBER
3406	5

DATE MAILED: 11/12/97

NOTICE OF ABANDONMENT

This application is abandoned in view of:

1. ☒ Applicant's failure to respond to the Office letter, mailed 4/3/1997.
 2. ☐ Applicant's letter of express abandonment which is in compliance with 37 C.F.R. 1.138.
 3. ☐ Applicant's failure to timely file the response received _____ within the period set in the Office letter.
 4. ☐ Applicant's failure to pay the required issue fee within the statutory period of 3 months from the mailing date of _____ of the Notice of Allowance.
 - ☐ The issue fee was received on _____.
 - ☐ The issue fee has not been received in Allowed Files Branch as of _____.
- In accordance with 35 U.S.C. 151, and under the provisions of 37 C.F.R. 1.316(b), applicant(s) may petition the Commissioner to accept the delayed payment of the issue fee if the delay in payment was unavoidable. The petition must be accompanied by the issue fee, unless it has been previously submitted, in the amount specified by 37 C.F.R. 1.17 (i), and a verified showing as to the causes of the delay.
- If applicant(s) never received the Notice of Allowance, a petition for a new Notice of Allowance and withdrawal of the holding of abandonment may be appropriate in view of *Deigar Inc. v. Schuyler*, 172 U.S.P.Q. 513.
5. ☐ Applicant's failure to timely correct the drawings and/or submit new or substitute formal drawings by _____ as required in the last Office action.
 - ☐ The corrected and/or substitute drawings were received on _____.
 6. ☐ The reason(s) below.

LARRY JONES
PRIMARY EXAMINER
ART UNIT 346

GLDT B8095CIP2
09842/60434



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Application of: Golden Blount
Serial No: 08/626,498
Filed: 04/02/96
For: GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY
Group Art Unit: 3406
Examiner: Larry Jones

Assistant Commissioner
for Patents
Washington, DC 20231

I hereby certify that this correspondence is being
deposited with the United States Postal Service with
sufficient postage as first class mail in an envelope
addressed to: Assistant Commissioner for Patents,
Washington, DC 20231 on

July 10, 1998
Seren G. Underwood
(Typed Name)

Sir:

AMENDMENT

In response to the Official Action mailed April 3, 1997, please amend the above
identified application as follows:

In the Specification

Page 1, line 1, delete "copending"; and

Page 1, line 2, after "08/276,894" insert -- , now abandoned --.

000309

JT-APP 2181

In the Claims

Please amend Claims 1 and 17 as follows:

1. (Amended) A gas-fired artificial logs and coals-burner assembly for fireplace comprising:

an elongated primary burner tube including a plurality of gas discharge ports;

a support means for holding the elongated primary burner tube in a raised

level relative to a forward position secondary coals burner elongated tube;

the secondary coals burner elongated tube including a plurality of gas discharge ports [directed away from the fireplace opening];

the elongated primary burner tube and the secondary coals burner elongated tube communicating through tubular connection means wherein the gas flow to the secondary elongated coals burner tube is fed through the primary burner tube and the tubular connection means;

a valve for adjusting gas flow to the secondary coals burner elongated tube positioned in the tubular gas connection means; and

the [assembly] primary burner tube being in communication with a gas source [through] with a gas flow control means therein for controlling gas flow into said primary burner tube.

17. (Amended) A gas-fired artificial coals- and embers-burner apparatus suitable for attaching to [a terminal end of] a gas-fired primary artificial log burner tube said primary artificial log burner tube having a terminal end comprising:

a connector means for connecting [the primary burner] said terminal end in communication with ^{the} a secondary burner tube, the secondary burner tube positioned substantially parallel, forward and below the primary burner tube, the connector means having interposed between the primary and secondary burner tubes a gas flow adjustment valve, the primary and secondary burner tubes having a plurality of gas discharge ports, the secondary burner tube ^{being} in gas flow communication with the primary burner tube ^{being} the connection means, ^{the} gas distribution ports of the secondary burner tube directed away from the fireplace opening.

Please add new Claim 19:

19. A gas burner assembly for use in a fireplace comprising:

a primary burner tube having a first end and a second end, said first end adapted to be connected to a gas source with a gas flow control means for controlling the amount of gas flowing into said primary burner tube;

a second burner tube;

a connector tube attached to said second end of said primary burner tube and to said second burner tube to provide fluid communication between said primary burner tube and said second burner tube; and

a valve disposed in said connector tube for selectively controlling the flow of gas from said primary burner tube into said second burner tube.

REMARKS

This application has been revived pursuant to 37 CFR §1.137(b).

Applicant acknowledges the application was filed with informal drawings. Formal drawings will be forwarded to the Patent and Trademark Office upon a notice of allowance of the claims.

The specification has been amended to show the current status of the parent application.

Claim 1 has been amended to place it in better form for claiming the invention.

Claim 17 has been amended to place it in better form and to supply the proper antecedent basis for the primary artificial log burner terminal end.

Claims 1-17 stand rejected as being unpatentable over Eiklor, et al in view of Peterson and Henry. Applicant must respectfully traverse this rejection and request reconsideration.

The Eiklor, et al reference provides for an upper and lower burner tube that are in fluid communication with each other. However, Eiklor does not in any way suggest a valve for adjusting gas flow to the secondary or lower tube. As specifically claimed in all of the rejected claims, the claimed device requires a valve for adjusting gas flow to the secondary burner. This valve is disposed in the connection portion of the claimed device that connects the primary burner tube to the secondary burner tube. Thus, the valve for adjusting the gas flow to the secondary burner tube is between the primary and the secondary burner tube in the claimed invention.

It should also be noted that the claimed invention provides for the primary burner tube being in connection with a gas source with a gas flow control means therein for controlling gas flow into said primary burner tube. Thus, as now claimed in amended Claims 1-17, the assembly includes a flow control means for controlling gas flow into the primary burner tube with an additional valve for adjusting gas flow to the secondary burner tube. It is submitted that this assembly is in no way disclosed or suggested by Eiklor, et al.

Eiklor, et al have been combined with Peterson and Henry to reject the claims as originally presented. Peterson does provide for a valve for controlling gas flow into a single burner tube. This valve is between the gas source and the single burner tube. Henry does disclose a primary and secondary tube that are joined together with a connector. However, this combination of references in no way suggests the incorporation of an additional valve between the primary and the secondary burner tubes. The only suggestion for the incorporation of the second valve necessarily comes from Applicant's own disclosure. Clearly, by making the combination of references as set forth in the Official Action and concluding the claimed invention is obvious is classic hindsight. Even if all of the references are combined as suggested by the Examiner, there is still no valve disposed between the primary and secondary burner to control gas flow into the secondary burner.

As set forth in the specification, the incorporation of the valve between the primary and the secondary burner gives the user the ability to selectively adjust the amount of gas entering the secondary burner. Applicant has pointed out in the specification that all fireplaces are different and that the volume and velocity of air entering a firebox varies

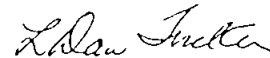
according to the size of the room, height of the ceilings, and size of the firebox. With these variables, the claimed invention provides for an apparatus to carefully adjust the amount of gas being passed to the secondary burner once the primary burner is properly adjusted. These advantages are important for fine-tuning combustion efficiency as well as providing the desired aesthetic effects of the gas fired artificial log and coal elements of the fireplace.

Newly presented Claim 19 claims only the burner elements with the intermediate control valve between the primary and the secondary burner tubes. As set forth above, such an assembly is in no way suggested by the cited references.

In view of the foregoing, it is respectfully urged that all claims be allowed.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 12-1781.

Respectfully submitted,



L. Dan Tucker
Registration No. 22,670

Date: July 9, 1998

LOCKE PURNELL RAIN HARRELL
2200 Ross Avenue, Suite 2200
Dallas, Texas 75201-6776
214-740-8000



DAC/\$ #57

PTO/SB/64 (12-97)
Approved for use through 6/30/00 OMB 0651-0031
Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED
UNINTENTIONALLY UNDER 37 CFR 1.137(b)

Docket Number (Optional)
GLDT 88095CIP2

First named inventor: Golden Blount

Application No.: 08/6498

Group Art Unit: 3406

Filed: 04/02/96

Examiner: Larry Jones

Title: Gas-Fired Artificial Logs and Coals-Burner Assembly

Attention: Office of Petitions
Assistant Commissioner for Patents
Box DAC
Washington, D.C. 20231

NOTE: If information or assistance is needed in completing this form, please contact Petitions Information at (703)305-9282.

The above-identified application became abandoned for failure to file a timely and proper response to the Office action mailed on 04/03/97 which set a 6 month day period for response. The abandonment date of this application is 10/04/97 (i.e., the day after the expiration date of the period set for response plus any extensions of time obtained therefor).

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION

NOTE: A grantable petition requires the following items:

- (1) Petition fee;
- (2) Proposed response and/or issue fee;
- (3) Terminal disclaimer with disclaimer fee -- required for all utility and plant applications filed before June 8, 1995, and for all design applications; and
- (4) Statement that the entire delay was unintentional.

1. Petition fee

- ☒ Small entity - fee \$660 (37 CFR 1.17(m))
☐ Small entity statement enclosed herewith
☒ Small entity statement previously filed.
☐ Other than small entity - fee \$_____ (37 CFR 1.17(m))
660.00 BP

2. Proposed response and/or fee

A. The proposed response and/or fee to the above-noted Office action in the form of a Response to Office Action (identify type of response):

- ☐ has been filed previously on _____
☒ Is enclosed herewith.

B. The issue fee of \$ _____

- ☐ has been paid previously on _____
☐ is enclosed herewith

[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 1.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO Assistant Commissioner for Patents, Washington, DC 20231.

000315

JT-APP 2187

3. Terminal disclaimer with disclaimer fee

- ☒ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.
- ☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$_____ for a small entity or \$_____ for other than a small entity) equivalent to the number of months from abandonment to the filing of this petition is enclosed herewith.

4. Statement. The entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional.

Where a petition under 37 CFR 1.137(b) is not filed within three months from the mail date of a notice of abandonment or one year from the date of abandonment, explain (on an attached sheet) in detail the cause of the delay in filing this petition.

July 10, 1998
Date

L. Dan Tucker
Signature

Telephone
Number: (214) 740-8000

L. Dan Tucker
Typed or printed name

Locke Purnell Rain Harrell
2200 Ross Avenue, Suite 2200
Address

Dallas, Texas 75201-6776

- Enclosures: ☒ Response
☒ Fee Payment
☐ Terminal Disclaimer Form
☐ Small Entity Status Form
☐ _____

By completing the Certificate of Mailing, below, the date mailed will be considered the date this correspondence is filed.

CERTIFICATE OF MAILING [37 CFR 1.8(a)]

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Box DAC, Washington, DC 20231.

July 10, 1998
Date

Petitions Information, Crystal Park One
Suite 520 L. Dan Tucker
Signature

L. Dan Tucker
Typed or printed name of person signing Certificate



Under the Paperwork Reduction Act of 1995, no person are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL		Complete if Known	
Patent fees are subject to annual reduction on October 1. These are the fees effective October 1, 1997. Small Entity payments must be supported by a small entity declaration. otherwise large entity fees must be paid. See Forms PTO/3500-12. See 37 C.F.R. §§ 1.27 and 1.28.		Application Number	08/626,498
TOTAL AMOUNT OF PAYMENT (\$)	660.00	Filing Date	04/02/96
		First Named Inventor	Golden BLOUNT
		Examiner Name	Larry Jones
		Group / Art Unit	3406
		Attorney Docket No.	GLDT B8095CIP2

METHOD OF PAYMENT (check one)		FEE CALCULATION (continued)																																																																																																																																																																																																																																																																	
1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any over payment to: Deposit Account Number: 12-1781 Deposit Account Name: Locke Purnell Rai ☒ Charge Any Additional Fee if needed Under 37 C.F.R. §§ 1.16 and 1.17 ☐ Charge the lower Fee Set in 37 C.F.R. § 1.16 in the Mailing of this Notice of Allowance.		3. ADDITIONAL FEES <table border="1"> <thead> <tr> <th>Large Entity</th> <th>Small Entity</th> <th>Fee</th> <th>Fee</th> <th>Fee</th> <th>Fee</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> <tr> <th>Code (R)</th> <th>Code (S)</th> <th>Code (R)</th> <th>Code (S)</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>105</td> <td>130</td> <td>205</td> <td>65</td> <td></td> <td></td> <td>Surcharge - late filing fee or oath</td> <td></td> </tr> <tr> <td>127</td> <td>50</td> <td>227</td> <td>25</td> <td></td> <td></td> <td>Surcharge - late provisional filing fee or cover sheet</td> <td></td> </tr> <tr> <td>139</td> <td>130</td> <td>139</td> <td>130</td> <td></td> <td></td> <td>Non-English specification</td> <td></td> </tr> <tr> <td>147</td> <td>2,520</td> <td>147</td> <td>2,520</td> <td></td> <td></td> <td>For filing a request for resubmission</td> <td></td> </tr> <tr> <td>112</td> <td>920*</td> <td>112</td> <td>920*</td> <td></td> <td></td> <td>Requesting publication of SIR prior to Examiner action</td> <td></td> </tr> <tr> <td>113</td> <td>1,640*</td> <td>113</td> <td>1,640*</td> <td></td> <td></td> <td>Requesting publication of SIR after Examiner action</td> <td></td> </tr> <tr> <td>115</td> <td>110</td> <td>215</td> <td>55</td> <td></td> <td></td> <td>Extension for reply within first month</td> <td></td> </tr> <tr> <td>116</td> <td>400</td> <td>216</td> <td>300</td> <td></td> <td></td> <td>Extension for reply within second month</td> <td></td> </tr> <tr> <td>117</td> <td>950</td> <td>217</td> <td>475</td> <td></td> <td></td> <td>Extension for reply within third month</td> <td></td> </tr> <tr> <td>118</td> <td>1,510</td> <td>218</td> <td>755</td> <td></td> <td></td> <td>Extension for reply within fourth month</td> <td></td> </tr> <tr> <td>126</td> <td>2,050</td> <td>226</td> <td>1,030</td> <td></td> <td></td> <td>Extension for reply within fifth month</td> <td></td> </tr> <tr> <td>119</td> <td>310</td> <td>219</td> <td>155</td> <td></td> <td></td> <td>Notice of Appeal</td> <td></td> </tr> <tr> <td>120</td> <td>310</td> <td>220</td> <td>155</td> <td></td> <td></td> <td>Filing a brief in support of an appeal</td> <td></td> </tr> <tr> <td>121</td> <td>210</td> <td>221</td> <td>135</td> <td></td> <td></td> <td>Request for oral hearing</td> <td></td> </tr> <tr> <td>138</td> <td>1,610</td> <td>138</td> <td>1,510</td> <td></td> <td></td> <td>Petition to institute a public use proceeding</td> <td></td> </tr> <tr> <td>140</td> <td>110</td> <td>240</td> <td>55</td> <td></td> <td></td> <td>Petition to revive - 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SUBMITTED BY		Complete (if applicable)	
Typed or Printed Name	L. Dan Tucker	Reg. Number	22,670
Signature	<i>L. Dan Tucker</i>	Deposit Account	12-1781
Date	7-1-96	User ID	

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER OF
PATENT AND TRADEMARKS
Washington, D.C. 20231

Paper No. 8

Henry Croskell
Harris, Tucker, and Hardin
One Galleria Tower, Suite 2100
13555 Noel Road
Dallas, TX 75240-6604

COPY MAILED

NOV 5 1998

SPECIAL PROGRAMS OFFICE
PAC FOR PATENTS

In re Application of
Golden Blount
Application No. 08/626,498
Filed: April 2, 1996
Attorney Docket No. GLDT B8095CIP2

ON PETITION

This is a decision on the petition under 37 CFR 1.137(b), filed July 13, 1998, to revive an unintentionally abandoned application.

The petition is GRANTED.

This application became abandoned for failure to reply timely to the Office action mailed April 3, 1997, which set a period for reply of three months. A Notice of Abandonment was mailed on November 12, 1997.

The revival rules in effect as of December 1, 1997¹ state that "[w]here a petition pursuant to § 1.137(a) or (b) is not filed within three months of the date the applicant is first notified that the application is abandoned, the Office may consider there to be a question as to whether the delay was unavoidable or even unintentional." In this case, the petition to revive was not filed within three months of the mailing of the notification of the abandonment. Accordingly, petitioner's statement of unintentional delay will also be construed as meaning that the entire delay, including the delay from notification of abandonment until the filing of the petition under 37 CFR 1.37(b) was unintentional. If this is an incorrect interpretation in view of the new rules, petitioner is required to provide a statement to that effect.

¹ *Note Changes to Patent Practice and Procedure; Final Rule Notice 62 Fed. Reg. 53131 (October 10, 1997), 1203 Off. Gaz. Patent Office 63 (October 21, 1997).*

000318

JT-APP 2190

There is no indication that a change of address has been filed in this case, although the address given on the petition differs from the address of record. A change of address should be filed in the case in accordance with MPEP 601.03.

The application file is being forwarded to Technology Center 3700, Art Unit 3743.

Telephone inquiries concerning this matter may be directed to Valerie Bell at (703) 305-8819.


Valerie Bell
Legal Instruments Examiner
Office of Petitions
Office of the Deputy Assistant Commissioner
for Patent Policy and Projects


Karen Creasy
Petitions Examiner

CC: L. Dan Tucker
Locker, Purnell, Rain, Harrell
2200 Ross Avenue, Suite 2200
Dallas, TX 75201-6776

000319

JT-APP 2191

Interview Summary	Application No. 08/626,498	Applicant(s) GOLDEN BLOUNT
	Examiner LARRY JONES	Group Art Unit 3743

All participants (applicant, applicant's representative, PTO personnel):

(1) LARRY JONES (3) _____

(2) Mr. L. Dan Tucker (4) _____

Date of Interview Jan 19, 1999

Type: ☒ Telephonic ☐ Personal (copy is given to ☐ applicant ☐ applicant's representative).

Exhibit shown or demonstration conducted. ☐ Yes ☒ No. If yes, brief description:

Agreement ☒ was reached. ☐ was not reached.

Claim(s) discussed: 1 and 17

Identification of prior art discussed:
NONE

Description of the general nature of what was agreed to if an agreement was reached, or any other comments:
Examiner contacted Mr. Tucker and proposed changes to claims 1 and 17 to correct antecedent problems and provide a clearly stated combination with the secondary tube (claim 17) which would define over the art.

Agreement was reached over the proposed language which is provided in an Examiner's Amendment which forms part of this communication.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

1. ☐ It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph above has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a response to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

2. ☒ Since the Examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the interview unless box 1 above is also checked.

Examiner Note: You must sign and stamp this form unless it is an attachment to a signed Office action.



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/626,498	04/02/96	BLOUNT	G GLDT-B8095C1

HENRY CROSKELL
HARRIS TUCKER AND HARDIN
ONE GALLERIA TOWER SUITE 2100
13355 NOEL ROAD
DALLAS TX 75240-6604

QME1/01.00

EXAMINER

JONES, L

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 01/20/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

000321

JT-APP 2193

<i>Notice of Allowability</i>	Application No. 08/626,498	Applicant(s) GOLDEN BLOUNT
	Examiner LARRY JONES	Group Art Unit 3743

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

☒ This communication is responsive to amendment and petition filed 7/13/1998 and petition granted 11/5/1998.

☒ The allowed claim(s) is/are 1-19.

The drawings filed on _____ are acceptable.

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

☒ Applicant MUST submit NEW FORMAL DRAWINGS

☒ because the originally filed drawings were declared by applicant to be informal,

including changes required by the Notice of Draftsperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. _____.

☐ including changes required by the proposed drawing correction filed on _____, which has been approved by the examiner.

☐ including changes required by the attached Examiner's Amendment/Comment

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any response to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

- ☐ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152
- ☒ Interview Summary, PTO-413
- ☒ Examiner's Amendment/Comment
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Examiner's Statement of Reasons for Allowance

NOTICE OF ALLOWANCE

EXAMINER'S AMENDMENT

An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.

The following changes have been made to correct obvious errors in grammar and antecedent basis.

Authorization for this Examiner's Amendment was given in a telephone interview with Mr. Dan Tucker on January 19, 1999.

The application has been amended as follows:

In claim one, ~~a secondary coals burner elongated tube positioned forwardly of the~~
primary burner tube, ~~has been inserted after line three;~~

At line five of claim one, "a forward" has been changed to --the forwardly--;

At line three of claim 17, --said apparatus-- has been inserted after "end";

In claim 17, after line three, ~~a secondary coals burning elongated tube, has been~~
inserted;

At line five of claim 17, "a" has been changed to --the--;

At line nine of claim 17, --being-- has been inserted after "tube" (first occurrence) and --
and-- has been inserted after "tube" (second occurrence)

At line 10, "the" has been changed to --a--;

Claims 1-19 are allowed.

U.S. PATENT & TRADEMARK OFFICE
EXAMINER: LARRY JONES

ART UNIT 3743
CP-34-3D51 703-308-1933

000323

JT-APP 2195

DRAWINGS

Formal drawings are now required.

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirement for formal drawings is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" DATE ON THE ATTACHED FORM PTOL-37. Failure to comply within the set time limit will result in ABANDONMENT OF THE APPLICATION. EXTENSIONS OF TIME MAY BE OBTAINED under the provisions of 37 CFR 1.136(a).

GUIDE TO COMMUNICATING WITH THE PTO REGARDING THIS APPLICATION

Inquiries regarding this or earlier communications from the Examiner should be directed to me, Larry Jones at telephone number (703) 308-1933. My normal working hours are 9:30 a.m. to 6:00 p.m. (ET), Monday through Friday.

An inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0861. The Receptionist is available 8:30 a.m. to 5:00 p.m. (ET), daily.

Fax transmissions may be made to the Art Unit 3743 fax number (703) 308-7765. Any transmitted document should clearly identify the application (by serial number) and the Examiner (Larry Jones) to whom the document is directed. The fax reception facility is available 24 hours a day.

January 19, 1999



LARRY JONES
PRIMARY EXAMINER
ART UNIT 3743



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

JOHN J. DUBBLE & SONS
1000 AVENUE
1000
1000

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
First Named Applicant				

TITLE OF INVENTION

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- Pay FEE DUE shown above, or
- File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number.
Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (REV. 10-86) Approved for use through 06/30/99. (0651-0033)

000325

JT-APP 2197

PART B—ISSUE FEE TRANSMITTAL

Complete and mail this form, together with applicable fees, to: Box ISSUE FEE
Assistant Commissioner for Examiners
Washington, D.C. 20231



MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE. Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Issue Fee Receipt, the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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4000 AVENUE
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Note: The certificate of mailing below may be used for domestic mailings of the Issue Fee Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

Certificate of Mailing

I hereby certify that this Issue Fee Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above on the date indicated below.

Karen L. Underwood

(Depositor's name)

Karen L. Underwood

(Signature)

August 4, 1999

(Date)

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
111-2100	04/02/99			
First Named Applicant				

TITLE OF INVENTION

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN TYPE	SMALL ENTITY	FEE DUE	DATE DUE
111-2100	1.00					

1 Change of correspondence address or indication of "Fee Address" (37 CFR 1.363) Use of PTO form(s) and Customer Number are recommended, but not required

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" indication form PTO/SB/47) attached

2 For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed

1. L. Dan Tucker

2.

3.

3 ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type) PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the PTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE (CITY & STATE OR COUNTRY)

Please check the appropriate assignee category indicated below (will not be printed on the patent)
☐ individual ☐ corporation or other private group entity ☐ government

4a The following fees are enclosed (make check payable to Commissioner of Patents and Trademarks).

☒ Issue Fee

☒ Advance Order - # of Copies 10

4b The following fees or deficiency in these fees should be charged to:

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The COMMISSIONER OF PATENTS AND TRADEMARKS IS requested to apply the Issue Fee to the application identified above.

(Authorized Signature) *L. Dan Tucker*

(Date) 8-4-99

L. Dan Tucker - Reg. No. 22,670

NOTE: The Issue Fee will not be accepted from anyone other than the applicant, a registered attorney or agent, or the assignee or other party in interest as shown by the records of the Patent and Trademark Office.

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JT-APP 2198



09842/60434
GLDT B8095CIP2

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PRODUCTION CONTROL
PUBLISHING DIVISION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Golden Blount
Serial Number: 08/626,498
Filing Date: 04/02/96
Title: GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY
Group Art Unit: 3743
Examiner: Larry Jones

Assistant Commissioner
for Patents
BOX ISSUE FEE
Washington, DC 20231

I hereby certify that this correspondence is being
deposited with the United States Postal Service with
sufficient postage as first class mail in an envelope
addressed to: Assistant Commissioner for Patents,
Washington, DC 20231

on August 4, 1999
(Date of Deposit)
Karen J. Underwood

Sir:

LETTER TO OFFICIAL DRAFTSMAN

In response to the requirement set forth in the May 5, 1999 Notice of Allowability in the
above identified application, enclosed are three (3) sheets of formal drawings to replace the
originally submitted informal drawings. These substitute drawings fully comply with the
requirements of 37 CFR Sec. 1.84 and M.P.E.P. Sec. 608.02 and add no new matter.

000327

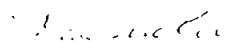
JT-APP 2199

Should the drawings transmitted herewith be unacceptable for any reason, immediate telephone notification to the undersigned attorney is respectfully requested.

The Commissioner is hereby authorized to charge any fees connected with this communication to Deposit Account No. 12-1781.

Respectfully submitted,

LOCKE LIDDELL & SAPP LLP


L. Dan Tucker
Registration No. 22,670

Date: August 3, 1999

2200 Ross Avenue, Suite 2200
Dallas, Texas 75201-6776
214-740-8000

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09842-60434 DALLAS 509631 1

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JT-APP 2200

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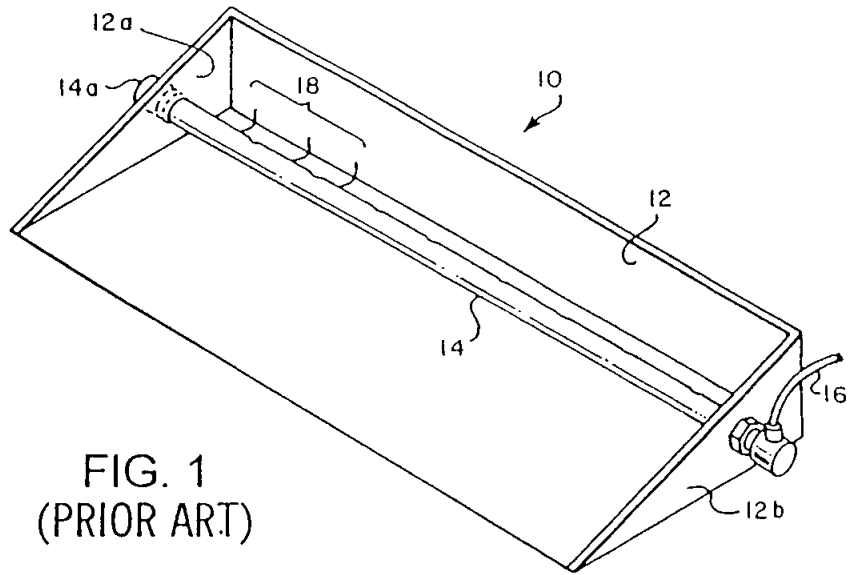


FIG. 1
(PRIOR ART)

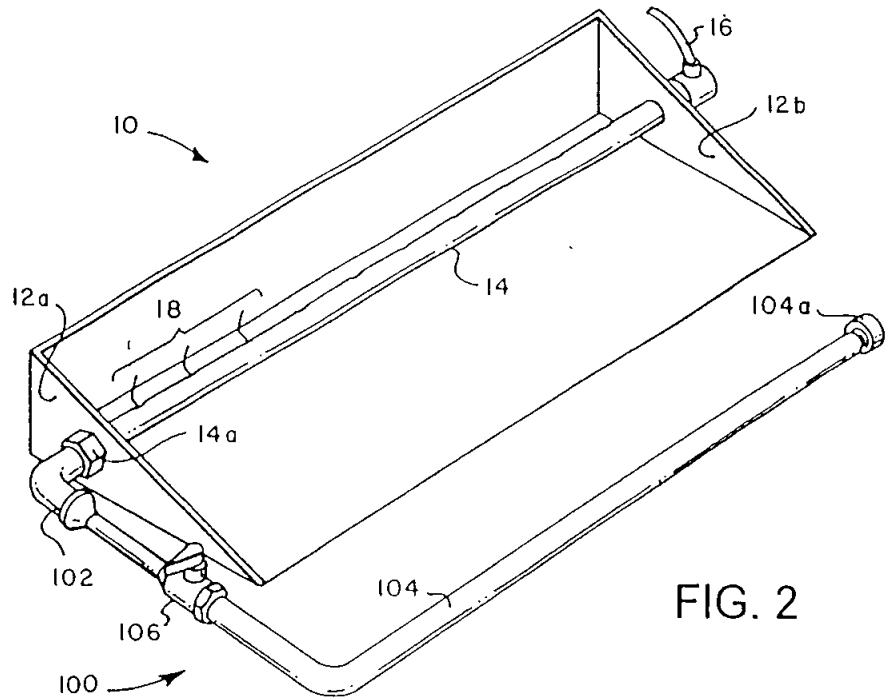
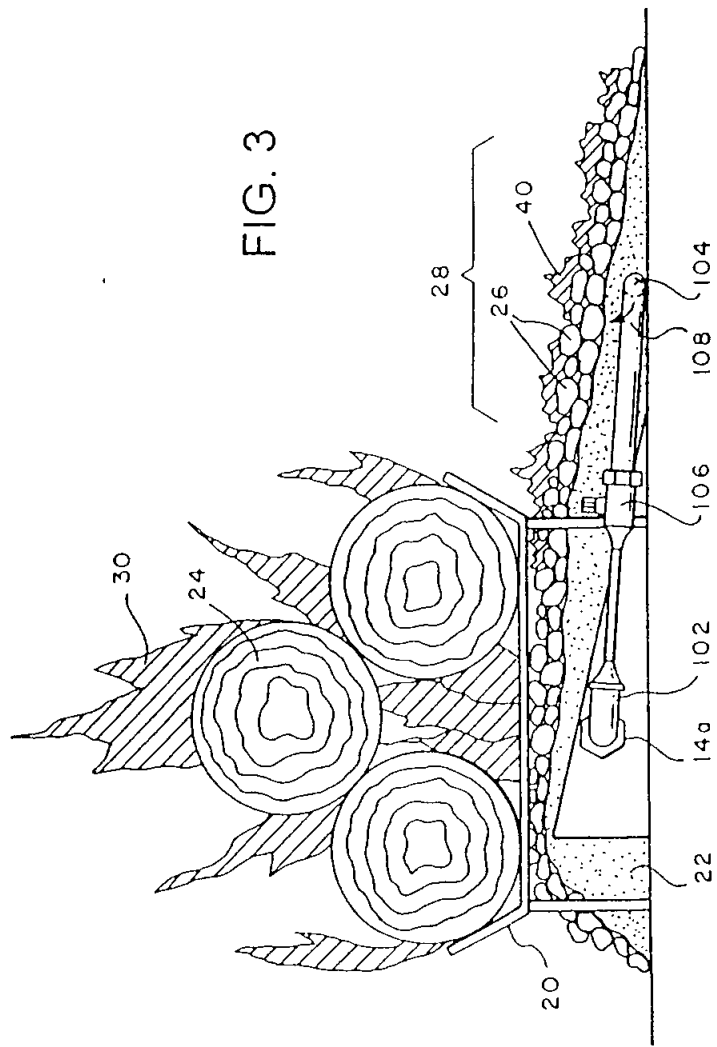


FIG. 2

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JT-APP 2201



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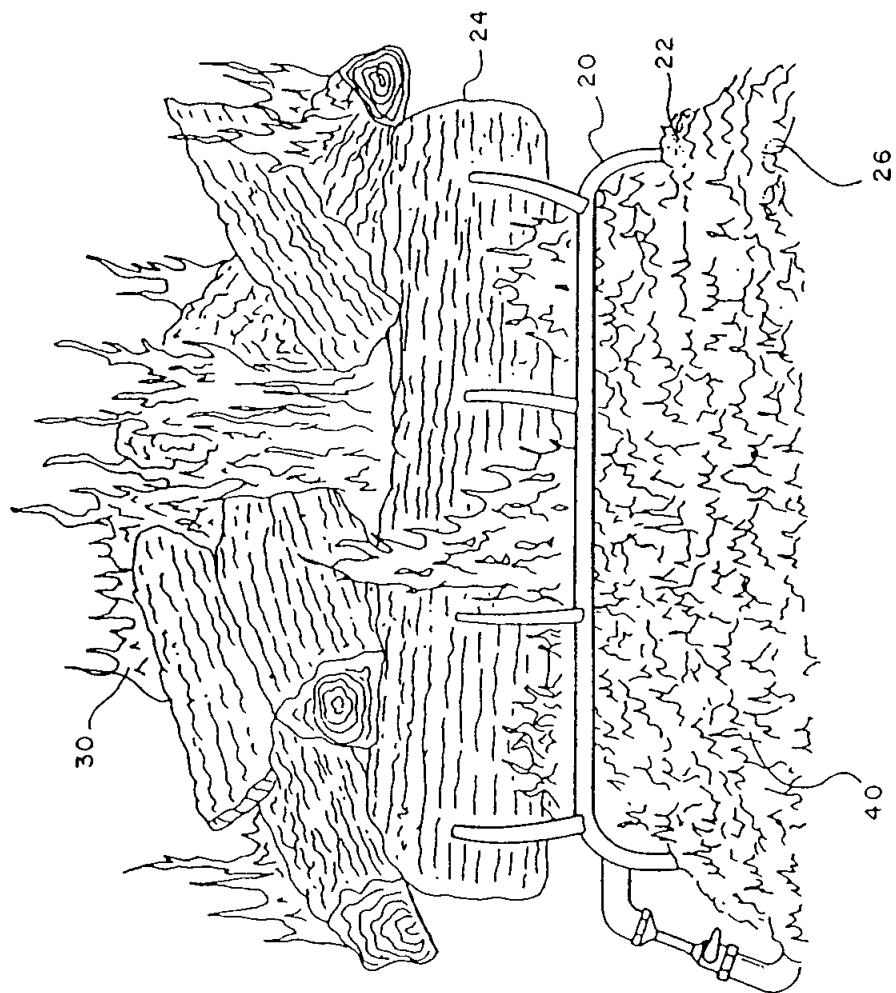


FIG. 4

000331

JT-APP 2203

Effective October 1, 1995

Application or Docket Number

026498

(Column 1)

(Column 2)

SMALL ENTITY

OR

OTHER THAN

SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA					
BASIC FEE							
TOTAL CLAIMS	18 minus 20 =	*					
INDEPENDENT CLAIMS	2 minus 3 =	*					
MULTIPLE DEPENDENT CLAIM PRESENT							
* If the difference in column 1 is less than zero, enter "0" in column 2							

* If the difference in column 1 is less than zero, enter "0" in column 2

(Column 1) (Column

CLAIMS	13	13
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SMALL ENTITY

OR

OTHER THAN

SMALL ENTITY

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA				
	Total	*	Minus	**	=	x\$11=	OR	x\$22=	
	Independent	*	Minus	***	=	x39=	OR	x78=	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM					+125=	OR	+250=	
						TOTAL ADDIT. FEE	OR	TOTAL ADDIT. FEE	

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AMENDMENT B

(Column 1)	(Column 2)
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CLAIMS	INVESTIGATION	ADJUDICATION
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CLAIMS REMAINING	HIGHEST NUMBER
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ADDITIONAL FEE _____

22	7
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AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
	Total	*	Minus	**	=	x\$11=		OR	x\$22=	
	Independent	*	Minus	***	=	x39=		OR	x78=	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM					+125=		OR	+250=	
					TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE		

TOTAL
ADDIT FEE

OR

TOTAL	
ADDITIONAL FEE	

AMENDMENT C

(Column 1)	(Column 2)
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9	10
11	12
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89	90
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99	100

CLAIMS	110150
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CLAIMS REMAINING	HIGHEST AMOUNT
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AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA					
						RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
	Total	*	Minus	**	=	x\$11=		OR	x\$22=	
	Independent	*	Minus	***	=	x39=		OR	x78=	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM						+125=		OR	+250=	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20"						TOTAL ADDIT FEE		OR	TOTAL ADDIT FEE	

TOTAL
ADDIT. FEE

OR

TOTAL	
ADDITIONAL FEE	

FORM PTO-87S
(Rev 10/95)

Patent and Trademark Office U.S. DEPARTMENT OF COMMERCE

000332

JT-APP 2204

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

1ST EXAMINER	M. [Signature]	DATE	5/9/96
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DATE 5/9/96

08/626498

FILING DATE		
MONTH	DAY	YEAR
04	02	96

**SPECIAL
HANDLING**

GROUP		ART UNIT	
3	4	0	6

CLASS	431
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SHEETS OF DRAWING	3
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**INDEPENDENT
CLAIMS**

SMALL
ENTITY?

FILING FEE

**FOREIGN
LICENSE**

ATTORNEY DOCKET NUMBER

CONTINUITY DATA

STATUS CODE	PARENT APPLICATION SERIAL NUMBER
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PCT APPLICATION SERIAL NUMBER

PARENT PATENT
NUMBER

[illegible]

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PCT/FOREIGN APPLICATION SERIAL NUMBER

FOREIGN
FILING DATE

MONTH DAY YEAR

305600 1994 204071

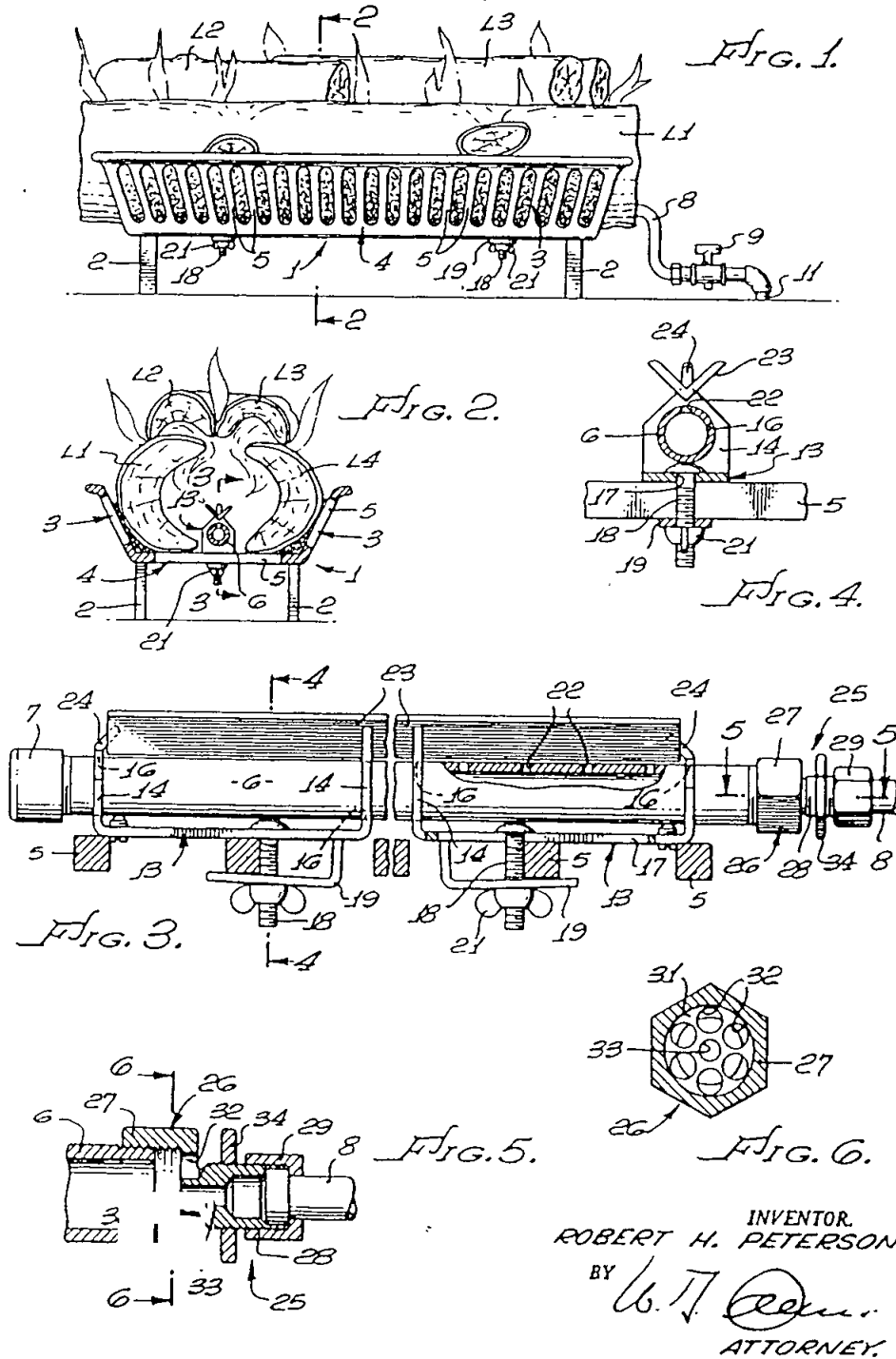
July 3, 1962

R. H. PETERSON

3,042,109

ARTIFICIAL LOG FIRE BURNER

Filed May 6, 1960



EXHIBIT

D-5

JT-APP 2206

1

3,042,109

ARTIFICIAL LOG FIRE BURNER

Robert H. Peterson, Altadena, Calif., assignor to Robert H. Peterson Co., Pasadena, Calif., a corporation of California

Filed May 6, 1960, Ser. No. 27,350

8 Claims. (Cl. 158-113)

The present invention relates to gas burners in general and more particularly to an artificial fireplace burner adapted to cooperate with artificial hearth logs in simulating a real log fire.

The fireplace with its log fire is generally accepted as a desirable part of the American home and during the winter season is frequently the center of interest about which the family gathers. The sputter and crackle of real logs upon a fire and the friendly yellow flames are admittedly desirable but, as is so frequently the case with something desirable, it brings with it less desirable problems, including difficulty in lighting at times, the necessity of bringing in of wood from the outside during inclement weather, the disposal of ashes, and the creation of smoke.

In an effort to obtain the accepted pleasures and advantages of a real log fire without its attendant disadvantages, attention has been given to artificial fires making use of gas burners and artificial logs. Such artificial fires eliminate certain of the undesirable problems characteristic of the real fire but also lacked its realistic attributes in that blue pencils of flame did not serve adequately to replace the sheets of yellow flame of the real fire and in that the distribution of the fire frequently was not realistic.

It is with an appreciation of the desirable attributes of real log fires and with an intent to simulate those attributes without the attendant natural disadvantages that the present invention has been made. The burner constructed in accordance with the present invention is so made that individual pencils of flame are eliminated and instead spaced sheets of flame, the yellowness of which can be controlled as desired, are provided. Additionally, means are provided by which colored crystals, aromatic wood oil and other materials and chemicals can be positioned as to make the resulting fire more realistic in color, in odor and in sound.

It is an object of the present invention to provide a new and improved realistic, artificial fireplace burner assembly.

It is another object of the invention to provide a new and improved burner assembly adapted to be mounted in a fireplace grate and to produce spaced sheets of yellow flame which may be directed against or around artificial logs as determined by their arrangement.

Another object of the invention is to provide a new and improved fireplace burner assembly incorporating improved and simplified mounting means and flame-controlling means.

These and other more specific objects will appear upon reading the following specification and claims and upon considering in connection therewith the attached drawing.

Referring now to the drawing in which a preferred embodiment of the invention is illustrated:

FIGURE 1 comprises a side elevational view of a grate carrying artificial logs and provided with a fire created by the burner constructed in accordance with the present invention;

FIGURE 2 is a cross-sectional view upon the line 2-2 of FIGURE 1;

FIGURE 3 is a longitudinal view through the burner assembly constructed in accordance with the present invention, being taken upon the line 3-3 of FIGURE 2;

2

FIGURE 4 is a vertical section upon the plane of the line 4-4 of FIGURE 3;

FIGURE 5 is a partial longitudinal section upon the line 5-5 of FIGURE 3 and illustrates the flame control unit; and

FIGURE 6 is a section looking in the direction of the arrows upon the line 6-6 of FIGURE 5.

Referring now again to the drawing, there is illustrated in FIGURE 1 an open-ended grate 1 suitably supported above the floor of the fireplace upon spaced legs 2. The body of the grate is open-ended and formed of integral side walls 3 and a bottom 4, each of the walls and the bottom having parallel, spaced bars 5 permitting free flow of air.

The burner proper 6 extends along and immediately above the bottom plate 4 and comprises a hollow metallic pipe or conduit capped at one end 7 and connected at its opposite end by means which will be described to a pipe 8 which is itself connected to a manually controlled valve 9 in the line of an inlet pipe 11.

As is seen in FIGURE 1, however, pipe 6 extends longitudinally along the bottom of the grate 1 being supported above it by means of spaced U-shaped brackets 13 the opposite ends 14 of which are formed with openings 16 sized closely to enclose the pipe. The base of each bracket 13 between its ends 14 is slotted at 17 and adjustably seats a clamp comprising a threaded bolt 18, the shank of which extends through slot 17, and which carries an L-sectioned clamping element 19 retained in place by a wing nut 21. As is shown in FIGURE 3, the element 19 is adapted to underlie a cross member 5 of the grate bottom plate 4 and to clamp the bracket 13 against the upper side thereof as a wing nut 21 is tightened upon the bolt 18. The brackets 13 are positioned near the opposite ends of the pipe 6 in the grate 1 and a pair of the clamps are capable of performing the necessary retaining and positioning functions.

Positioned immediately above pipe 6, which is formed along its upper surface with spaced burner ports 22 is a metallic flame interceptor 23 called a cushion. In the form illustrated, element 23 is V-sectioned with its angle directed downwardly, but it is to be understood that it may have other shapes so long as it is positioned centrally above pipe 6 and is in alignment with the ports 22. Cushion 23 is positioned by the bracket 13, the inner legs 14 of which in each instance are V-shaped at their upper ends to seat the cushion and the outer legs 14 of which are narrowed to form upwardly extending central fingers 24 which are bent slightly inwardly, as shown in FIGURE 3, to prevent upward displacement of the cushion and to hold it against the V-seats formed by the two inner legs 14.

The flow of gas to the burner pipe 6 is under the control of the common valve 9 in the inlet line but the mixture of gas and air and the resulting color of the flame are controlled by an adjustment generally indicated by the reference character 25 which is shown in cross-section and in detail in FIGURE 5.

An injector 26 connects the pipe 6 to the incoming pipe 8 and includes an enlarged interiorly threaded end 27 seated upon the threaded end of pipe 6, and a small exteriorly threaded end 28 into the counterbored end of which extends the enlarged shouldered end of pipe 8 which is clamped in sealed relationship by a surrounding interiorly threaded socket 29 seated on end 28. The connecting web between the enlarged end 27 and the reduced end 28 of ejector 26 is indicated by the reference character 31 and is formed with a plurality of circularly arranged air openings 32 about the central conduit or port 33 which extends between the enlarged end 27 and the small end 28 and through which the entering gas passes on its way from the pipe 8 into the burner pipe 6. An

injector action takes place in that upon the flow of gas into pipe 6 from reduced conduit 33 air is drawn from the ambient into pipe 6 through openings 32. The volume of air entering is controlled by the adjustment of a flat-sided interiorly threaded nut member 34, shown most clearly in FIGURES 3 and 5, which is adapted to be spaced closely adjacent, in contact with, or spaced from the enlarged end 27 of injector 26, to close to varying degrees the openings 32.

The operation of the burner unit constructed in accordance with the present invention is as follows.

The burner being positioned within the grate 1 and secured by the cross members 5 at the bottom 4 by the clamping means as described, the logs, illustrated in FIGURES 1 and 2, are then positioned. These logs, bearing the reference characters L1, L2, L3 and L4, are artificial logs and are centrally hollowed out as to give the appearance of being partially burned. They are preferably arranged with the larger logs L1 and L4 spaced in grate 1 upon opposite sides of the burner unit, as shown in FIGURE 2, and with the smaller logs L3 and L2 extended angularly thereacross as to leave openings for the emergence of the flames. The exact arrangement and number of logs is not of the essence and the described arrangement is only illustrative.

With the burner unit and the logs positioned in the grate, the operator opens the valve 9 to permit the flow of gas into the burner pipe 6 from which it emerges through the ports 22 and, upon being lighted, creates a flame which is immediately divided by the cushion 23 into two spaced parallel sheets of flames upon its opposite sides. These flames rise upwardly and upon contacting the transversely angularly extending upper logs L3 and L2 emerge therebetween and therearound, in a manner having no particular prearranged design but which greatly resembles a real fire.

The color of the flame depends upon the mixture of the gas and air and this is controlled by the operator through adjustment of the injector adjustment nut 34. By adjusting that nut by threading it on the reduced portion 28 of injector 26 toward the air ports 32 the volume of air drawn into the burner pipe 6 is reduced and with this reduction the yellowness of the flame is increased. By properly selecting the adjustment of the nut 34 the coloring of the flame for realistic results is obtained.

The cushion 23, being V-sectioned, provides an upwardly opening receptacle into which may be placed colored crystals, aromatic wood oil and various chemicals suitable for the production of pleasant odors, crackling, and other effects as desired. Additionally, the realistic effect of the unit is enhanced by placing some real log ashes around the base of the grate.

While the particular artificial log fire burner herein shown and disclosed in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the details of construction or design herein shown other than as defined in the appended claims.

I claim:

1. In a fireplace burner unit of the type adapted to be rigidly mounted in a foraminous grate and connected to a source of combustible gas, an elongated burner pipe having radial ports extending through its upwardly facing side wall, a flame interceptor positioned closely above said burner pipe and arranged to divide flames from said ports into parallel sheets, bracket means to clamp said burner pipe to a grate and including deformable means cooperable with said burner pipe in supporting said flame interceptor immediately above said burner pipe, and a manually adjustable injector adapted to be connected between a gas source and the inlet end of said burner pipe to vary the ratio of incoming gas and air to control the color of the flame.

2. In a fireplace burner unit of the type adapted to be mounted in a foraminous grate and connected to a source of combustible gas, an elongated burner pipe having spaced ports along its upper surface, spaced bracket means comprising U-shaped members having ends seating said pipe and extended thereabove, said bracket means including a plurality of seats above said pipe, a flame interceptor positioned above said burner pipe and arranged to divide flames from said ports into parallel sheets, said interceptor being supported on said seats of said bracket means, and a manually adjustable injector adapted to be connected between a gas source and the inlet end of said burner pipe to vary the ratio of incoming gas and air to control the color of the flame.

3. In a fireplace burner unit of the type adapted to be mounted in a foraminous grate and connected to a source of combustible gas, an elongated burner pipe having spaced ports along its upper surface, spaced bracket means comprising U-shaped members having ends embracing and seating said pipe, at least one end of each bracket means including a deformable element above said pipe, a flame interceptor positioned above said burner pipe and arranged to divide flames from said ports into parallel sheets, said interceptor being carried by said bracket means above said pipe and held assembled thereto by said deformable elements, and a manually adjustable injector adapted to be connected between a gas source and the inlet end of said burner pipe to vary the ratio of incoming gas and air to control the color of the flame.

4. In a fireplace burner unit of the type adapted to be mounted in a foraminous grate and connected to a source of combustible gas, an elongated burner pipe having spaced ports along its upper surface, a V-sectioned flame interceptor positioned above said burner pipe and arranged to divide flames from said ports into parallel sheets, bracket means to secure said pipe to a grate and including V-shaped seats positioned above said burner pipe to receive and seat said V-sectioned flame interceptor and deformable elements on said bracket means and extended into the opposite ends of said interceptor to retain said interceptor on said V-shaped seats, and a manually adjustable injector adapted to be connected between a gas source and the inlet end of said burner pipe to vary the ratio of incoming gas and air to control the color of the flame.

5. In a fireplace burner unit of the type adapted to be mounted in a foraminous grate and connected to a source of combustible gas, an elongated burner pipe having spaced ports along its upper surface, a V-sectioned flame interceptor positioned above said burner pipe and arranged to divide flames from said ports into parallel sheets, bracket means to secure said pipe to a grate and including V-shaped seats positioned above said pipe to receive and seat said V-sectioned flame interceptor and deformable elements extended into the opposite ends of said interceptor to retain it on said seats, and an injector to control the flow of air into the combustible gas adapted to enter said burner pipe from a source of combustible gas, said injector comprising a connector threaded interiorly at one end and seating the end of said burner pipe, and threaded exteriorly at its opposite end and adapted to seat there an interiorly threaded gland element adapted to enclose the adjacent end of a gas source pipe, said injector also including ports to the ambient between its ends, and a threaded nut seated on its exteriorly threaded end and movable toward and from said ports to vary the flow of air therethrough.

6. A fireplace gas burner assembly comprising an elongated burner pipe of circular cross-section provided at its fuel inlet end with an adjustable primary air control regulator, clamping bracket means secured to spaced points along said gas burner pipe for securing the gas burner assembly detachably to a fireplace grate, flame spreader clamping elements on said clamping bracket means, a plurality of fuel and primary air outlet ports

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distributed along said burner pipe, and flame spreader means mounted in close proximity to said burner pipe and secured in assembled position by said flame spreader clamping elements with said flame spreader means in the path of the fuel and air mixture issuing from said ports and effective to spread said mixture into sheet-like flames lying in planes extending lengthwise of said burner pipe.

7. A gas burner as defined in claim 6 characterized in that said flame spreader means includes a pair of generally flat surfaces which converge downwardly to a long apex positioned in closely-spaced relation to the upper edge of said gas burner pipe, said apex being positioned to be effective to divert gas and air issuing from said ports outwardly and upwardly in two substantially equal quantities.

8. A gas burner as defined in claim 7 characterized in

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that said flame spreader means is formed of one piece and is of V-shape in cross-section.

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[54] GAS DISTRIBUTION APPARATUS FOR ARTIFICIAL LOGS

[76] Inventor: Donald L. Henry, 12208 Park Ave., Santa Fe Springs, Calif. 90670

[22] Filed: Mar. 23, 1973

[21] Appl. No.: 344,355

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Primary Examiner—John J. Camby

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Attorney, Agent, or Firm—Roger A. Marrs

[52] U.S. Cl..... 126/127, 431/347, 431/125, 126/92 R

[51] Int. Cl..... F24c 3/04, F24b 1/18

[58] Field of Search..... 431/347, 328, 125; 126/92 R, 120, 127, 165; 239/556, 557, 565, 566

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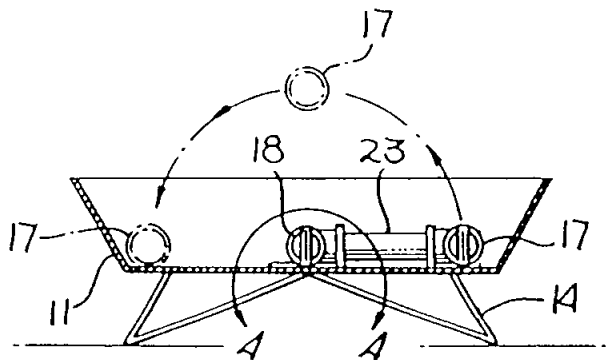
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ABSTRACT

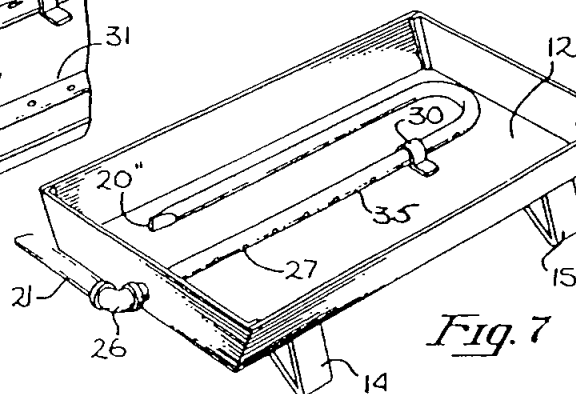
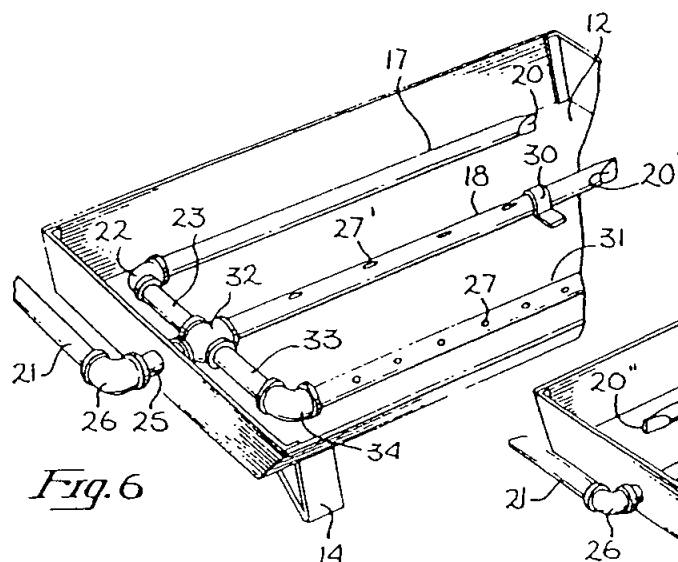
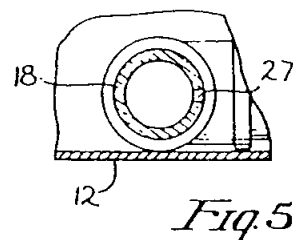
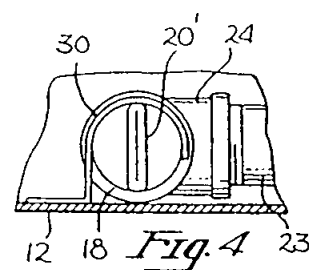
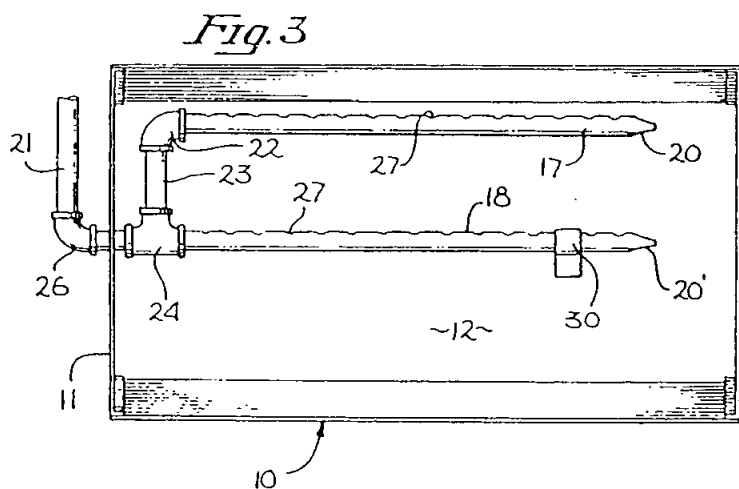
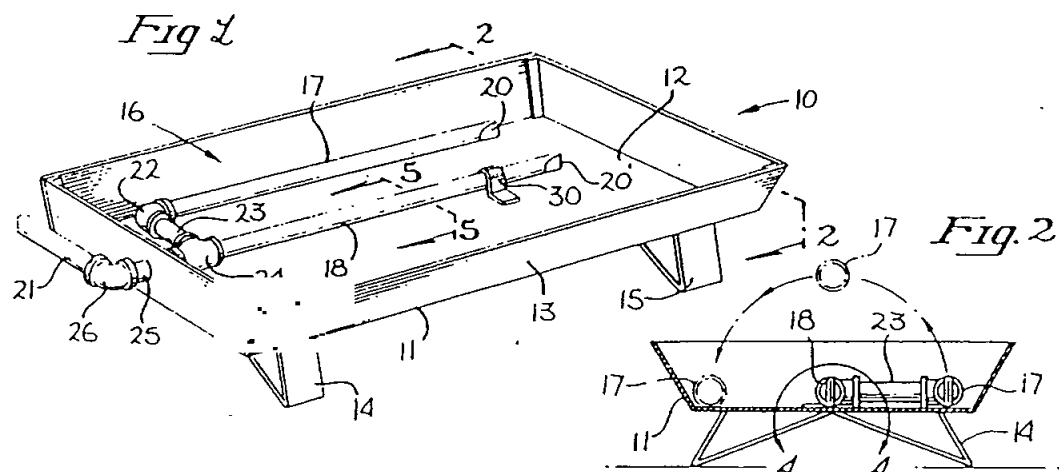
A gas distribution system is disclosed herein for producing flames about artificial logs which includes a pan having a continuous outwardly sloping sidewall about the periphery of a flat bottom so as to define a firebed. A plurality of elongated gas discharge tubes in an assembly occupy the firebed in fixed spaced apart relationship wherein each tube is formed with a plurality of jet openings facing the underside of the logs for discharging gas. One end of the tubes is closed while the opposite ends are attached, via couplings, to a supply of pressurized gas. Mounting brackets are provided at opposite ends of the tube assembly for supporting the assembly on the pan bottom.

1 Claim, 7 Drawing Figures



EXHIBIT

D-6



GAS DISTRIBUTION APPARATUS FOR ARTIFICIAL LOGS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to natural gas igniters or propane and, more particularly, to a gas distribution system for supplying pressurized natural gas or propane to an arrangement of artificial logs as to provide flames thereto simulating the burning of wood logs.

2. Description of the Prior Art

In many homes and other living quarters, it has been the conventional practice to make use of artificial logs in a fireplace which are enveloped by gas flame to simulate the burning of wood logs. Generally, the artificial logs are composed of some non-combustible material such as ceramic, brick, clay materials or the like. Such artificial logs will not burn but, preferably, have a tendency to glow or produce embers characteristic of the burning of wood logs. The flame produced is a result of pressurized natural gas or propane being supplied beneath the logs and upon ignition, produces sufficient flame to envelop or surround the artificial log arrangement. In such an arrangement, the pressurized natural gas or propane is supplied to the log arrangement via a single pipe formed with a plurality of apertures arranged in a linear row at the top of the pipe facing the underside of the log arrangement.

Such a gas distribution system has resulted in poor flame envelopment of the log arrangement and, in some cases, the flame resides either behind the logs or in front of the logs which detracts from the realism desired. Furthermore, at the present time it is current practice to arrange the artificial logs in an asymmetrical arrangement leaving spaces and gaps therebetween to promote flame distribution about the exterior surface of the log in the arrangement. By employing the conventional single tube or pipe distribution of the gas, the flames do not adequately surround the log arrangement or occupy the openings and voids between the logs in the asymmetrical arrangement. Therefore, the flame propagation about the artificial logs does not adequately simulate actual flame propagation as observed such as when wood logs are employed.

Another problem with conventional natural gas distribution systems for artificial logs resides in the fact that the row of apertures along the top of the pipe limit the amount of gas disbursed into the artificial log area and, therefore, relatively few flames are produced to create the natural effect desired. One of the problems in employing a single pipe resides in the fact that more than one pipe requires a specialized mounting for supporting the gas distribution pipes in a desired location. The mounting of a single pipe is relatively simple and can be achieved without difficulty.

Therefore, a long standing need has existed to provide a natural gas distribution system for supplying pressurized gas to artificial logs whereby the flames surrounding the artificial logs simulate actual log burning.

SUMMARY OF THE INVENTION

Accordingly, the difficulties and problems encountered with conventional artificial log gas distribution and igniters are obviated by the present invention which provides a pan having an outwardly sloping and continuous sidewall defining a firebed between the interior opposing wall surfaces thereof. A gas distribution

assembly is supported by brackets on the bottom of the pan which comprises a plurality of tubes arranged in fixed spaced parallel relationship. In one form a pair of tubes are used and in an alternate form three tubes are employed. One end of the tubes is closed while the opposite ends are coupled to a source of pressurized gas via T and L joints. Means are provided for pivotally mounting the assembly so that flame propagation may be selectively directed in front or behind the artificial log arrangement. A plurality of holes are formed in each tube arranged in a row along the side portion of each tube so as to discharge gas around the underside of the logs.

Therefore, it is among the primary objects of the present invention to provide a novel natural gas distribution and ignition system for propagating flame about artificial logs in a realistic manner so as to simulate the burning of wood logs.

Another object of the present invention is to provide a novel natural gas or propane distribution system for supplying flame to artificial logs which is economical to manufacture and convenient to install.

Still another object of the present invention is to provide a novel gas distribution system for an artificial log arrangement that may be readily moved in front of or behind the log arrangement so as to selectively control the placement of flames emanating from the gas discharge system.

Still a further object of the present invention is to provide a novel gas distribution and ignition system for artificial logs wherein the logs may be arranged in an asymmetrical manner resting on the flame or gas discharge assembly which occupies the firebed of a pan supported on the floor of a fireplace.

Another added feature is that the gas supply can be on either side of the fireplace. The firepan and burner is reversible to be adaptable to be placed in either side position thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages thereof, may best be understood by reference to the following description, taken in connection with the accompanying drawings, in which:

FIG. 1 is a perspective view of the present invention showing one embodiment of a gas discharge assembly comprising a pair of tubes movably supported in a pan firebed;

FIG. 2 is a transverse cross-sectional view of the present invention as taken in the direction of arrows 2—2 of FIG. 1;

FIG. 3 is a top plan view of the present invention shown in FIG. 1;

FIG. 4 is an enlarged sectional view showing the closed end of a selected one of the tubes in the gas discharge assembly as taken in the direction of arrows 4—4 of FIG. 2;

FIG. 5 is an enlarged sectional view of a gas discharge tube shown in FIG. 1 as taken in the direction of arrows 5—5 thereof;

FIG. 6 is a perspective view of another embodiment of the present invention employing at least three gas discharge tubes; and

FIG. 7 is another variation of the invention shown in FIG. 1 using a single tube bent to form two burners.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1, the natural gas distribution and ignition system of the present invention is illustrated in the general direction of arrow 10 which includes a pan 11 having a bottom 12 about which a continuous peripheral sidewall 13 upwardly projects and outwardly slopes from the edge thereof. The bottom of the pan is supported on the floor of a fireplace such as by legs 14 and 15 which are also disposed on the other side of the pan. Preferably, the pan is composed of sheet metal and the sidewall 155 is suitably joined at the respective corners by any convenient fastening means. The opposing inner wall surfaces of wall 13 define a firebed area into which the gas distribution assembly is disposed. The assembly is indicated in the general direction of arrow 16 and, in one form, comprises a pair of tubes 17 and 18 which are arranged in fixed parallel spaced relationship.

Each tube in the assembly includes an elongated pipe, such as tube 17, that is closed at end 20 by any suitable means and that is coupled at its opposite end to a source of pressurized gas 21 by means of couplings or joints. In the present instance, an elbow joint 22 connects tube 17 to a short conduit 23 that is joined to one side of a T joint 24. The T joint is coupled to a conduit 25 and to the supply pipe 21 via an elbow joint 26. The tube 17 includes a plurality of openings, such as opening 27, that are formed in a row across the length of the tube. As shown more clearly in FIG. 3, the apertures or holes 27 are arranged in one row that is arranged on the side portion of the tube so as to discharge gas to the side beneath the underside of the artificial logs. It is to be understood that tube 18 is constructed with the plurality of apertures in a similar fashion to that just described with respect to tube 17. Tube 18 is connected to the supply of natural gas 21 via the T joint 24.

Preferably, conduit 25 is supported on the sidewall 13 of the pan by means of a supporting hole formed therein. The opposite end of the tube assembly is permitted to rest on the bottom 12 as shown in FIG. 4. The tube assembly is retained in this position by means of a bracket 30 which is suitably carried on bottom 12 and partially encircles one of the tubes, such as tube 18, near its closed end.

With respect to FIG. 2, it can be seen that by providing the tube connection 18 with T joint 24 in a loose fashion, the tube 17 may be rotated as shown in broken lines. The rotation of tube 17 will be along the longitudinal axis of tube 18 so that tube 17 may be disposed on either side of tube 18.

In FIG. 3, it can be seen that tube 18 lies along the central longitudinal axis of pan 11 so that the positioning of tube 17 may be on either side thereof. Also, closed end 20 is associated with tube 17 while closed end 20' is associated with tube 18.

Referring to FIG. 4, bracket 30 serves as an anchor mount for holding the end of tube 18 wherein both the tube and the bracket are supported on the bottom 12 of pan 11.

In FIG. 5, attention is directed to the row of apertures formed in tube 18 and that the apertures are formed in the side portion of the tube. The apertures form gas jets for discharging the pressurized natural gas there-

through in a dispersal pattern conducive to producing the flame propagation about the log arrangement. It is again to be understood that the joint attachment between the end of tube 18 and T joint 24 is of a threaded type to form a swivel so that the tube 18 will remain with its openings or gas discharge jets remaining in forward facing disposition while the T joint pivots with the end of tube 18 and its threaded connection with joint 26.

Referring now in detail to FIG. 6, a similar gas discharge assembly is shown wherein a third tube 31 is employed in addition to tubes 17 and 18. Tube 31 is constructed in an identical fashion to that of tubes 17 and 18 and is connected to a union 32 via conduit 33 and an elbow joint 34. In this construction or embodiment, the tubes are stationary and rotation is not intended since the tube 31 occupies the area between tube 18 and the continuous wall of the pan. Tube 18 employs less holes than the outer tube. The holes in tubes 17 and 31 will point down and outward.

In FIG. 7 it is noted that there is a similarity to the embodiment shown in FIG. 1. Operation is exactly the same as FIG. 1; however, the difference is the use of a single tubular piece 35 of conduit bent 180° in the middle, to form two burners. The apertures in the center tube face to the rear of the pan. This was made necessary because the proximity of the front tube makes it impossible to drill from the front.

Fixture attachment is accomplished through the use of conduit to pipe adapter with double compression rings.

It is to be understood that the pan and gas distribution system of the present invention may be sized to fit on top of a conventional fireplace grate and fasteners such as an elongated plate and bolts and nuts may be used to attach the pan so as to be directly carried on the grate.

In actual operation, the artificial logs may be placed on top of the gas distribution assembly and when the source of pressurized gas, such as natural or propane, is introduced to the assembly via a conventional shut-off valve (not shown), gas will be discharged through the holes or apertures in each of the tubes.

Once the natural gas or propane has been ignited, flames will surround the artificial log arrangement and the logs will glow. Some logs, depending upon composition, will expose peripheral coal areas which will simulate burning.

While particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from this invention in its broader aspects and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of this invention.

What is claimed is:

1. A natural gas or propane distribution apparatus for use in connection with producing flames about an arrangement of artificial logs resting in a firebed above the distribution apparatus, the combination comprising:

a pan having a bottom and a continuous sidewall extending about the peripheral edge of said bottom so as to define a firebed area between the opposing inner wall surfaces;

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a gas distribution assembly disposed in said firebed area having one end thereof supported on said bottom and its opposite end supported on said sidewall so that gas distribution assembly is raised above said bottom;
said gas distribution assembly including at least a pair of tubes closed at their ends supported on said bottom and arranged in parallel, fixed spaced apart relationship to produce an irregular, asymmetrical flame pattern and operably coupled at their opposite ends to a source of pressurized natural gas or propane, each of said tubes having at least one row of holes formed therein along the side portion of each tube providing gas discharge jets directed at an opposing surface of said sidewall;
means for anchoring a selected one of said pair of tubes to said pan bottom;
the row of said holes associated with one of said tubes

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are arranged in an array facing the rear of said pan while the other rows of said holes associated with said other tube faces the front of said pan;
said selected one of said pair of tubes lies along the central longitudinal axis of said pan;
the other tube of said pair than said selected one is joined to said gas supply source and said selected tube by a swivel connection so as to rotate from one side of said selected tube to the other side thereof;
said tubes are closed at their respective cantilevered ends;
said sidewall extends outwardly and slopes upwardly;
and
said other tube is coupled to said swivel connection by an elbow joint and a linear conduit.

* * * * *

United States Patent [19]

Shimek et al.

[11] Patent Number: 5,000,162

[45] Date of Patent: Mar. 19, 1991

[54] CLEAN BURNING GLOWING EMBER AND GAS LOG BURNER SYSTEM

[76] Inventors: Ronald J. Shimek, 8944 W. 154 St., Prior Lake, Minn. 55372; Daniel C. Shimek, 5260 W. 132nd St., Apple Valley, Minn. 55124; James F. Wolf, 6168 Marlen Cir., Prior Lake, Minn. 55032

[21] Appl. No.: 515,707

[22] Filed: Apr. 27, 1990

[51] Int. Cl.³ F24C 3/00

[52] U.S. Cl. 126/512; 126/92 R; 126/523; 431/125

[58] Field of Search 126/92 R, 502, 503, 126/512, 85 R, 85 B, 92 AC, 307 R, 500, 92 B, 523, 531, 431/125, 110, 112, 328, 329

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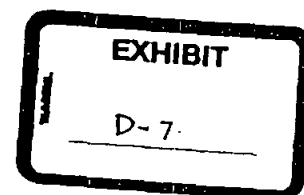
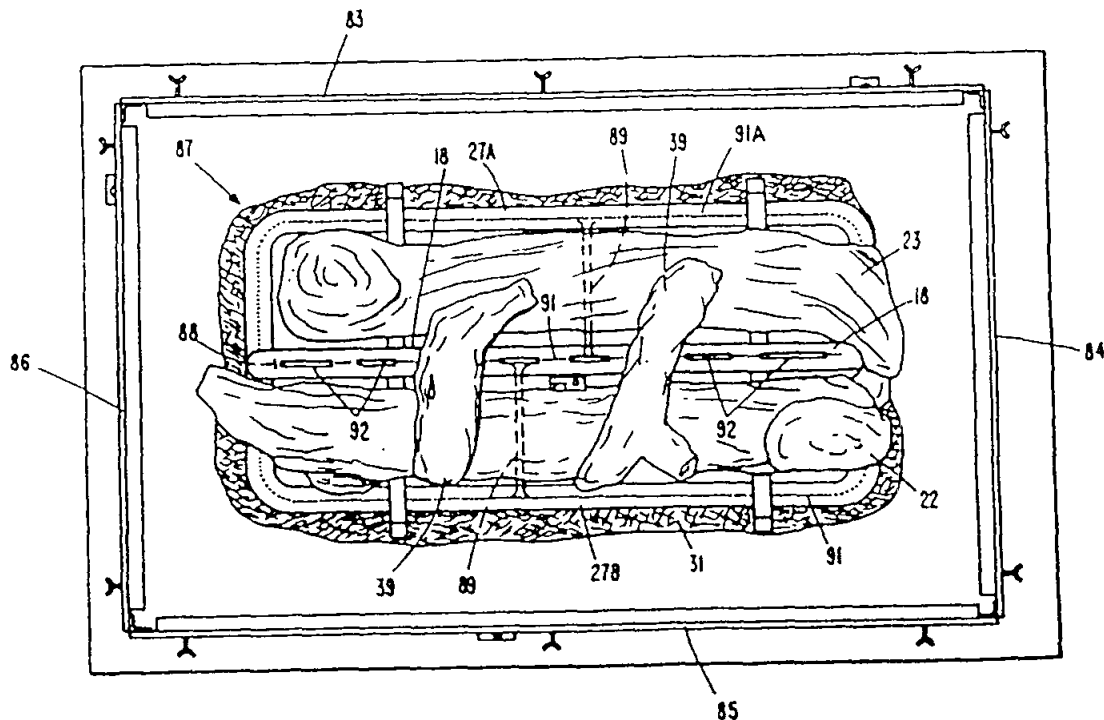
Primary Examiner—James C. Yeung
Attorney, Agent, or Firm—John B. Sowellatt

[57]

ABSTRACT

An efficient low carbon monoxide burner system for decorative gas logs is further provided with one or more pipe branches which provide glowing embers in front of and/or on the bottom of decorative gas logs placed over the gas log burner system. The pipe branch which provides the glowing embers is provided with decorative ember flame holes which are arranged directly juxtaposed expanded fire resistant material which is heated so as to form a glow material for producing glowing decorative ember flames in front of or at the bottom of the decorative logs in a manner which produces low carbon monoxide. The pipe branch for providing decorative flames between logs is provided with nozzles for directing the flames away from the logs.

20 Claims, 5 Drawing Sheets



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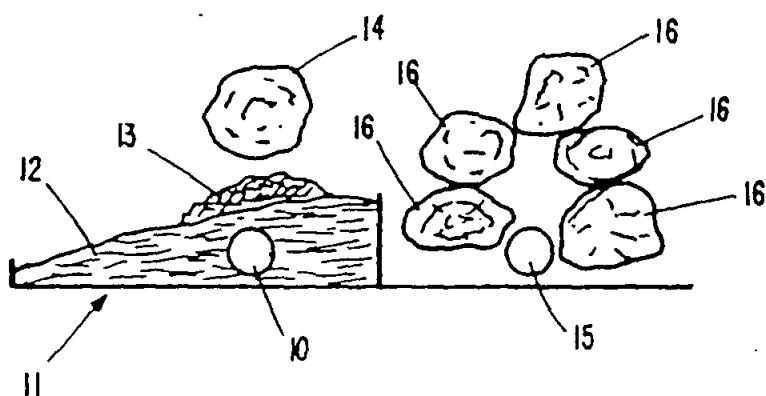


FIG. 1 (PRIOR ART)

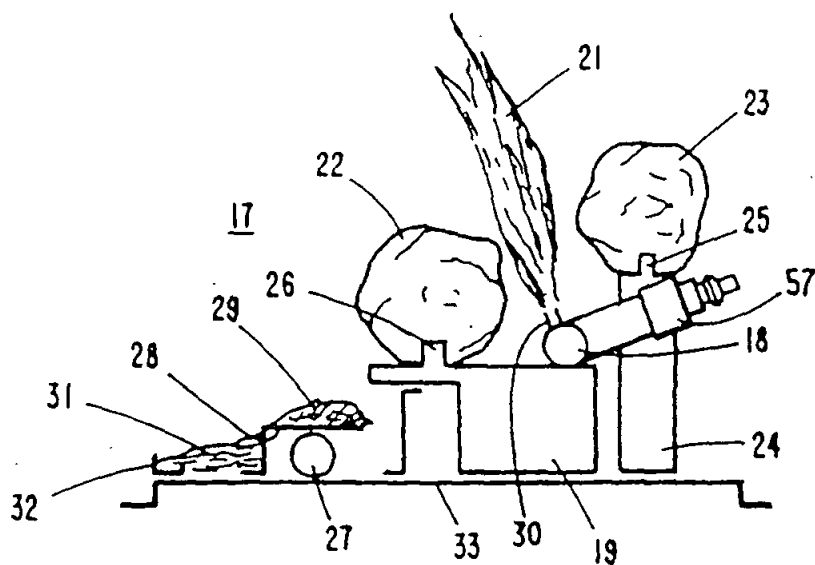


FIG. 2

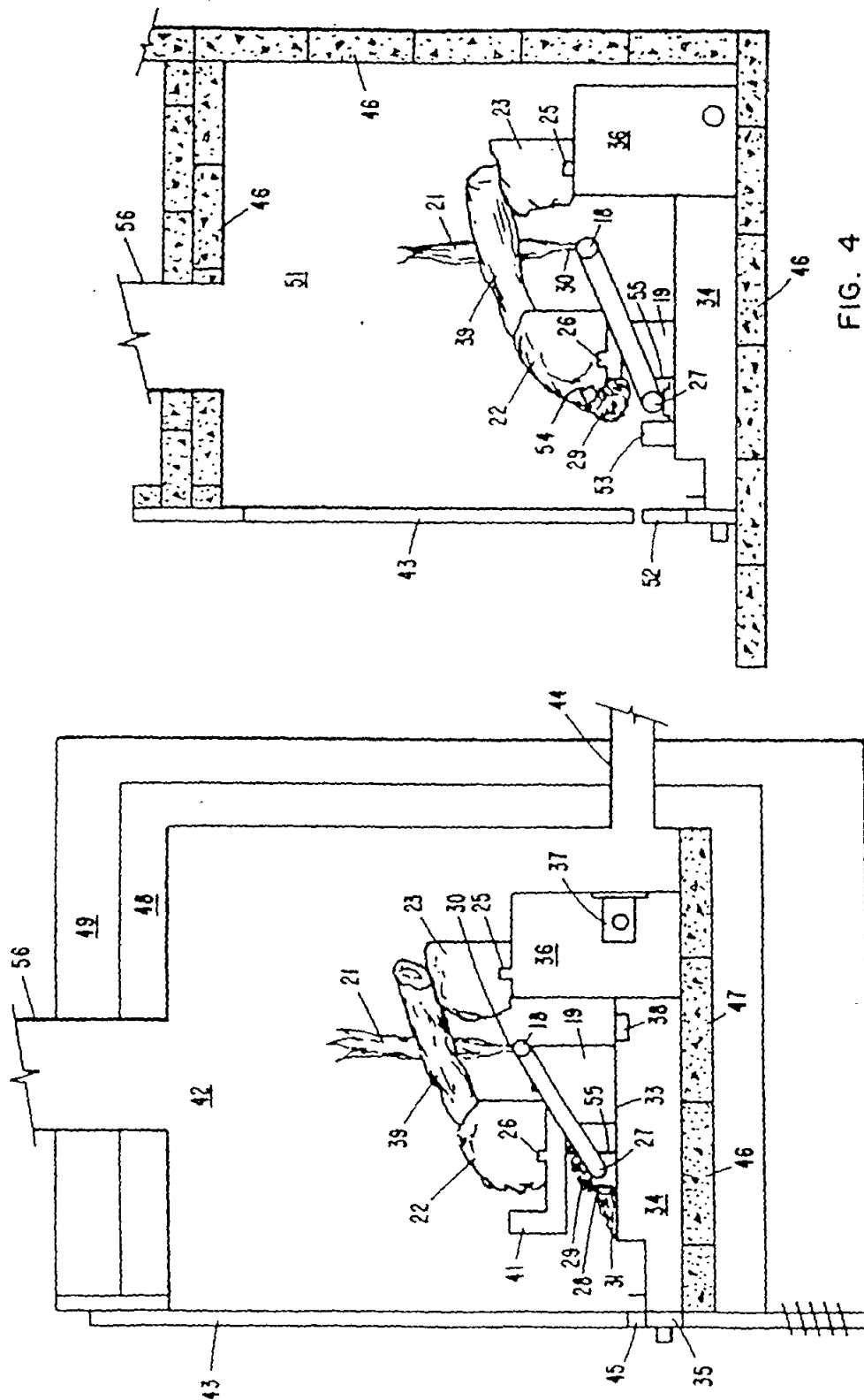


FIG. 4

FIG. 3

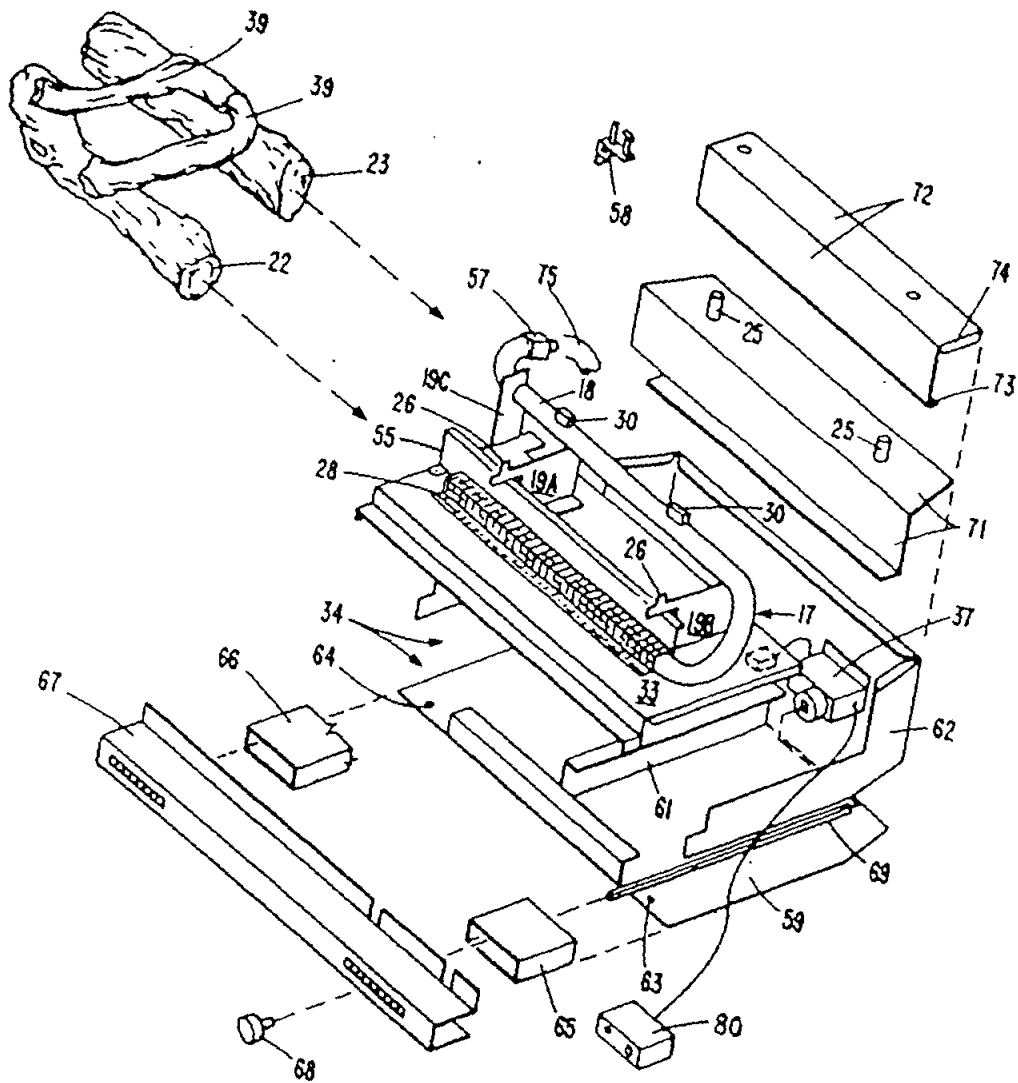


FIG. 5

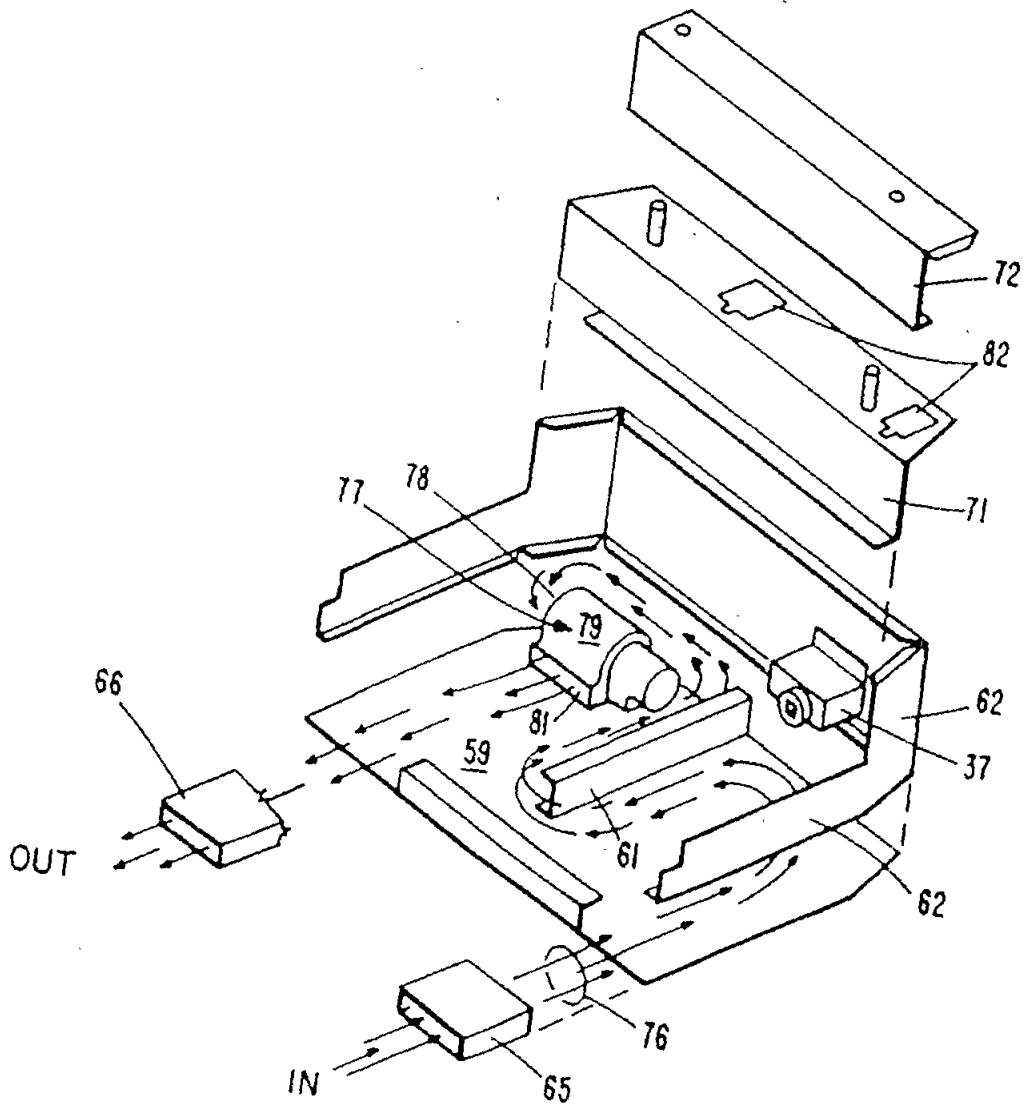


FIG. 6

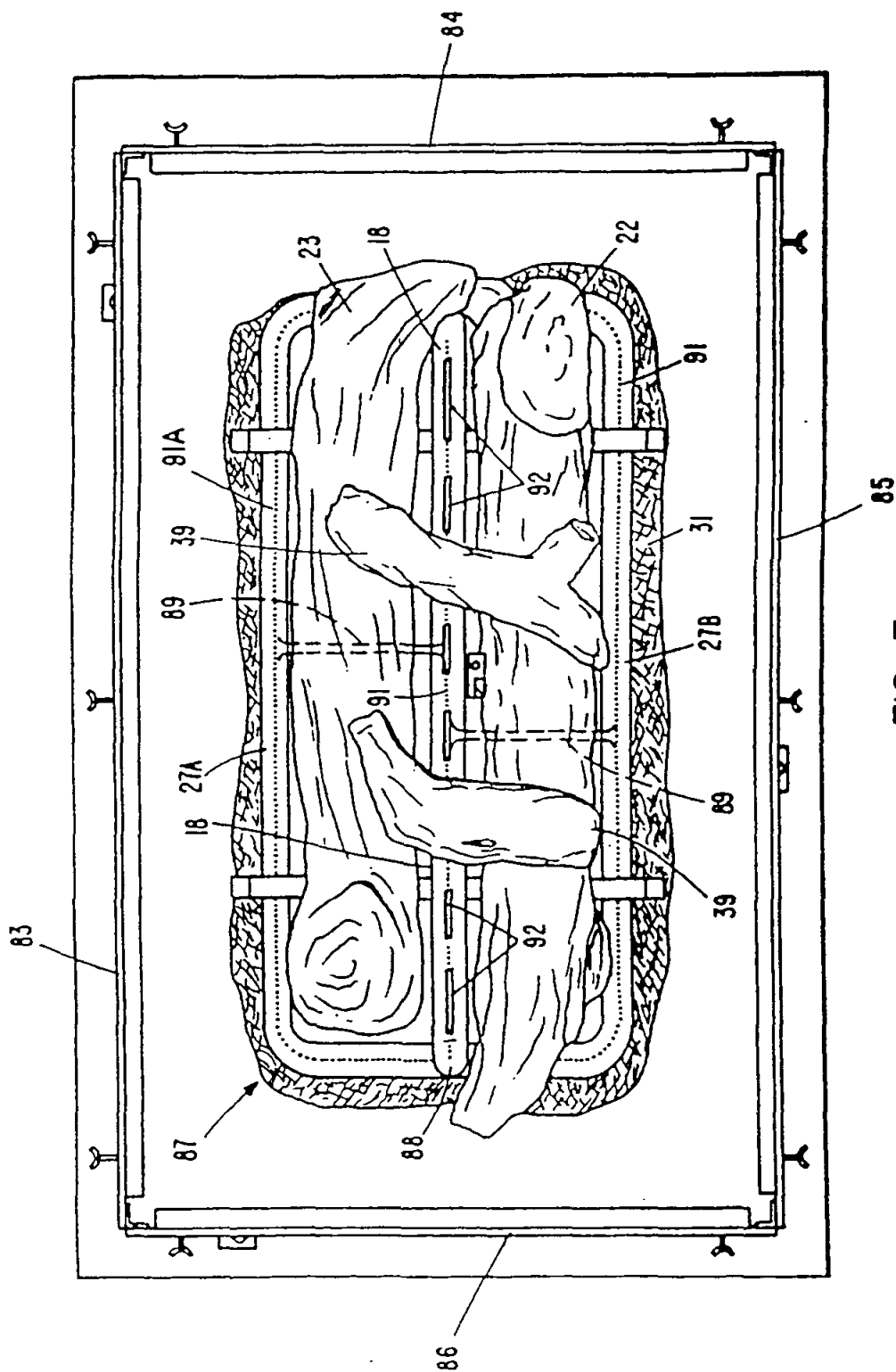


FIG. 7

CLEAN BURNING GLOWING EMBER AND GAS LOG BURNER SYSTEM

BACKGROUND OF THE INVENTION

1. Related Applications

This application is an improvement of our U.S. Pat. No. 4,875,464, issued 24 October 1989 for a "Clean Burning Gas Log Burner System".

2. Field of the Invention

The present invention relates to efficient gas burners for burning natural gas, manufactured gas and propane gaseous fuels. More particularly, the present invention relates to an efficient burner system for burning gaseous fuels in a manner which provides decorative flames and decorative embers which simulate wood burning.

3. Description of the Prior Art

Gas logs are usually made of a fire resistant ceramic material as is well known. Heretofore when a gas burner system was employed below such prior art decorative gas logs, the gas flame that was directed against the gas logs was cooled so as to produce a highly inefficient and dirty yellow flame. In our U.S. Pat. No. 4,375,464 there is shown and described a highly efficient gas burner system wherein the flame from the gas burner is isolated and directed away from impinging on the gas logs which act as a heat damper or heat sink, thus, creating excessive soot and carbon monoxide (CO). In the preferred embodiment of this prior art invention an inverted U shaped shield is mounted over the gas burner and provided with horizontal openings in the U shaped shield so as to guide and deflect the gas flames away from the decorative gas logs and to produce a clean burning gas log burner system.

Heretofore it was known that gas burners or gas nozzles could be buried below a level of sand or vermiculite. These burner systems were heretofore referred to as sand pan burners which dispersed the gases through the fireproof material and permitted the gas permeating through the porous material to ignite upon entering the atmosphere so as to present an orange or yellow dispersed flame over a large area or bed of material. As will be explained in more detail hereinafter expanded fireproof material has been sprinkled over the sand pan devices so that the gas burning over the dispersed area burns through the added expanded fireproof material and produces an orange color flame in the expanded fireproof material which simulated to some extent hot ashes in a fireplace. These prior art sand pan burners are known to produce carbon monoxide levels in excess of 200 parts per million (ppm) and excessive amounts of carbon and soot.

Presently the American National Standards Institute (ANSI) Emission and Safety Standards Z-21.50 (1986), which has been adopted by the American Gas Institute, only permits 200 parts per million carbon monoxide when burning natural gas or liquified petroleum fuels. Accordingly, the prior sand pan devices have exceeded the accepted levels of the American National Standards Institute and the American Gas Institute, thus, creating a pollution problem which has resulted in some manufacturers attempting to modify the standard so as to increase the pollution in the atmosphere.

When the prior art burner systems for artificial decorative logs and sand pan type burners are incorporated into pre-fabricated fireplaces or existing masonry fireplaces, they must meet the ANSI emission standards which have been adapted by the American Gas Insti-

ute. Accordingly, it would be desirable to provide a clean burning gas burner system for glowing embers and for gas logs which meet the present ANSI emission standards.

There is a present and long felt need for such gas log and glowing ember burner systems which will burn clean and which very closely simulate the natural flames produced by burning wood logs. Therefore it is desirable to produce a reliable and efficient gas log and glowing ember burner system which produces the desirable yellow and orange decorative flames that closely simulate burning wood logs and which provide efficient usable heat and still meets the EPA regulations and the ANSI emissions and safety standards.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a highly efficient gas burner system for use with artificial, decorative logs and glowing ember devices.

It is another primary object of the present invention to provide a novel burner system which closely simulates the flames and embers of natural wood logs burning.

It is another principal object of the present invention to provide a prefabricated assembled gas burner system which is American Gas Association design certified and which maintains its factory set emissions standards after installation.

It is another principle object of the present invention to provide a novel burner system which has low carbon monoxide (CO) emission characteristics.

It is yet another object of the present invention to provide an efficient low CO emission burner system that combines long decorative gas flames with short or low smoldering glowing embers in the same burner system.

It is another object of the present invention to provide a log burner system combined with an ember burning system for use with fireplaces having one or more sealed glass sides in combination with a source of outside combustion air.

It is yet another object of the present invention to provide an efficient heat exchanger for use with a novel burner system for heating room air.

It is another object of the present invention to provide a blower system placed inside of a heat exchanger fireplace system for forced air circulation of room air to be heated.

It is another object of the present invention to provide a controllable gas valve inside of a heat exchanger system which is cooled by the circulating room air which is to be heated.

It is another object of the present invention to provide a gas valve in a heat exchanger system which is connected to a remote sensor and to a thermostat in the heat exchanger for controlling gas supplied to the burner system as well as controlling heat to a room being heated.

It is another object of the present invention to provide a remote controlled sender for use with a remote control sensor and wherein the control sender is provided with a thermostat which in turn controls the gas supplied to the burner system so as to control the heat being supplied to a room being heated.

According to these and other objects of the present invention there is provided an efficient gas log burner system which is combined with an efficient gas burning

glowing ember system. The gas burner system is provided with a plurality of burner pipe branches at least one of the burner pipe branches is mounted below decorative gas logs and provides a gas flame which projects above the gas logs without impinging on the gas logs and at least one other burner pipe branch is connected to the gas log burner branch and is arranged in front of the decorative gas logs on one or more sides so as to provide decorative ember flames on the sides of the burner which are exposed to view. The decorative ember burner comprises glow material arranged juxtaposed holes in the burner pipe branch which produce hot gas flames that embrace the glow material and cause a glowing decorative ember flame in front of the decorative gas logs which have low carbon monoxide emission.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic drawing in cross-section of a combination of prior art logs and a prior art sand pan device;

FIG. 2 is a schematic drawing in cross-section of a combination clean burning gas log system and a clean burning gas glowing ember system of the type employed in the present invention;

FIG. 3 is a schematic drawing in cross-section of a clean burning gas log system and clean burning gas ember system installed as a unit in a prefabricated sheet metal gas fireplace;

FIG. 4 is a schematic drawing in cross-section of another clean burning gas log system of another clean burning gas log system and clean burning gas ember system installed as a unit in a preexisting masonry fireplace;

FIG. 5 is a more detailed isometric drawing of the preferred embodiment clean burning gas log and gas ember system for fireplaces having a high efficiency heat exchanger in the base support;

FIG. 6 is an isometric drawing of a portion of the heat exchanger system shown in FIG. 5 showing the blower system; and

FIG. 7 is a schematic drawing in cross-section of a gas log burner system showing burner nozzle slots and burner migration holes for a glowing ember system on four sides.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Refer now to FIG. 1 showing a schematic diagram in cross-section of a prior art burner system for logs and a prior burner system for a sand pan device which have been combined for discussion purposes. A first burner system 10 is shown mounted in a box or tray 11 and covered by fire resistant material 12 such as sand or vermiculite. Dispersed on top of the sand 12 is a fire resistant material such as rock wool or mineral wool 13. A log 14 is shown suspended above the rock wool 13 and is lightly heated by the burned gases from the burner system 10 which migrate through the sand and is dispersed over a large area so as to burn as it emerges from the rock wool 13. This prior art "sand pan" burner system has been tested and found to generate high amounts of carbon monoxide that have been measured in excess of 400 parts per million (ppm). Not only does the prior art sand pan produce excessive CO levels but this burner system also generates large amounts of soot and carbon which deposits on the gas log 14 and enters the atmosphere. A separate and distinct log burner sys-

tem 15 is schematically shown having a burner 15 surrounded by and covered by logs 16 made from fire resistant material such as clays or ceramic materials. When the flame from the burner 15 impinges on the artificial logs 16, the logs act as a heat sink and rapidly cools the flame before complete and proper combustion has taken place. This type of prior art system produces excessive amounts of carbon monoxide as well as soot and free carbon as explained hereinbefore.

In our U.S. Pat. No. 4,875,464 mentioned hereinbefore there is provided a gas burner system which avoids such inefficient burning and produces very low carbon monoxide gases. The system in our prior art patent employed gas shields preferably made from thin sheet metal material which when properly heated promoted and permitted the propagation of long yellow or orange flames with low carbon monoxide emissions.

Refer now to FIG. 2 showing a schematic drawing and cross-section of a combination clean burning gas log system combined with a clean burning gas ember system of the type employed in the present invention to be explained in more detail hereinafter. Integrated burner systems 17 is provided with a first branch shown as burner pipe 18 supported on prefabricated grate 19 and constructed so as to emit a long yellow or orange flame 21 between the front log 22 and the rear log 23 of the decorative log burner system. The prefabricated grate 19 comprises a vertical support 24 which may be integrated with the grate 19 or constructed as a stand alone system for supporting the rear log 23 on guide pins 25. Guide pins 25 and 26 assure that the decorative logs 22 and 23 mounted thereon are in an exact and predetermined position so as to permit the flame 21 to pass between the logs without impinging thereon. As explained in our U.S. Pat. No. 4,875,464 directing and guiding the flame 21 away from impinging on logs 22 and 23 results in a clean burning efficient flame which passes all present ANSI and AGA standards.

The integrated burner system 17 further comprises a second burner pipe branch 27 shown shielded by a metal mesh screen 28 which is preferably disposed slightly above the branch 27 so as to permit a thorough mixing of air and gas before combustion takes place within the expanded glow material 29 supported on the metal mesh screen 28. Mounted in front of screen 28 and in front of branch 27 there is provided a fire resistant material which forms an opaque and decorative barrier 31. Such material may be in solid form or may be granular and held in place by a retainer 32.

The integrated burner system 17 is prefabricated in a factory environment where it may be tested and is mounted on a base support 33 where it is ready for installation into prefabricated fireplaces, or preexisting masonry fireplaces as will now be explained.

Refer now to FIG. 3 showing an integrated clean burning gas log system and a clean burning gas ember system of the type which is built into a prefabricated sheet metal fireplace 42. Support 33 is shown forming the top wall of a heat exchanger plenum 34 which has an inlet 35 for room air in one side of the plenum 34 and an exhaust outlet in the same plenum 34 which will be explained hereinafter. The rear of the heat exchanger 34 is provided with a vertical enlargement 36 of the plenum 34 in which the gas valve 37 is preferably mounted. A thermostat 38 is mounted to the hot base support 33 and electrically connected to the electric motor of the blower system which will be explained hereinafter. Guide pins 25 and 26 support prefabricated decorative

logs 23 and 22, shown as transverse logs, which support cross logs 39 as will be explained hereinafter. The flame 21 from the first burner pipe branch 18 is formed by nozzle extensions 30 so as to pass through the opening between transverse logs 22 and 23 and intermittently between the cross logs 39 so as not to impinge thereupon. By separating the transverse logs 22 and 23 a critical and sufficient amount it is possible to generate a long decorative yellow and orange flame 21 which does not touch the logs 22, 23 and 39 that would act as a heat sink.

Grate 19 is shown having frontal and vertical extension pieces 41 which act as decorative retainers for the logs 22. The second burner pipe branch 27 of the integrated system 17 is shown having heated glow material 29 supported by a metal mesh 28 and shielded from view by ceramic material 31. The total burner system 17 combined with the heat exchanger 34, 36 may be placed as an integral unit inside of a prefabricated fireplace 42 of the type having either opening or closed fixed glass doors 43. Such fireplaces 42 may be designed so that the air burned by the integrated burner system is brought in through an outside air duct 44 or inside room air may be introduced through a slit or opening 45 provided below the glass doors 43. The integrated burner system is not dependent upon the source of fresh air to be burned. Prefabricated fireplace 42 is shown provided with a fire resistant refractory base material 46 supported on the floor 47 of the fireplace 42. Such fireplaces 42 may be further provided with dead air space chambers 48 and circulating (or heating) chambers 49 so that the fireplaces 42 may be installed as a zero clearance unit or free standing unit.

Refer now to FIG. 4 showing a schematic drawing and cross-section of the preferred embodiment clean burning gas log system integrated with a clean burning gas ember system installed in a preexisting masonry fireplace 51. The integrated burner system 17 is substantially identical to the system 17 shown in FIG. 2 and those elements numbered the same are identical thereto and will not be explained again in detail, however, there are modifications. The second burner pipe branch 27 is moved further to the front of the glass doors 43 and an opaque decorative trim 52 is placed at the bottom of the doors 43. A metal trim piece or refractory material piece 53 is provided in front of the second burner pipe branch 27 so that it is not easily viewed by a person standing in front of the fireplace 51. A retainer slot 54 or other retainer means is provided in or on the transverse decorative log 22 so as to support the aforementioned glow material 29 which is mounted juxtaposed and directly above the second burner pipe branch 27. In this modification of the FIG. 2 embodiment the heated glow material appears to form a part of the log 22 giving the log a glowing ember effect instead of or in addition to surrounding glowing embers. A highly polished and mirror reflective shield 55 is shown behind and adjacent to the burner branch 27 so as to form an extension of the glow region under the logs. The fire brick 46 of the preexisting masonry fireplace 51 is provided with an outlet chimney 56 of known type. The glow material 29 to be heated is preferably attached to the integrated burner system 17 at the site of installation and provides means for providing either glowing embers and/or glowing logs as part of the integrated burner system 17.

Refer now to FIG. 5 showing a detailed exploded isometric drawing of a preferred embodiment burner system 17 having a gas log burner and a gas ember

burner built into and integrated with a high efficiency heat exchanger base which may be inserted as a unit in a prefabricated fireplace of the type shown in FIG. 3 or a preexisting masonry fireplace of the type shown in FIG. 4. The integrated burner system 17 is of the type shown in FIG. 3 having a Z shaped mesh screen 28 mounted on the base support 33. Also supported on base 33 is a prefabricated grate 19 comprising two vertical side pieces 19A and 19B. Grate 19 further includes a support 19C for supporting the first burner pipe branch 18 shown having nozzle extensions 30 and an inlet adapter 57 which is positioned over a pilot thermo generator 58 also mounted on base 33.

The heat exchanger 34 is shown comprising a bottom plate 59 having a vertical baffle 61 which supports the top wall and platform 33 of the heat exchanger 34. The three sided folded metal part 62 connects to the bottom plate 59 and top wall 33 which forms a substantially closed plenum having an inlet area 63 and an exhaust or outlet area 64 through which ducts 65 and 66 extend and are mounted. As will be explained hereinafter duct 66 connects directly to the housing which surrounds the blower of the motor (not shown) which circulates room air through the heat exchanger. A shroud or decorative piece 67 extends over the ducts 65 and 66 and forms a transverse piece below the glass doors 43 and or the decorative trim piece 52 as the case may be. A control knob 68 for controlling the amount of gas supplied to the burner system 17 extends through the shroud or trim piece 67 and connects to a control rod 69 which in turn connects to the gas valve 37 mounted on the rear vertical wall of the plenum 34. A Z shaped plate 71 forms part of the vertical enlargement of the heat exchanger and attaches to the rear vertical wall part 62 and to the rear edge of base support 33. An L shaped member 72 is provided with turned edges 73 and 74 which act as spacer means for part 72 when slipped over the pins 25 on part 71 to form dead air chambers therebetween.

Adapter 57 comprises an air shutter or ventura through which gas is supplied to the burner system 17. A flexible pipe 75 is shown connected to ventura 57 and connects to the gas valve 37 which is controlled by the control knob 68 and control rod 69 to control the height of the flame and the burner system 17. Mounting pins 25 and 26 fit into recesses in the transverse logs 22 and 23. The transverse logs 22 and 23 are provided with either pins or recesses which cooperate with either recesses or pins in the cross logs 39 for exactly and precisely positioning the decorative log system 22, 23, 39 on the grate 19 of the burner system 17.

Refer now to FIG. 6 showing an isometric drawing of a portion of the lower plenum system of the heat exchanger shown in FIG. 5. The bottom plate 59 is shown having the Z shaped vertical baffle 61 mounted thereon which forms a partition for diverting the inlet air path 76 past the gas valve 37 and into the portion of the heat exchanger 34 in which the blower system 77 is mounted on the bottom plate 59. The inlet 78 of the blower housing 79 is at the end of the housing and has an outlet 81 which physically connects to the outlet duct 66. It will be noted that the inlet duct 65 terminates a short distance inside of the heat exchanger 34 so to form a closed plenum having only an inlet 65 and an outlet 66. As explained hereinbefore the base support 33 forms a hot plate for transmitting heat from the burner system into the heat exchanger and the blower system 77 forms the means for removing the hot air from the

heat exchanger. In some forms of prefabricated fireplaces like FIG. 2, a blower system is already provided and the lower part of the plenum system 34 may be completely eliminated and just the glowing ember and burner system 17 mounted on plate 33 is installed in such a prefabricated fireplace.

When the heat exchanger system shown in FIG. 6 is employed, the Z shaped plate 71 of the plenum system 34 is provided with one or more cooling holes 82 preferably located over the gas valve 37 and thermostat controlled electric motor portion of blower system 77 so as to maintain a circulating cool air through inlet 65 when the blower system 77 is disengaged or not operating.

In the preferred embodiment of the present invention thermostatically controlled flap valves need not be mounted over the cooling holes 82 when the L shaped member 72 is properly spaced above the cooling holes 82 so as to form a back resistance when the blower system 77 is operational. Stated differently blower system 77 is designed so that it will not draw smoke and combustion gases from the combustion chamber into the heat exchanger and blow them into the room area through outlet duct 66. The means shown for preventing this combustion gas from mixing with the heated air does not comprise the only usable structure but may include other means such as thermostatic dampers. The blower motor and/or the gas valve 37 are preferably connected to a remote sensor 80 shown for remote control operation.

Refer now to FIG. 7 showing a plan view of an integrated glowing ember and gas burner system for use with a fireplace of the type known as multiside glass fireplace systems. Such a universal fireplace system is shown in our patent 4,852,548 and may include one to four glass sides. The novel integrated burner system 87 may have an inlet gas pipe 88 at either or both ends of the system. The main branch pipe 18 is shown extending through the center of logs 22 and 23 which provide an opening therebetween for the decorative flames explained hereinbefore. The secondary burner pipe branches 27A and 27B are shown uncovered with the glow material removed so that the preferred burner holes may be explained in detail. Surrounding the burner pipe branches 27A and 28A is the fire resistant material 31 explained hereinbefore which forms a decorative mask or support for the burner branches 27A and 27B which totally surround the decorative log system 22, 23, 39. Burner pipe branch 27A is shown having a plurality of apertures therein which comprise flame migration holes that also may act as the decorative ember flame holes 91A which provide the flame for the heated glow material made from an expanded light weight fire resistant material such as spun glass or expanded mineral wool. It is more economical to punch the flame migration holes 91A in the pipe branch 27A as a single series of holes in a pipe or thin wall tube than to provide parallel and multiple flame migration holes and separate decorative ember flame holes. It is sometimes desirable to provide the integrated burner system 17 with lighting tubes 89 than to punch the flame migration holes around the entire burner system when there is no glass wall on an end or side of the fireplace and no ember system.

The preferred embodiment first burner pipe system 18 is shown provided with flame migration holes 91 as well as decorative flame ports 92. Preferred embodiment decorative flame ports are shown as elongated slots which are preferably cut in the pipe material 18

using a laser cutter or plasma cutting tool so as to form precise openings with exact and sharp edges forming nozzles without extensions 30 for directing the gas through the openings between logs 22 and 23 without impinging thereon. Using a plasma cutting tool or laser cutting tool no internal female die structure need be inserted in the pipe for a punching operation which deforms the pipe 18. The slag formed by such cutting tools may be blown out or removed by gravity before closing the ends of the tube.

Having explained the preferred embodiment migration holes 91 and flame ports 92 formed preferably as slots, it will be understood that the burner pipes 27A, 27B and 18 may be formed employing a punching operation using holes of the type shown and described in our U.S. Pat. No. 4,875,464. It has been found that it is more economical to punch the flame migration holes 91 for the glowing embers and to plasma machine or laser cut the decorative flame ports or slots 92 in the primary burner tube 18 which act as nozzles.

Having explained a fireplace system in FIG. 7 having four glass sides, it will now be understood that any fireplace system may utilize the present embodiment invention having one to four glass sides and glowing embers along the front of the side where the glass is used. The glowing embers may be formed as a base of ash below the decorative logs 22, 23 or may be formed at the base of the logs themselves as explained hereinbefore with reference to FIG. 4. Thus, having explained the preferred embodiment of the present invention any combination of burner systems 17 may be designed to economically accommodate fireplaces having singular or multiglass sides or for fireplace systems already having their own heat exchanger systems or fireplace systems which require heat exchanger systems.

What is claimed is:

1. A glowing ember gas log burner system for decorative gas logs, comprising:
 - decorative gas logs comprising an arrangement of logs having openings between logs to permit gas flames to escape therethrough;
 - gas burner means having a plurality of burner pipe branches,
 - at least one of said burner pipe branches being mounted below said decorative gas logs at the openings between logs,
 - said burner pipe branch mounted below said decorative gas logs having a plurality of decorative flame ports and a plurality of flame migration apertures between said flame ports,
 - said flame migration apertures being spaced such that the gas flame is carried from one flame port to another,
 - said decorative flame ports providing nozzle means for directing decorative flames through the openings between said decorative gas logs without the flames impinging upon the logs in a manner which would cool the decorative flames,
 - at least one other burner pipe branch being arranged in front of said decorative gas logs and having a plurality of decorative ember flame holes,
 - glow material juxtaposed said decorative ember flame holes for producing glowing decorative ember flames in front of said decorative gas logs whereby said glowing ember flames contain low carbon monoxide, and
 - platform support means for supporting said decorative gas logs, said gas burner means and said glow

material in a fixed predetermined position relative to each other.

2. A glowing ember gas log burner system as set forth in claim 1 wherein said glow material comprises an expanded light weight fireproof material.

3. A glowing ember gas log burner system as set forth in claim 2 which further includes means for supporting said expanded light weight fireproof material directly over said decorative ember flame holes.

4. A glowing ember gas log burner system as set forth in claim 3 wherein said means for supporting said expanded light weight fireproof material comprises a metal screen.

5. A glowing ember gas log burner system as set forth in claim 3 wherein said means for supporting said expanded light weight fireproof material comprises means for attaching said glow material on the front of said decorative gas logs.

6. A glowing ember gas log burner system as set forth in claim 3 wherein said means for attaching said expanded light weight glow material comprises recesses on the front of said decorative gas logs.

7. A glowing ember gas log burner system as set forth in claim 1 wherein said glow material comprises an expanded light weight mineral wool.

8. A glowing ember gas log burner system as set forth in claim 1 wherein said glow material comprises an expanded light weight fiber glass.

9. A glowing ember gas log burner system as set forth in claim 1 wherein said nozzle means for directing decorative flames comprises laser cut slots with sharp edges in said burner pipe branch.

10. A glowing ember gas log burner system as set forth in claim 1 wherein said nozzle means for directing decorative flames comprises plasma cut slots with sharp edges in said burner pipe branch.

11. A glowing ember gas log burner system as set forth in claim 1 wherein said platform support means comprises a formed metal sheet having two vertical plain side-supports and one vertical plain rear support.

12. A glowing ember gas log burner system as set forth in claim 1 wherein said platform support means

comprises a horizontal base member of a combustion chamber which is connected to and forms the top of a heat exchanger.

13. A glowing ember gas log burner system as set forth in claim 12 which further includes a blower system having an electric motor mounted inside of said heat exchanger, and

an exhaust duct connected between said blower system and an outside wall of said heat exchanger.

14. A glowing ember gas log burner system as set forth in claim 13 which further includes an inlet duct connected through an outside wall of said heat exchanger for introducing cold air into said heat exchanger.

15. A glowing ember gas log burner system as set forth in claim 14 which further includes baffle support means inside of said heat exchanger.

16. A glowing ember gas log burner system as set forth in claim 14 which further includes a gas control valve mounted inside of said heat exchanger in the path of the cold air introduced through said inlet duct.

17. A glowing ember gas log burner system as set forth in claim 16 which further includes a cover plate covering said gas control valve and forming a vertical extension of said heat exchanger.

18. A glowing ember gas log burner system as set forth in claim 17 wherein said cover plate is provided with cooling holes for cooling said electric motor when said blower system is inoperable.

19. A glowing ember gas log burner system as set forth in claim 1 which further includes a remote control sensor, and

a gas valve electrically coupled to said remote control sensor and physically connected to said gas burner means for providing remote on-off control of the gas being supplied to said burner branches.

20. A glowing ember gas log burner system as set forth in claim 1 wherein said decorative flame ports comprise extension nozzles for directing flames through the openings between said decorative gas logs.

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[54] GAS-FIRED ARTIFICIAL LOG BURNERS

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[22] Filed: Oct. 30, 1990

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 488,321, Mar. 5, 1990, abandoned.

[51] Int. Cl.³ F23C 3/00

[52] U.S. Cl. 126/512; 239/553;
126/500; 126/540

[58] Field of Search 431/125; 126/92 R, 92 AC,
126/500, 512, 524, 540; 239/553

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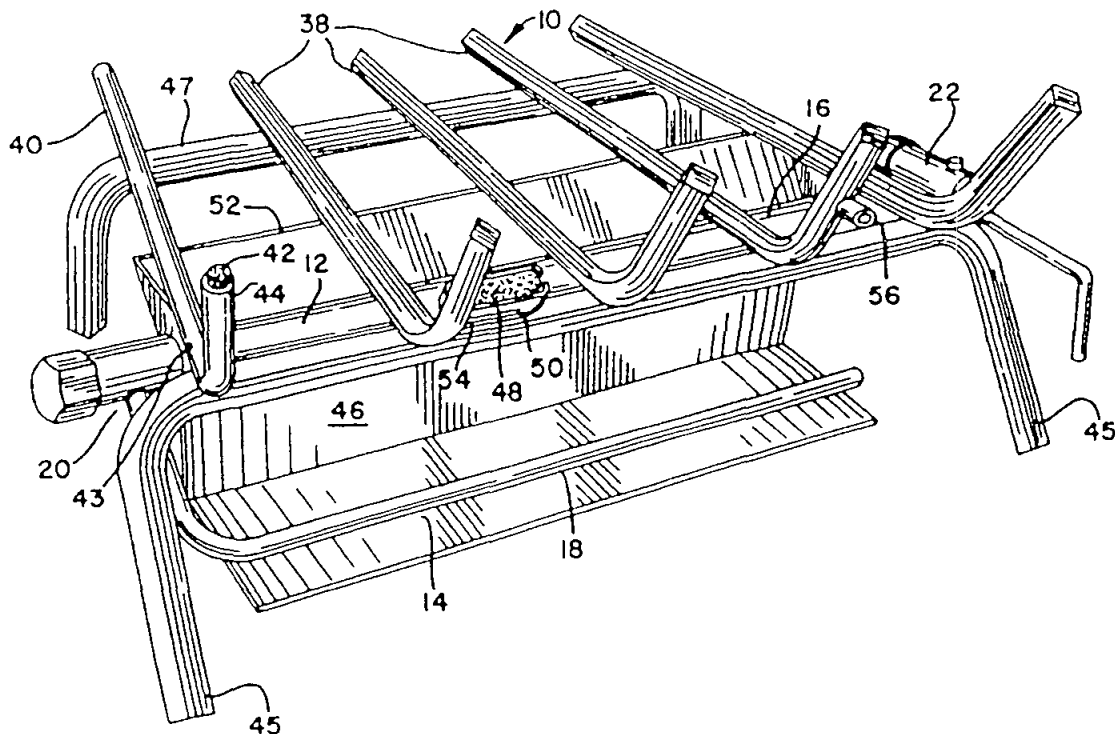
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[57] ABSTRACT

The invention is a gas-fired burner for a fireplace, including an upper burner comprised of an upper tubular gas pipe and a lower burner comprised of a lower tubular gas pipe. The upper and lower tubular gas pipes meet at a junction, where gas to the lower tubular gas pipe is fed through the upper tubular gas pipe. Each of the tubular gas pipes has downwardly-facing, in-line orifices along their lengths. The improvement comprises a metallic strip having a width approximately equal to the inner diameter of the lower tubular gas pipe. This metallic strip is secured at its lateral ends to the interior of the lower pipe, and extends from a point adjacent the junction to a point beyond approximately the first twenty-five to thirty-three percent (25-33%) of the in-line orifices in the lower tubular gas pipe.

11 Claims, 2 Drawing Sheets



EXHIBIT

0-8

JT-APP 2226

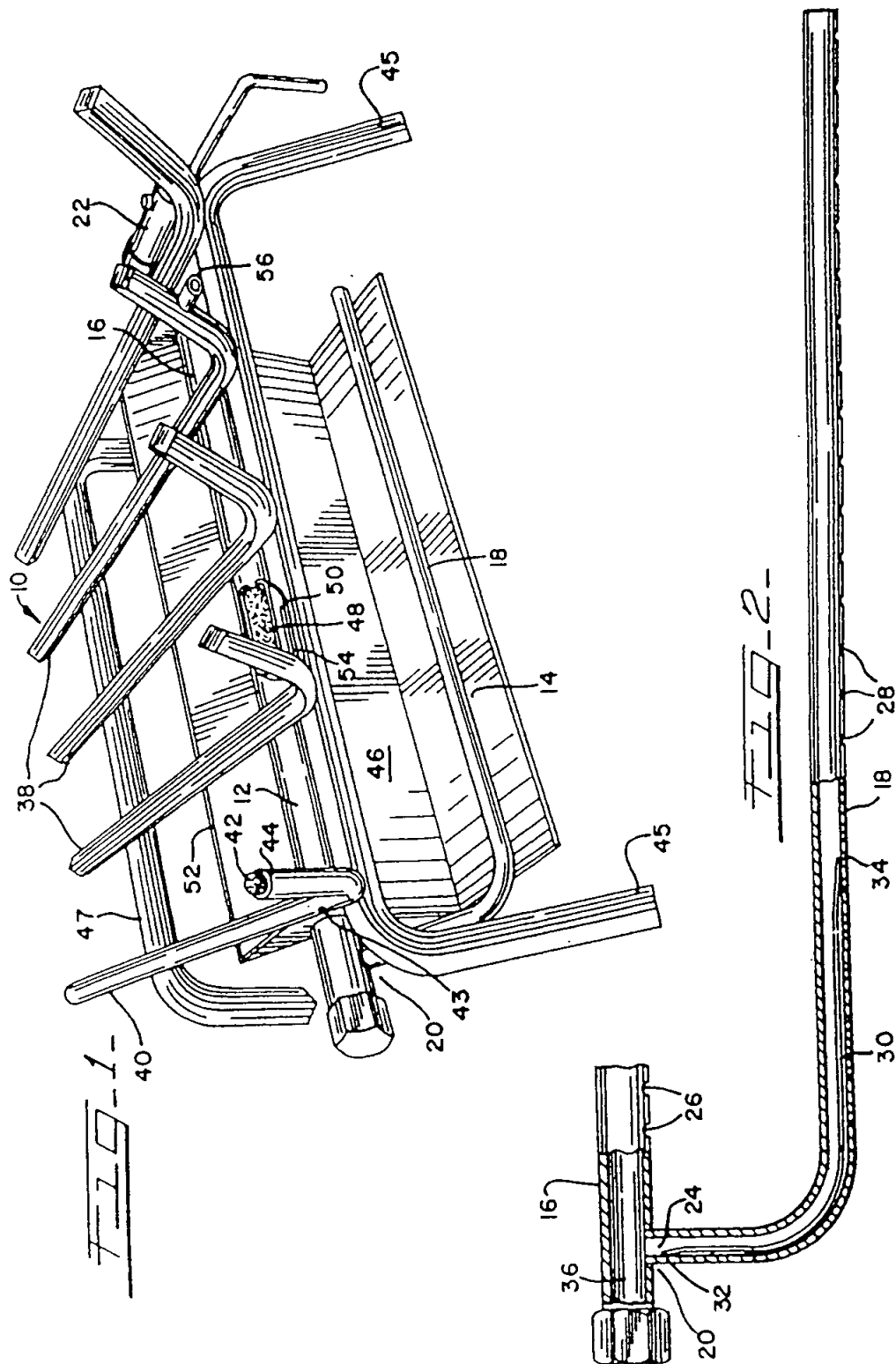


FIG. 3

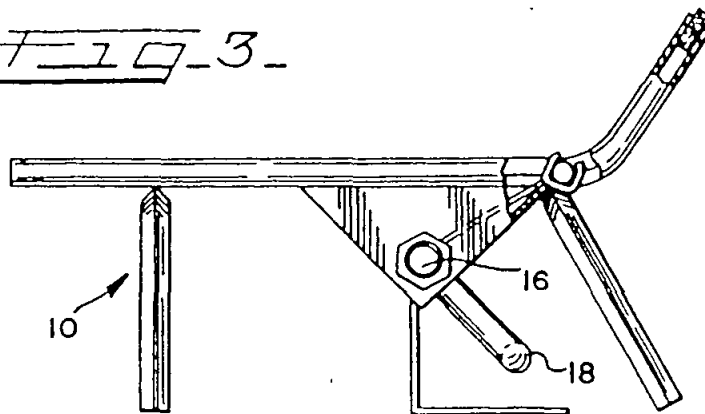
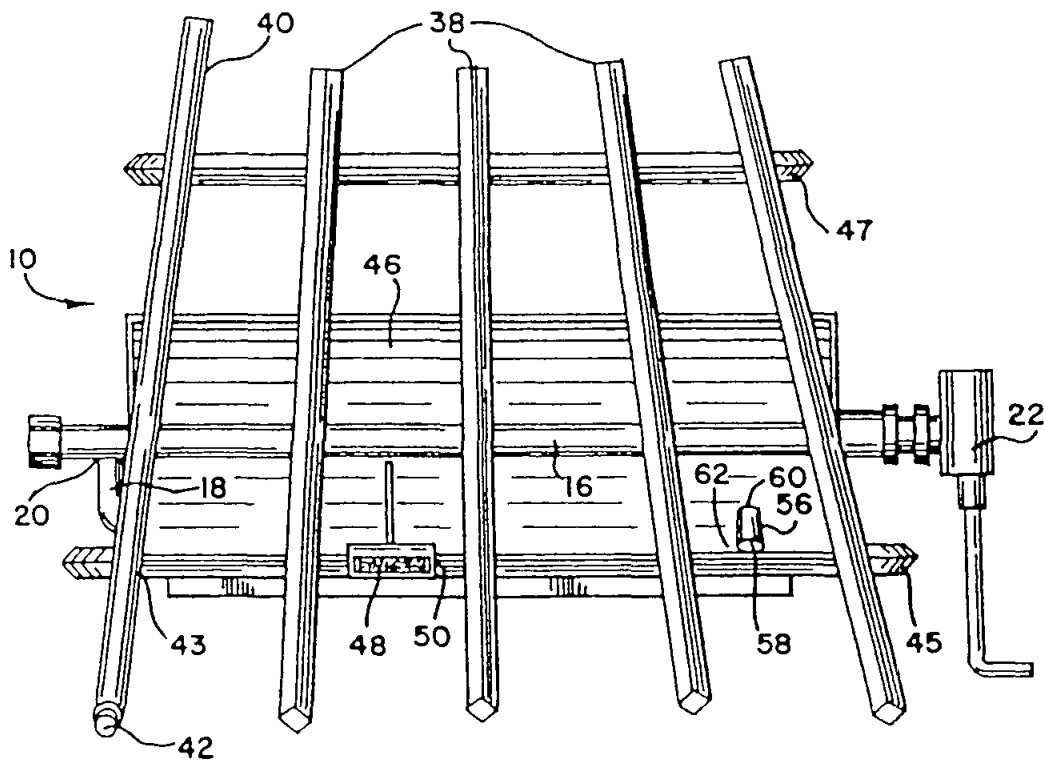


FIG. 4



GAS-FIRED ARTIFICIAL LOG BURNERS

RELATED APPLICATIONS

This application is a continuation-in-part application of Ser. No. 07/488,321, filed on Mar. 5, 1990, and abandoned as of the Oct. 30, 1990, filing date of this application.

DESCRIPTION

Technical Field

This invention relates to improvements in gas-fired burners for fireplaces. In particular, the invention relates to improvements in gas distribution in a lower burner tubular gas pipe, and to improvements in distributing the aromatic smoke products of scented sticks.

BACKGROUND OF THE INVENTION

Gas-fired burners for fireplaces are well-known. In a typical gas-fired burner, the device comprises an upper burner including an upper tubular gas pipe and a lower burner including a lower tubular gas pipe. One such prior art device is disclosed in our now abandoned U.S. patent application Ser. No. 221,680, filed in 1988. In this device, the upper and lower tubular gas pipes meet at a junction. Gas to the lower tubular gas pipe is fed through the upper tubular gas pipe and then through a regulatory orifice at this junction. This regulatory orifice is most preferably a #53 orifice, but can also be a #56 orifice. Both of these tubular gas pipes have a plurality of downwardly-facing, in-line orifices along their lengths.

The lower tubular gas pipe generally runs horizontally above and along the length of a fireplace grate. Silica sand is placed on that grate in amounts sufficient to completely cover the lower tubular gas pipe. As the pressurized gas is discharged from the lower pipe, it moves upwardly through channels in the sand created by the gas. After the gas is ignited, the resulting flames create, with the aid of artificial logs and other visual aids, the illusion of a conventional, wood-burning fireplace with glowing embers on the sand.

In the prior art device disclosed in our now abandoned application, the lower gas pipe includes approximately twenty-six (26) of these downwardly-facing, in-line orifices. Because these orifices are spaced on $\frac{1}{2}$ inch centers and are of approximately the same size, i.e., preferably #32, a disproportionately large amount of the gas entering the lower tubular gas pipe is discharged through the first $\frac{1}{2}$ or about seven (7) of these orifices. As a result, the amount of gas discharged through the remaining nineteen orifices is disproportionately low. Thus, the flames in the areas of the fireplace adjacent the downstream regions of the lower gas pipe are not as intense as those adjacent the upstream regions of that pipe. This imbalance in gas distributors detracts from the realism of the gas-fired fireplace.

Because it uses artificial logs, such gas-fired fireplaces do not emit the pleasing scents inherent in the burning of wood logs. Scented sticks that emit the aroma of burning wood upon heating are known in the art. However, there are no known suitable means for effectively circulating the odors from such scented sticks which may be used in conjunction with gas-fired fireplaces. As will become apparent, the present invention also solves this problem.

SUMMARY OF THE INVENTION

The present invention is an improvement in gas-fired burners for use with an artificial, gas-burning fireplace.

The invention includes an upper burner comprised of an upper tubular gas pipe, and a lower burner comprised of a lower tubular gas pipe. The upper and lower tubular gas pipes meet at a junction. At this junction, gas to the lower tubular gas pipe is fed from the upper tubular gas pipe. Each of these tubular gas pipes has downwardly-facing, in-line orifices distributed along their lengths. For improvement in gas distribution and more realistic flames simulating a wood burning fireplace, a metallic strip having a width approximately equal to the inner diameter is placed in the first lower tubular gas pipe. The metallic strip is secured at its lateral ends to the interior of the lower pipe, and extends from a point adjacent the junction to a point beyond approximately the first twenty-five to thirty-three percent (25-33%) of the in-line orifices in the lower tubular gas pipe.

In yet another embodiment, the gas burner includes a deflector band secured within the upper tubular gas pipe and adjacent to the junction. The deflector band curves upwardly to non-turbulently deflect gas within the upper tubular gas pipe into the lower tubular gas pipe for improved gas distribution.

In still another embodiment, the gas-fired burner further comprises a plurality of crossbars along its upper end. These crossbars are heated during use of the burner, and at least one of the crossbars is hollow. A scented stick is inserted into an open end of the hollow crossbar. Upon heating of the crossbar, the scented stick releases its aroma. Air within the hollow crossbar expands and escapes from the crossbar through its open end upon heating, thereby circulating the aromatic components of the scented stick.

Alternatively, the gas-fired burner may include a conventional and known V-shaped trough. Attached to this trough, however, for release of the aromatic elements of the scented stick is a novel and generally C-shaped carrier. Preferably, this carrier is secured adjacent the upper end of that trough where heat will cause it to smolder and smoke.

Accordingly, an object of the present invention is a device for ensuring more even release and distribution of natural gas or propane gas in gas-fired fireplaces. A further object is a means for more thorough circulation of the aromatic elements from a heat-actuated, scented stick.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a perspective view of a gas-fired burner for a fireplace in accordance with the invention;

FIG. 2 is a partial sectional view of a portion of an upper burner and the entire lower burner of the gas-fired burner of the present invention;

FIG. 3 is a side view, partially in section, of the gas-fired burner of FIG. 1; and

FIG. 4 is a top, perspective view of the gas-fired burner of FIG. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention relates to an improvement in a gas-fired burner for a fireplace. Although it may be best seen in FIG. 1, at least a portion of the gas-fired burner 10 of the present invention is shown in each of the figures. Referring now to FIG. 1, the gas-fired burner 10

comprises an upper burner 12 and a lower burner 14. The upper burner 12 includes an upper tubular gas pipe 16, and the lower burner 14 includes a lower tubular gas pipe 18. In a preferred embodiment, this upper tubular gas pipe 16 has an inner diameter of approximately $\frac{1}{2}$ inch and the lower tubular gas pipe 18 has an approximate inner diameter of $\frac{1}{4}$ inch.

Referring now to FIG. 2, the upper 16 and lower tubular gas pipes 18 meet at a junction 20. A source of natural or propane gas is supplied to the gas-fired burner 10 through a conventional gas supply valve 22. When opened, this gas supply valve 22 feeds the upper tubular gas pipe 16. Gas which is not discharged from the upper tubular gas pipe 16 moves towards junction 20, where it passes through a regulatory orifice 24. This regulatory orifice 24 controls the volume and pressure of gas being fed into the lower tubular gas pipe 18. In the present embodiment, this regulatory orifice 24 is either a #53 or a #56 orifice, and is most preferably a size #53 orifice.

Each of the tubular gas pipes 16 and 18 has downwardly-facing, in-line orifices along their lengths. In particular, upper tubular gas pipe 16 has at least five (5) orifices 26 spaced along centers of approximately 3 inches, and each of these orifices 26 is sized between #30 and #34, preferably #32. Similarly, lower tubular gas pipe 18 has twenty-six (26) orifices 28 spaced along centers of approximately $\frac{3}{4}$ inch, and each orifice 28 is also sized at between #30 and #34, preferably #32.

The improvement in the present invention comprises a metallic strip 30 having a width of approximately $\frac{1}{4}$ inch, i.e., a width approximately equal to or somewhat less than the inner diameter of the lower tubular gas pipe 18. In the embodiment shown in FIG. 2, the metallic strip 30 is secured within the lower tubular gas pipe 18, but substantially offset from its axial center. For this reason, the metallic strip 30 can have a width that is less than the inner diameter of gas pipe 18.

In the FIG. 2 embodiment, the sides of the metallic strip 30 along the entire length of that strip 30 abut against the adjacent inner walls of the pipe 18. In addition, the lateral ends 32 and 34 of this metallic strip 30 are secured to the inner walls of that lower pipe 18. The metallic strip 30 itself extends from a point adjacent the junction 20 to a point beyond approximately the first twenty-five to thirty-three percent (25-33%) of the in-line orifices 26 in the lower tubular gas pipe 18. In the FIG. 2 embodiment, lateral end 34 of this metallic strip 30 is secured to the inner wall of lower pipe 18 at a point just beyond the seventh in-line orifice 26.

With this arrangement of metallic strip 30 along the inner walls of the lower pipe 18, most of the gas entering the lower pipe 18 through the regulatory orifice 24 will flow above that strip 30, moving beyond these first seven (7) orifices 26 to the remaining nineteen (19) downstream orifices. However, even though the edges of the strip 30 closely abut the pipe 18, gaps between the strip 30 and pipe 18 result from the imperfections in their surfaces and shapes. An amount of gas sufficient to fuel the first seven (7) orifices 26 of the lower gas pipe 18 passes through these gaps. In fact, it has been found in practice that the gaps between the typical flat metallic strip 30 and the typical $\frac{1}{4}$ inch pipe, when oriented as shown in FIG. 2, result in a much more proportionally correct gas distribution as compared to gas-fired burners without such a metallic strip 30. It will be understood by those skilled in the art, however, that there are variations in the interior surfaces of pipes, and in the

trueness of edges of metallic strips. For this reason, it will also be understood by those skilled in the art that the metallic strip 30 may also be placed closer to the axial center of the lower pipe 18, if such placement should improve distribution in a given circumstance.

It has also been discovered by the inventors that a deflector band 36 made of the same material as metallic strip 30 is useful in reducing turbulence and directs the gas from upper tubular gas pipe 16 to lower tubular gas pipe 18. This reduction in turbulence and redistribution in the upper tubular gas pipe 16 is believed to result in a smoother, more controlled emission of gas from the orifices 28 of lower tubular gas pipe 18. The deflector band 36 is secured within the upper tubular gas pipe 16, and adjacent the junction 20. The deflector band 36 curves upwardly, and non-turbulently deflects gas within the upper tubular gas pipe 16 into the lower tubular gas pipe 18.

The burner also has a plurality of crossbars 38 along its upper end, including at least one hollow crossbar 40. These crossbars 38 and 40 are heated during use of the burner. A scented stick 42 may be inserted into an open end 44 of the hollow crossbar 40. Where the burner pan, containing simulated wood and ashes, is welded to front 45 or rear support elements 47, a horizontally-disposed orifice 43 of $\frac{5}{16}$ inch in diameter is drilled through the hollow crossbar 40, at the approximate position shown in FIG. 4. The center of this orifice 43 is about $\frac{1}{4}$ inch forward of the front of a V-shaped trough 46, which will be described in more detail below. In this way, flames from the burner rise past the orifice 43 to ignite the scented stick 42, a portion of which is typically adjacent this orifice 43. As the scented stick 42 is heated to a smoldering temperature, it releases its aromatic components. Typically, these aromatic components smell like hardwoods or other aromatic woods used in conventional wood burning fireplaces.

Where the burner pan, containing simulated wood or ashes, is not secured to the support elements 45 and 47 or grate, then three (3) $\frac{5}{16}$ inch horizontal orifices (not shown) are provided, rather than one orifice. These orifices are located in the crossbar 40 between the front 45 and rear support elements 47. They are positioned 1 inch, 2 inches, and 3 inches inward of the intersection of the crossbar 40 and the front support element 45.

As air within this hollow crossbar 40 is heated, it expands and exits through the open end 44 of that crossbar 40. That expanding, exiting air circulates the aromatic components of the scented stick 42 throughout the room.

The gas-fired burner of the invention may also include a conventional V-shaped trough 46. As yet another means of circulating the aromatic components of a scented stick 48, this V-shaped trough may include a generally C-shaped carrier 50 adjacent its upper end 52. The scented stick 48 may be inserted into this C-shaped carrier by bending one of its arms 54 outwardly. This bending increases the effective diameter of the C-shaped carrier 50, permitting easy insertion of the scented stick 48. After insertion of the scented stick 48, the arm 54 may be released so that it may reassume its original position and securely grip scented stick 48.

A further aspect of the invention is a generally elongated igniter 56. In this embodiment, the igniter 56 is secured near the upper end of one side of the V-shaped trough 46. In the most preferred embodiment, this igniter is made from a generally flat piece of metal that is rolled into an elongated shape having two generally

oval-shaped ends 58 and 60. A gap 62 having a width of $\frac{1}{4}$ inch extends along the length of this igniter 56. In the preferred embodiment, the first oval-shaped end 58 extends out from the sand which typically covers the gas-fired burner 10.

In lighting a conventional gas-fired burner, one generally must use a long match and stand well away from the burner itself. The head of the match would be placed near the orifices 26 of the upper tubular gas pipe 16. As a result, the ignition of the gas in such conventional burners could be sudden and startling. With the present igniter, the need to use such a long match is eliminated. Rather, a conventional match may be placed adjacent the first end 58 of the igniter 56. Gas being released from orifices 26 diffuses through the sand and towards the second end 60. Shortly after reaching this second end 60, the gas is ignited by the flame from the conventional match. This ignition takes place in a more controlled manner than with prior gas-fired burners.

In another embodiment, the first end of the igniter may be circular in shape, and the second end may be oval-shaped. In this second embodiment, the igniter does not utilize a gap.

While the specific embodiments have been illustrated and described, numerous modifications come to mind without markedly departing from the spirit of the invention. The scope of protection is thus only intended to be limited by the scope of the accompanying claims.

What I claim is:

1. In a gas-fired burner for a fireplace, an upper burner comprised of an upper tubular gas pipe and a lower burner comprised of a lower tubular gas pipe, said upper and lower tubular gas pipes meeting at a junction, wherein gas to said lower tubular gas pipe is fed through said upper tubular gas pipe, and wherein each of said tubular gas pipes has downwardly-facing, in-line orifices along their lengths, the improvement comprising a metallic strip having a width approximately equal to the inner diameter of said lower tubular gas pipe, said metallic strip secured at its ends across its width to the interior of said lower pipe, and extending from a point adjacent said junction to a point beyond approximately the first twenty-five to thirty-three percent (25-33%) of said in-line orifices in said lower tubular gas pipe, said metallic strip thereby causing a substantial portion of said gas to said lower tubular gas pipe to avoid said first 25-33% of said in-line orifices.

2. The gas-fired burner of claim 1, further comprising a deflector band secured within said upper tubular gas pipe and adjacent said junction, said deflector band curving upwardly to non-turbulently deflect gas within said upper tubular gas pipe into said lower tubular gas pipe.

3. The gas-fired burner of claim 1, further comprising a plurality of crossbars along its upper end, whereby said crossbars are heated during use of said burner, at least one of said crossbars being hollow to permit the insertion therein of a scented stick, whereby said scented stick releases its aroma upon heating, and whereby said aroma is circulated by air that is heated within said hollow crossbar, and exiting from an open end of said hollow crossbar.

4. The gas-fired burner of claim 1, further comprising a V-shaped trough, said V-shaped trough having a generally C-shaped carrier adjacent its upper end for the insertion of a scented stick.

5. In a gas-fired burner for use in a fireplace, said burner having a plurality of crossbars along its upper end, said crossbars being heated during use of said

burner, the improvement comprising at least one of said crossbars being hollow to permit the insertion therein of a scented stick, whereby said scented stick releases its aroma upon heating, and whereby said aroma is circulated by air that is heated within said hollow crossbar, and exiting from an open end of said hollow crossbar.

6. In a gas-fired burner for use in a fireplace, said burner having a V-shaped trough, the improvement comprising a generally C-shaped carrier secured to the upper end of said V-shaped trough for the insertion of a scented stick.

7. In a gas-fired burner for a fireplace, an upper burner comprised of an upper tubular gas pipe and a lower burner comprised of a lower tubular gas pipe, said upper and lower tubular gas pipes meeting at a junction, wherein gas to said lower tubular gas pipe is fed through said upper tubular gas pipe, and wherein each of said tubular gas pipes has downwardly-facing, in-line orifices along their lengths, the improvement comprising a metallic strip having a width approximately equal to the inner diameter of said lower tubular gas pipe, said metallic strip secured at its ends across its width to the interior of said lower pipe, and extending from a point adjacent said junction to a point beyond approximately the first twenty-five to thirty-three percent (25-33%) of said in-line orifices in said lower tubular gas pipe, and further comprising a deflector band secured within said upper tubular gas pipe and adjacent said junction, said deflector band curving upwardly to non-turbulently deflect gas within said upper tubular gas pipe into said lower tubular gas pipe.

8. In a gas-fired burner for a fireplace, an upper burner comprised of an upper tubular gas pipe and a lower burner comprised of a lower tubular gas pipe, said upper and lower tubular gas pipes meeting at a junction, wherein gas to said lower tubular gas pipe is fed through said upper tubular gas pipe, and wherein each of said tubular gas pipes has downwardly-facing, in-line orifices along their lengths, the improvement comprising a metallic strip having a width approximately equal to the inner diameter of said lower tubular gas pipe, said metallic strip secured at its ends across its width to the interior of said lower pipe, and extending from a point adjacent said junction to a point beyond approximately the first twenty-five to thirty-three percent (25-33%) of said in-line orifices in said lower tubular gas pipe, and further comprising a V-shaped trough, said V-shaped trough having a generally C-shaped carrier adjacent its upper end for the insertion of a scented stick.

9. A combination grate and burner including a scent holder for holding a scented stick, said scent holder comprising at least one hollow crossbar forming part of said grate, said crossbar having at least one orifice, said hollow crossbar being heated during use of said burner, whereby flames from said burner rise past said orifice to ignite said scented stick.

10. The scent holder of claim 9, wherein said hollow crossbar is secured to front, and rear support elements of said combination grate and burner, and wherein said hollow crossbar includes one orifice adjacent said front support element.

11. The scent holder of claim 9, wherein said hollow crossbar is secured to front and rear support elements of said combination grate and burner, and wherein said hollow crossbar includes a plurality of orifices between said front and rear support elements of said combination grate and burner.

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[54] GAS BURNER ASSEMBLY INCLUDING
EMBERIZING MATERIAL

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[21] Appl. No.: 668,031

[22] Filed: Mar. 12, 1991

[51] Int. Cl.³ F24C 3/00

[52] U.S. CL 126/512; 126/92 R

[58] Field of Search 431/125; 126/512, 92 R

[56]

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4,890,601 1/1990 Potter .

4,940,407 7/1990 Rehberg et al. .

4,976,253 12/1990 Beal et al. 126/92 R

Primary Examiner—Carroll B. Dority

Attorney, Agent, or Firm—Hoffmann & Baron

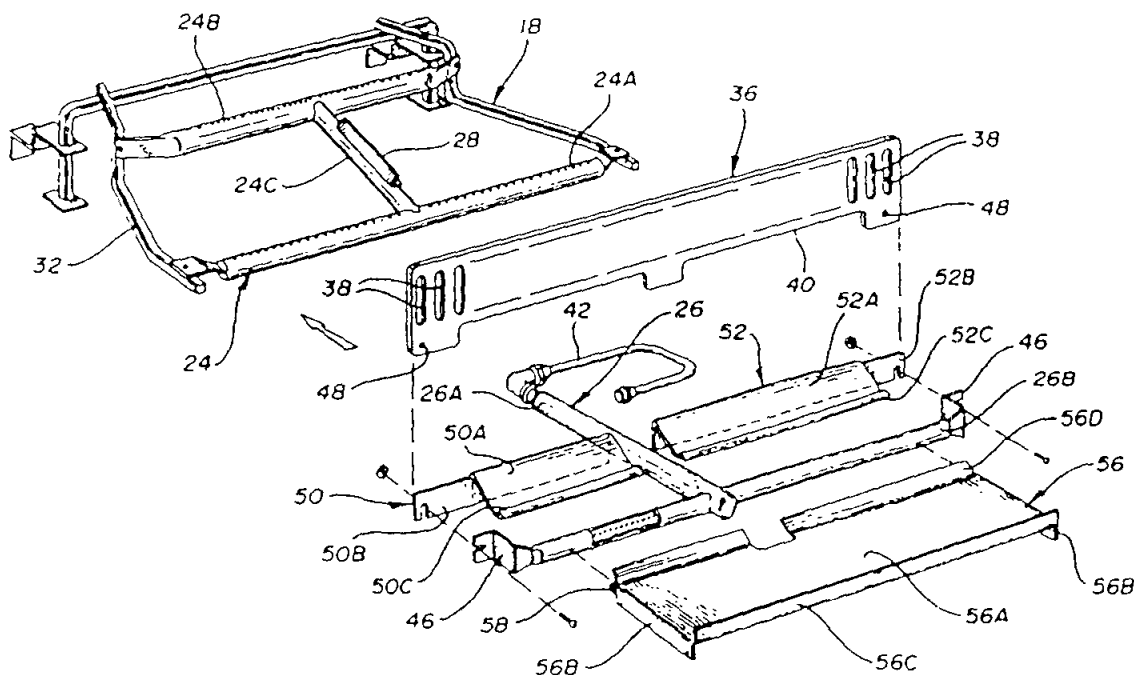
[57]

ABSTRACT

An assembly is disclosed for enhancing the aesthetics of

a gas fireplace. The assembly includes an elongated burner tube which is laterally disposed within the combustion chamber of the fireplace and which includes discharge ports which are inwardly oriented with respect to the combustion chamber. A tray adjoins the front side of the burner tube and may support lava rocks or the like for hiding the burner tube from view. A gap is defined between the floor of the combustion chamber and the bottom surface of the tray so that secondary air can travel from the front end of the combustion chamber towards the burner tube. A support adjoins the rear side of the burner tube and includes an inclined surface facing the burner tube. An emberizing material such as mineral wool is supported by the inclined surfaces. Ignition of the burner tube causes flames to be directed rearwardly and to impinge upon the emberizing material, causing it to glow. The orientation of the emberizing material with respect to the combustion chamber provides a large glowing surface. The burner tube and support are both adapted to be secured to a grate which is used for supporting an artificial log set.

18 Claims, 6 Drawing Sheets



EXHIBIT

D-9

000117

FIG-1

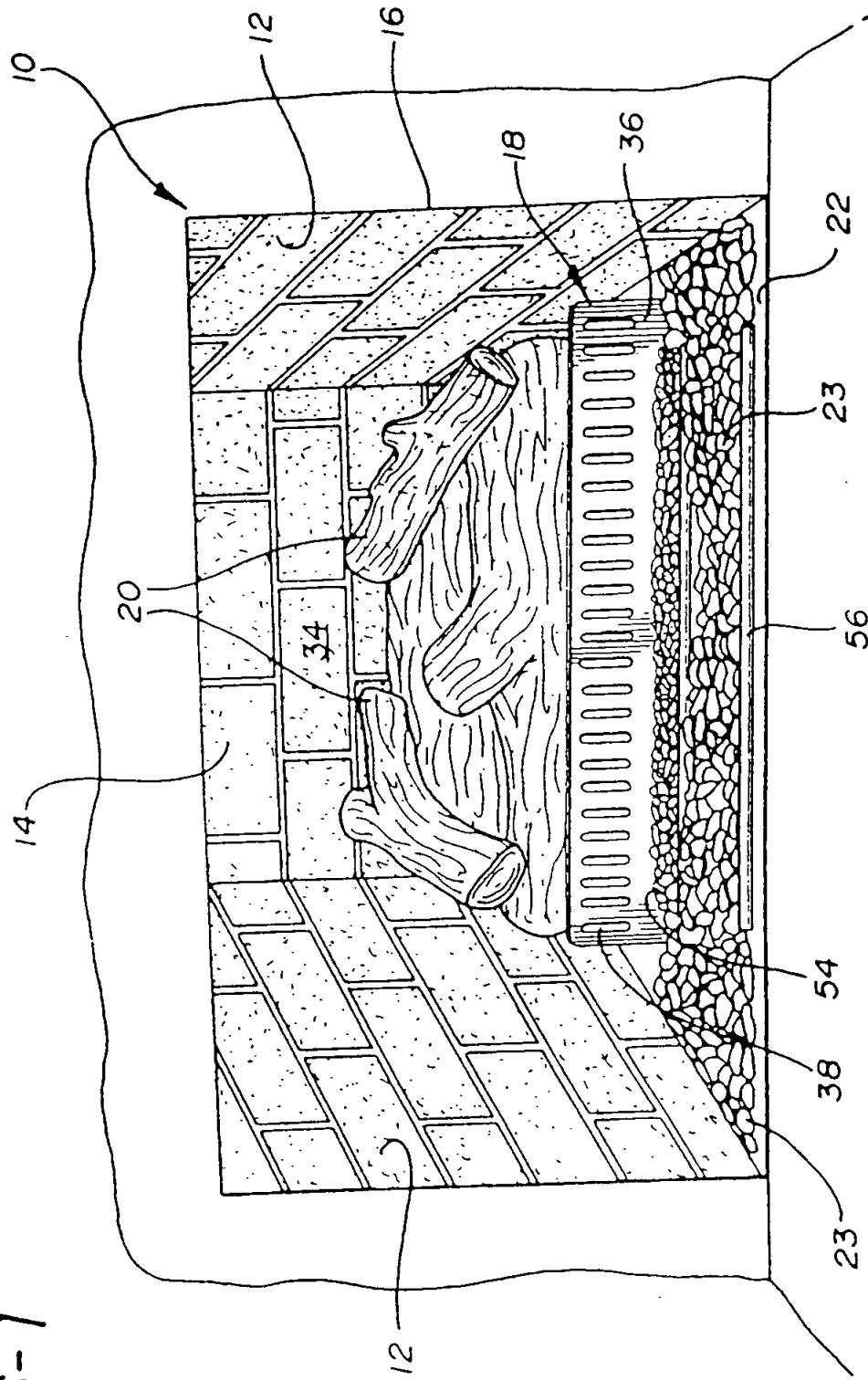


FIG-2

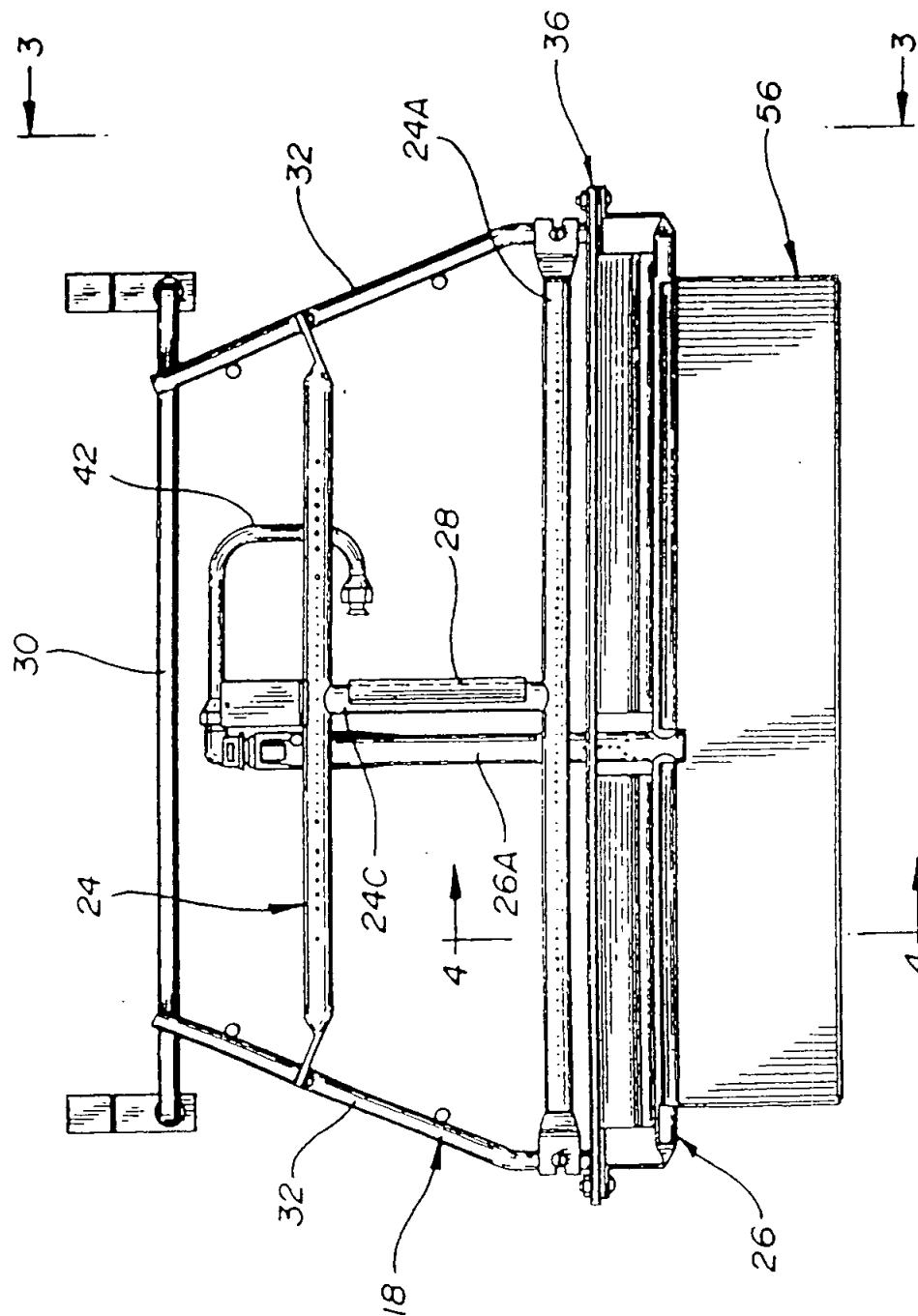


FIG-3

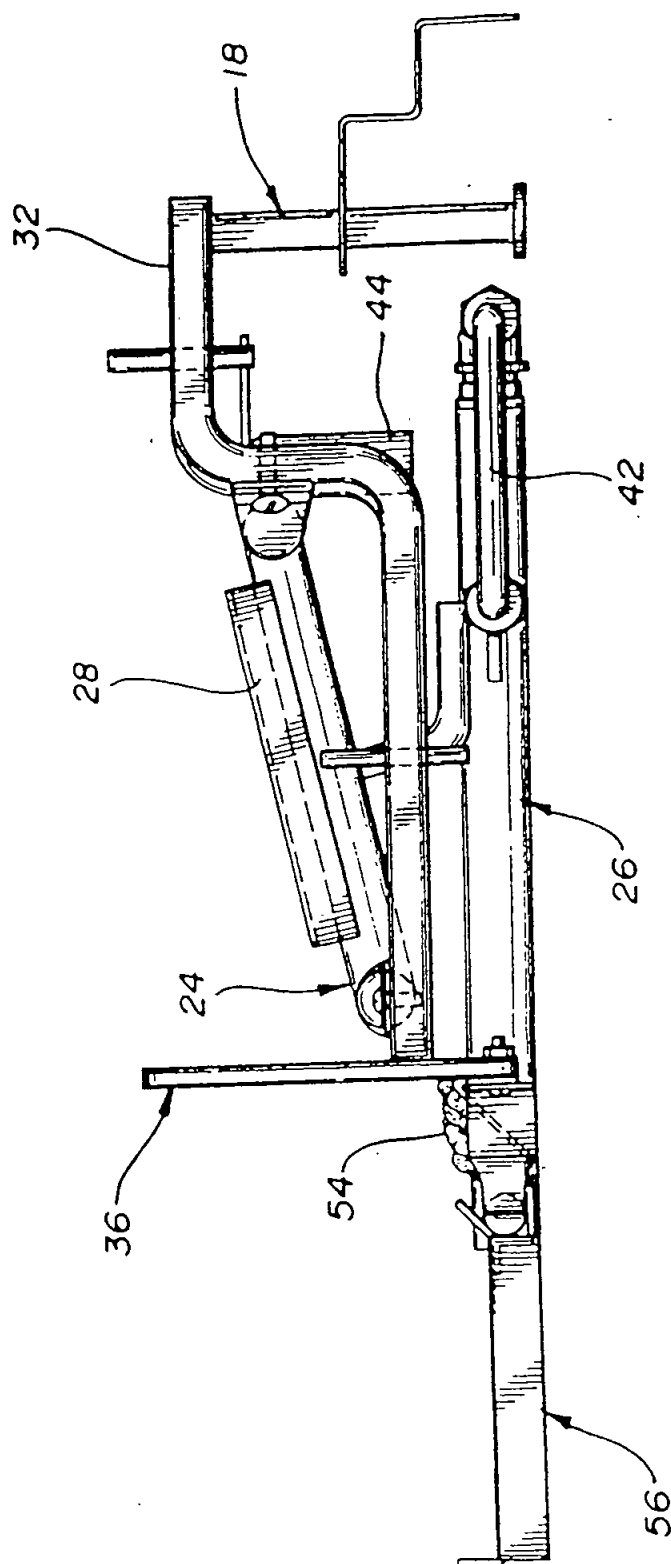


FIG-4

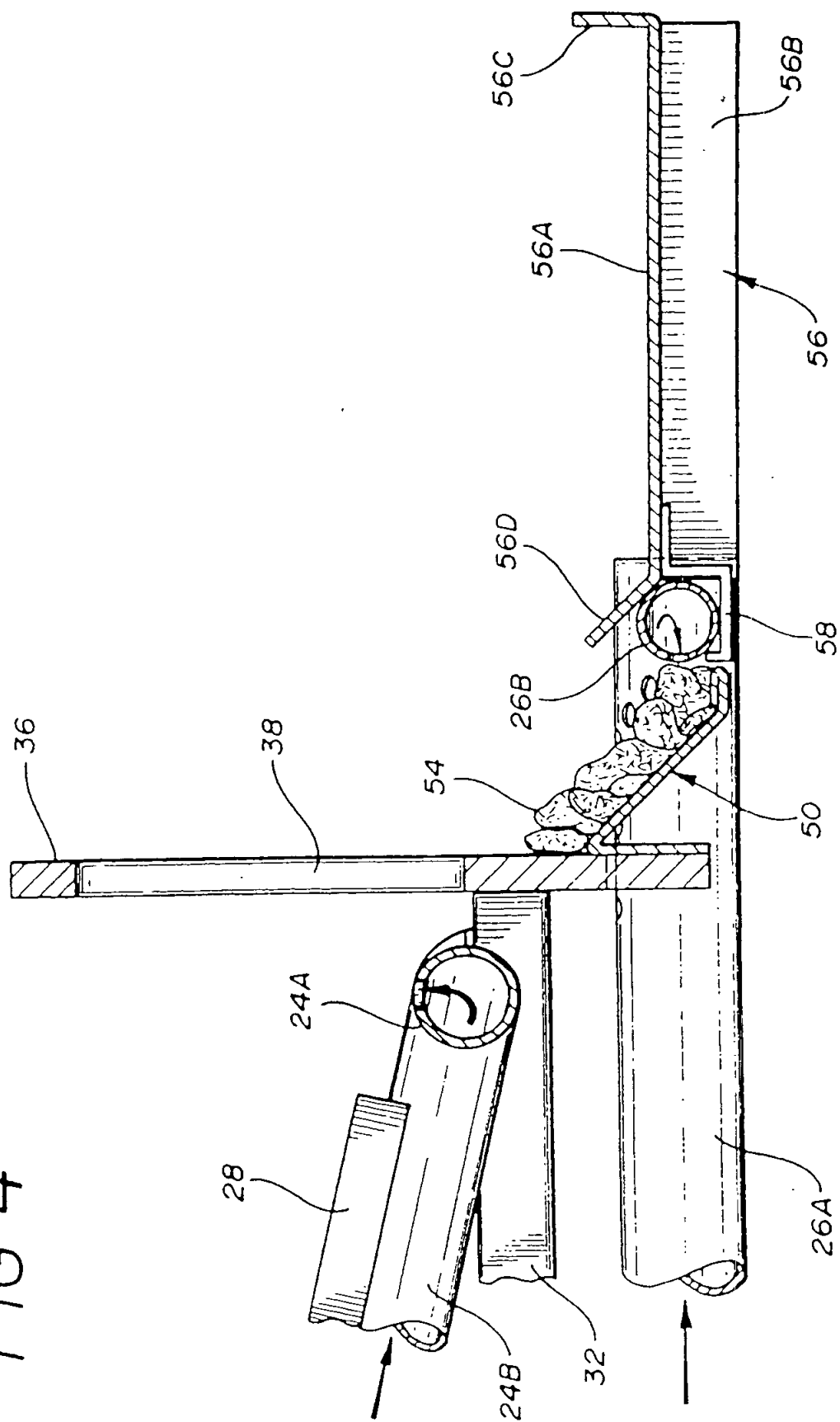


FIG-5

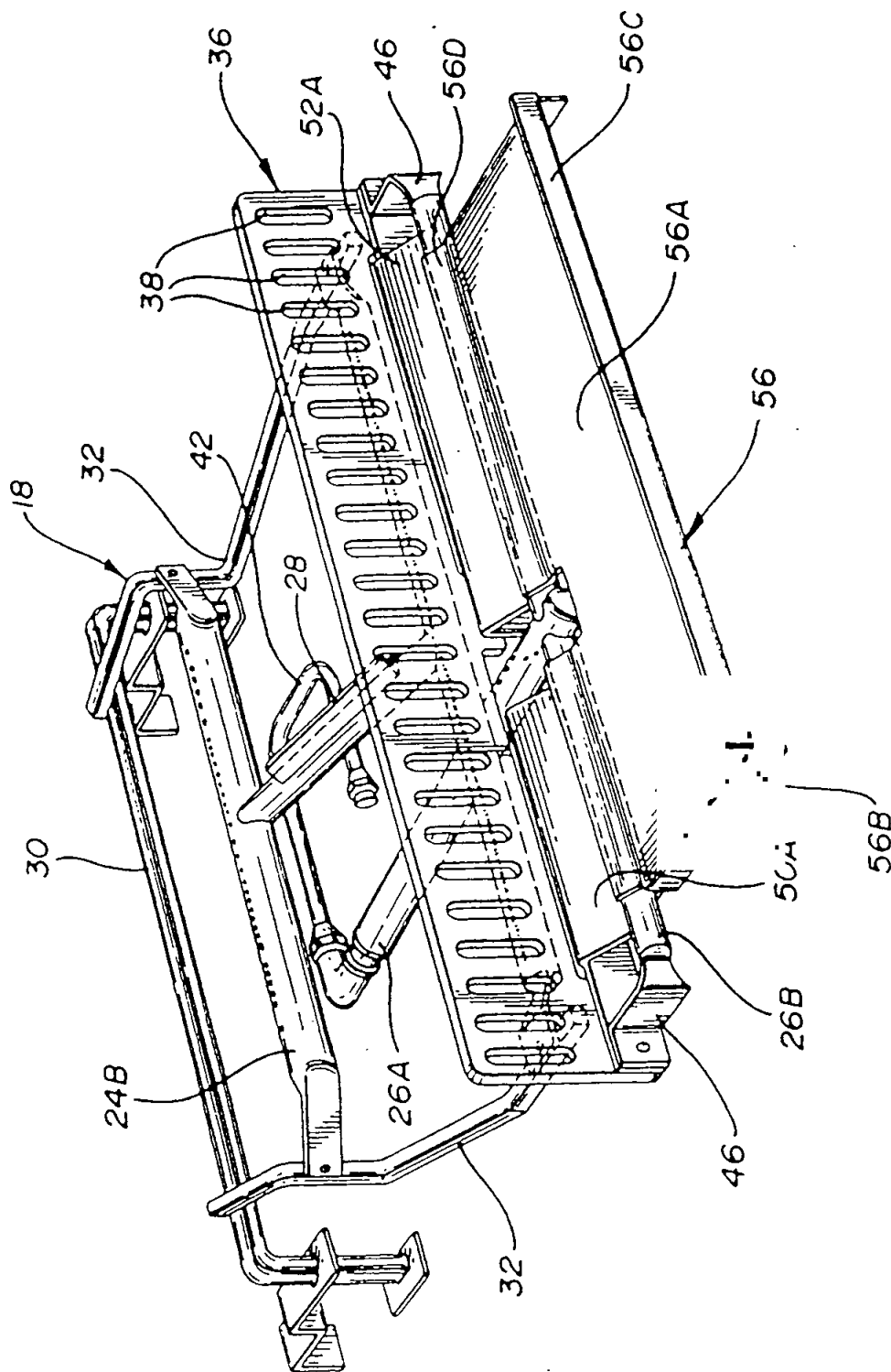
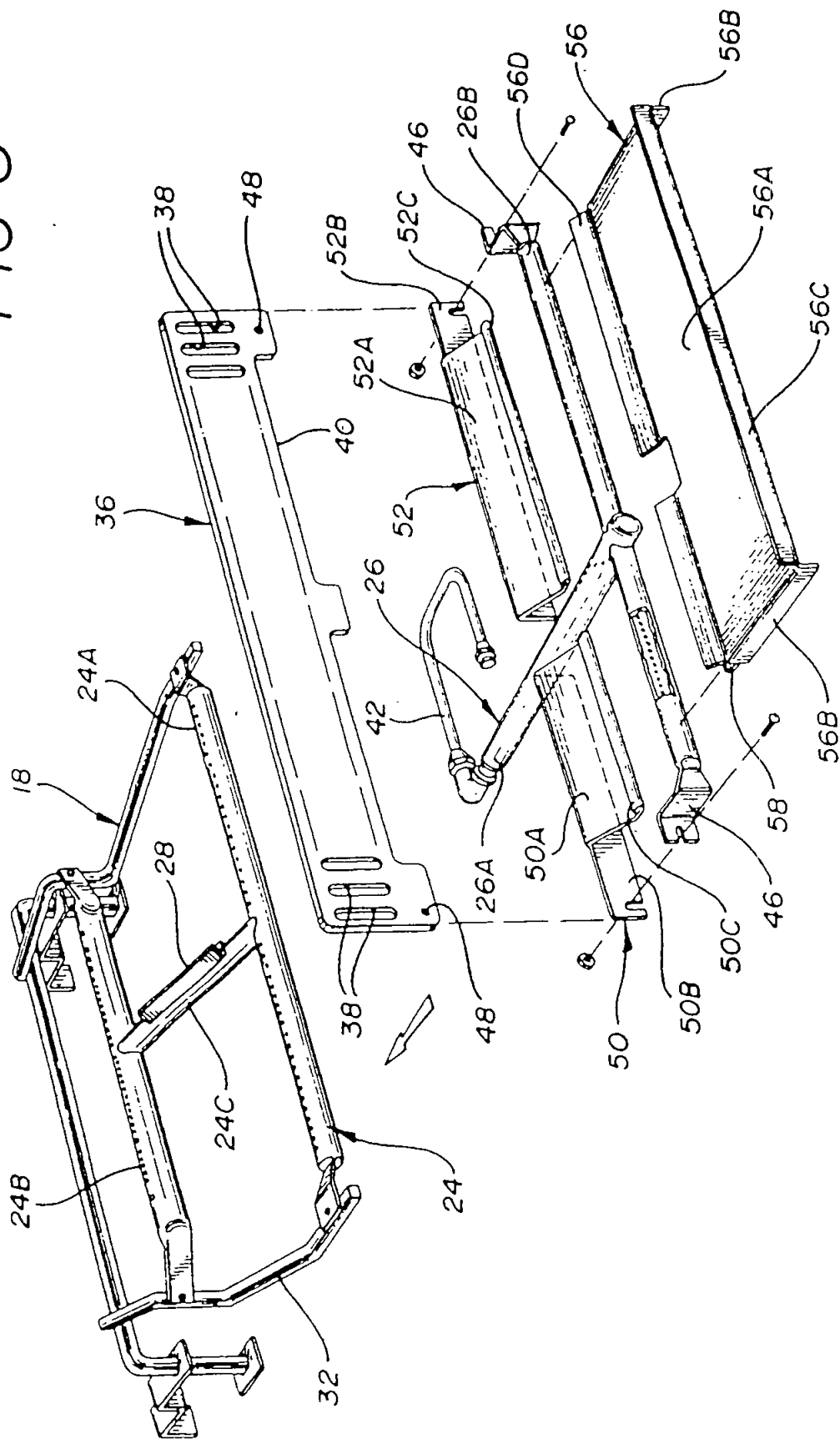


FIG-6



GAS BURNER ASSEMBLY INCLUDING EMBERIZING MATERIAL

BACKGROUND OF THE INVENTION

1. Field of the Invention

The field of the invention relates to gas burners and gas burning fireplaces including means for enhancing the aesthetic effects of the flames produced thereby.

2. Brief Description of the Related Art

Gas burning fireplaces are now commonly used in lieu of natural wood burning fireplaces. They are much easier to start, require almost no cleaning, and can be constructed so as to operate in an environmentally sound manner.

The generation of a natural looking fire in a gas fireplace is almost always one of the paramount objectives. For example, yellow flames are preferred over unnatural looking blue flames. U.S. Pat. No. 4,976,253 discloses a gas fireplace which is capable of producing such yellow flames.

In addition to the flames themselves, the areas of a gas fireplace beneath and surrounding the artificial log sets used therein must also appear to be natural. Several approaches have been taken for producing the effects of glowing embers adjacent to the log sets. U.S. Pat. Nos. 4,328,485, 4,890,601 and 4,940,407 disclose the use of rock wool in conjunction with gas burners for producing such effects. As discussed in U.S. Pat. No. 4,940,407, the rock wool may be doped to convert the blue coloration of a gas flame to a more natural yellow-orange color. Mineral wool has also been placed over steel wire mesh and directly on the gas burner in attempts to produce a glowing effect.

SUMMARY OF THE INVENTION

It is an object of the invention to provide a gas burner assembly which, when used in conjunction with an artificial log set, provides the appearance of a natural wood fire.

It is another object of the invention to provide such an assembly which is easily constructed and easily positioned within the combustion chamber of a fireplace.

A still further object of the invention is to provide a fireplace assembly which includes a gas burner assembly and an artificial log set positioned within a combustion chamber, and including means for generating a fire which closely resembles a natural wood fire.

In accordance with these and other objects of the invention, an assembly is provided which includes a burner tube, a tray adjoining one side of the burner tube, and a support including an inclined surface adjoining the opposite side of the burner tube. The burner tube includes a plurality of discharge ports oriented towards the inclined surface. Mineral wool placed upon the inclined surface provides a relatively large, glowing surface when the burner tube is operated. The assembly is preferably installed in a fireplace such that the inclined surface faces the front of the fireplace, thereby allowing the glowing mineral wool to easily be seen. The tray is adapted for supporting lava rocks or the like. It also provides a gap between the bottom surface thereof and the floor of the fireplace in which it is installed. Secondary combustion air may be drawn through the gap to the burner tube.

A gas fireplace is also provided in accordance with the invention. The fireplace includes a combustion chamber within which an assembly as described above

is positioned for enhancing the aesthetics thereof. A grate is positioned within the combustion chamber. An artificial log set is supported by the grate. The burner tube and support are both secured to the grate. A main burner assembly may also be supported by the grate. The main burner assembly provides the flames which extend about and through the artificial log set.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front perspective view of a fireplace assembly according to the invention;

FIG. 2 is a top plan view of a burner assembly according to the invention in conjunction with a grate and main burner assembly;

FIG. 3 is a side elevation view thereof;

FIG. 4 is a partially sectional, elevation view of the front portion of the assembly shown in FIG. 3;

FIG. 5 is a top perspective view of the assembly shown in FIG. 2; and

FIG. 6 is an exploded, top perspective thereof.

DETAILED DESCRIPTION OF THE INVENTION

A fireplace assembly 10 including vertical side walls 12, a rear wall 14, a front opening 16, a grate 18, and an artificial log set 20 is shown in FIG. 1. The floor 22 of the fireplace supports the grate 18 and a plurality of lava rocks 23 or the like. The assembly 10 is designed to provide a realistic appearance whether in use or not.

Referring to FIGS. 2-6, a main gas burner assembly 24 and a second gas burner assembly 26 are mounted to the grate 18. The main gas burner includes a pair of parallel burner tubes 24A, 24B which are connected near their respective midpoints by a third burner tube 24C. Such a burner is disclosed in U.S. Pat. No. 4,976,253. The burner 24 is arranged with respect to the log set 20 such that flames are produced towards the front of the log set by the front burner tube 24A and between the logs of the log set by the rear burner tube 24B. The discharge ports of the third burner tube 24C are covered by a shield 28.

The grate 18 includes a rear support 30 and a pair of forwardly diverging braces 32 secured thereto. It is positioned upon the floor 22 of the combustion chamber 34 of the fireplace assembly such that the front and rear burner tubes 24A, 24B are substantially parallel to the front opening 16. The grate may include an elongated front plate 36 having a row of slotted openings 38 formed therein. The bottom of the plate 36 includes a pair of recesses 40 for admitting air to the region beneath the burner tubes 24A, 24B, 24C.

The second gas burner assembly 26 includes a first burner tube 26A which extends towards the front opening 16 of the fireplace and a second burner tube 26B which is joined thereto. The assembly accordingly has a generally "T-shaped" configuration. The second burner tube may actually be comprised of a pair of tubes, each of which is in fluid communication with the first burner tube 26A. One of the pair of tubes is shorter than the other so that the first burner tube 26A of the second gas burner assembly does not interfere with the third burner tube 24C of the main burner assembly when assembled to the grate 18. The burner assemblies may be constructed differently if assembled to different types of grates or with burner assemblies having different configurations.

A generally U-shaped inlet tube 42 is joined to the first burner tube 26A. This tube may be connected to a gas source (not shown) which supplies one or both burner assemblies. Ignition means 44 are provided for igniting the gas within the main burner assembly 24, either electrically or manually. The gas flowing from the discharge ports of the second burner assembly 26 is ignited upon ignition of the main burner assembly. Gas is supplied to the main burner assembly 24 at the midpoint of the bottom surface of the third tube 24C.

As best shown in FIGS. 5 and 6, each end of the burner tube 26B is closed. An L-shaped bracket 46 is formed at each of these ends, and includes a notch through which a screw can be inserted. The notches can be aligned with a pair of threaded openings 48 in the plate 36. The brackets create a space between the plate 36 and the burner tube 26B.

A pair of supports 50, 52 are positioned in the space between the plate 36 and the burner tube 26B. Each support includes an inclined wall 50A, 52A which is capable of supporting a covering of emberizing material such as mineral wool 54. (See FIG. 4). The supports further include vertical walls 50B, 52B which are integral with the respective inclined walls 50A, 52A. Each vertical wall includes a notched end portion which can be aligned with the notched brackets 46 and the openings 48 in the grate plate 36. A pair of integral, horizontal walls 50C, 52C extend, respectively, from the lower ends of the inclined walls 50A, 52A. Neither the vertical walls nor the horizontal walls of the respective supports completely blocks the elongate openings defined by the recesses 40 when the supports are secured to the plate 36. The flow of air from beneath the plate 36 to the main burner assembly 26 accordingly is not completely impeded.

A tray 56 is positioned in adjoining relation to the burner tube 26B. The tray includes a horizontal portion including a substantially flat, horizontal surface 56A which is supported by a pair of vertical walls 56B. A flow channel is accordingly defined by the floor 22 of the fireplace assembly, the horizontal portion of the tray, and the pair of opposing vertical walls 56B when the tray is placed on the floor of the combustion chamber.

A vertically extending front wall 56C formed integrally with the tray 56 defines the front end of the tray. The rear end thereof includes a rearwardly inclined wall 56D. A pair of brackets 58 are secured to the bottom surface of the tray. Each bracket includes a substantially horizontal portion 58A which is located beneath and in opposing relation to the inclined wall 56D. As shown in FIG. 4, the laterally extending burner tube 26B of the second burner assembly is supported by the horizontal portions 58A of the brackets 58. Most of this tube is positioned beneath the inclined wall 56D, which protects it from drafts.

The burner tube 26B includes a plurality of discharge ports which are oriented upwardly towards the mineral wool 54 at about a thirty degree angle from the vertical plane. The discharge ports of the main burner tubes 24A, 24B are oriented substantially vertically.

In operation, the main burner assembly provides two walls of flames, one from each of the laterally extending burner tubes 24A, 24B. These flames are formed in front of and in the middle of the log set 20. Air is not pre-mixed with the gas flowing through the main burner assembly.

In a preferred embodiment of the invention, gas is injected under about 3.5 inches w.c. (water column) pressure through a 0.059 inch diameter orifice which pulls air into the second burner assembly 26. The mixture is introduced into the first burner tube 26A thereof from where it spreads into the left and right transversely extending tubes which comprise the second burner tube 26B. Ignition of the main burner assembly 24 causes the ignition of the second burner assembly 26 as flames spread therefrom to the discharge ports in the front end of the first burner tube 26A and/or those within the second burner tube 26B.

As discussed above, the discharge ports within the transversely extending tube 26B are oriented towards the inside of the fireplace assembly. They may also have diameters of about 0.042 inches. Secondary air is supplied through the gap between the floor 22 and the tray 56, and flows under this burner tube 26B and along the flame jets. Sufficient pre-mix and the supply of secondary air creates a stream of a very clean-combustible gases, which are discharged directly upon the surface of the mineral wool 54. Because of the flow pattern provided, and the relatively hot temperature of the flue gases, which is sustained due to a lack of cooling air as well as slow heat dissipation in the area of the second burner tube 26B and mineral wool 54, the glowing surface area is relatively large both in height and width. In addition, because the glowing surface is oriented towards the viewer, the glowing surface appears to be even larger. The parallel flow of secondary air further enhances the glowing appearance which is provided.

The second burner assembly and associated supports and tray can be installed separately for use with gas logs or as part of the burner assembly of a conventional gas fireplace. The various components may be configured differently for adaptation to various fireplaces, log sets, and/or burner assemblies. This mineral wool 54 may be crimped to the respective supports 50, 52 or secured in an alternative manner. For example, the wool may be adhered to a pair of V-shaped members by a non-combustible adhesive. The V-shaped members are then secured mechanically or by an adhesive to the respective supports.

Although illustrative embodiments of the present invention have been described herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to those precise embodiments, and that various other changes and modifications may be effected therein by one skilled in the art without departing from the scope or spirit of the invention.

What is claimed is:

1. An assembly for enhancing the aesthetics of a gas fireplace comprising:

an elongated burner tube including a plurality of discharge ports,

a tray having a rear end and a front end, the rear end of said tray including a rear wall adjoining one side of said burner tube, said tray supporting a plurality of lava rocks; and

a support independently of said tray adjoining the opposite side of said burner tube, said support including an inclined surface adapted for supporting mineral wool or the like, the discharge ports of said burner tube being oriented generally towards the inclined surface of said support.

2. An assembly as described in claim 1 wherein said inclined surface is substantially coextensive with the length of said burner tube.

3. An assembly as described in claim 2 including mineral wool emberizing material positioned upon said inclined surface, said mineral wool being substantially coextensive with the length of said burner tube.

4. An assembly as described in claim 1 wherein said tray includes a top wall and a pair of legs for supporting said top wall.

5. An assembly as described in claim 1 wherein said rear wall of said tray is an inclined wall extending over at least a portion of said burner tube.

6. An assembly as described in claim 1 wherein said burner tube includes a pair of laterally extending flanges extending from the respective ends thereof, and said support includes a pair of laterally extending flanges adjoining the laterally extending flanges of the burner tube.

7. An assembly for enhancing the aesthetics of a gas fireplace, comprising:

a burner tube assembly including a first tube and a second tube, said second tube including a pair of closed ends and a plurality of discharge ports, said first tube adjoining said second tube between said pair of closed ends;

a first support including an inclined surface;

a second support including an inclined surface;

said first and second supports being securable to said second tube such that the respective inclined surfaces of said supports adjoin said second tube in generally opposing relation to the discharge ports thereof; and

a quantity of emberizing material sufficient to substantially cover said inclined surfaces of said first and second supports.

8. An assembly as described in claim 7 including a tray, said tray including an inclined rear wall, said second burner tube being positionable at least partially beneath said inclined wall.

9. An assembly as described in claim 7 including a tray, said tray including a top wall and a pair of side walls for supporting said top wall, said tray having a width which generally corresponds to the length of said second tube, said tray being positionable adjacent to said second burner tube, and including means for at least partially occluding said second burner tube when positioned adjacent thereto.

10. An assembly as described in claim 9 wherein said tray includes means for supporting said second burner tube.

11. A fireplace assembly comprising:

a combustion chamber defined by a plurality of vertical walls and a floor adjoining the respective vertical walls;

an elongated burner tube positioned within said combustion chamber, said burner tube including a plurality of discharge ports;

a support including an inclined surface, said inclined surface adjoining said burner tube and extending above said burner tube, said inclined surface being positioned behind said burner tube and in generally opposing relation to a plurality of said discharge ports;

an emberizing material supported by said inclined surface, said emberizing material being capable of glowing when subjected to flames from said discharge ports;

a tray supported by the floor of the combustion chamber, said tray including a front end and a rear end, the rear end of said tray including a rear wall adjoining said burner tube, and spacing means extending from said tray to form a gap defined between said tray and the floor of said combustion chamber, said burner tube being in fluid communication with said gap.

12. A fireplace assembly as described in claim 11 wherein said inclined surface of said support is substantially coextensive with said burner tube.

13. A fireplace assembly as described in claim 11 wherein the rear wall extends at least partially over said burner tube.

14. A fireplace assembly as described in claim 11 including a grate, said burner tube and said support being secured to a front portion of said grate.

15. A fireplace assembly as described in claim 14 including an artificial log set supported by said grate and a main burner assembly supported by said grate, said main burner assembly being positioned beneath said log set.

16. A fireplace assembly as described in claim 15 including a plurality of lava rocks supported by said tray.

17. A fireplace assembly as described in claim 12 wherein said combustion chamber includes a front opening, said inclined surface of said support facing said front opening, said emberizing material substantially covering said inclined surface.

18. A fireplace assembly as described in claim 17 wherein the discharge ports of said burner tube are directed inwardly with respect to the front opening of the combustion chamber, said discharge ports being spaced a selected distance from said emberizing material and oriented generally towards said emberizing material.

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[54] YELLOW FLAME GAS FIREPLACE BURNER ASSEMBLY

[75] Inventor: Thomas J. Beal, Ossian, Ind.

[73] Assignee: Majco Building Specialties, L.P.,
Huntington, Ind.

[21] Appl. No.: 550,116

[22] Filed: Jul. 9, 1990

[51] Int. Cl.¹ F24C 3/04[52] U.S. Cl. 126/92 R; 126/512;
431/125[58] Field of Search 431/125, 110, 112;
126/540, 555, 500, 512, 90, 92 R, 85 R, 91 R, 86

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Primary Examiner—Larry Jones

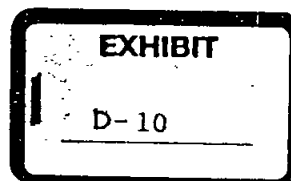
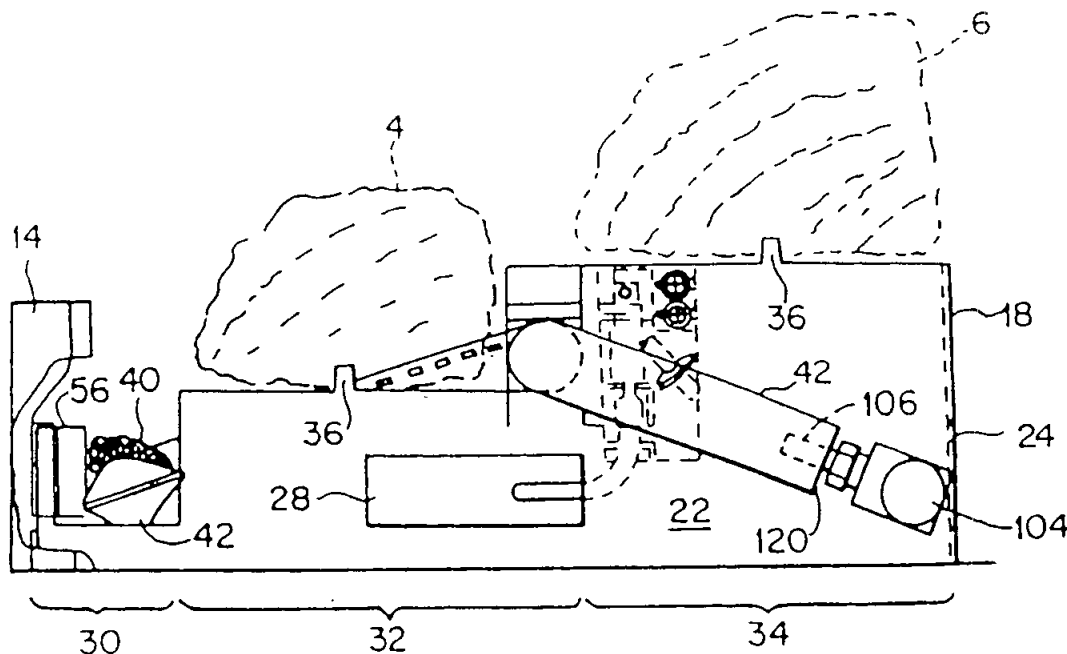
Attorney, Agent, or Firm—Hoffmann & Baron

[57] ABSTRACT

A gas fireplace burner assembly which produces a yellow

low flame and simulates the appearance and pattern of the yellow flames produced by a natural wood log fire includes a log grate for supporting a plurality of artificial logs. The log grate is formed with a stepped configuration and has a back wall and opposite side walls, each of which has an opening formed through its thickness to allow secondary air to pass therethrough and into an interior space defined by the walls of the log grate. The log grate also includes a slotted grate front member. At least a front and rear artificial log is supported on the log grate. A burner tube is also supported by the log grate and has front and rear portions which are disposed in parallel. A front flame deflector is interposed between and spaced apart from the grate front member and the front portion of the burner tube and defines first and second channels for secondary air to flow through. Artificial ember material is situated adjacent to the front burner tube portion and is further situated so as to be adapted to come in contact with flames emanating from the front burner tube portion. A rear flame deflector is at least partially superposed over the rear burner tube and has a plurality of flame openings formed in it. A gas control assembly controls the passage of gas through the burner tube, and includes a gas valve which communicates with the burner tube and which can be coupled to a source of gas.

10 Claims, 6 Drawing Sheets



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JT-APP 2242

FIG. 1

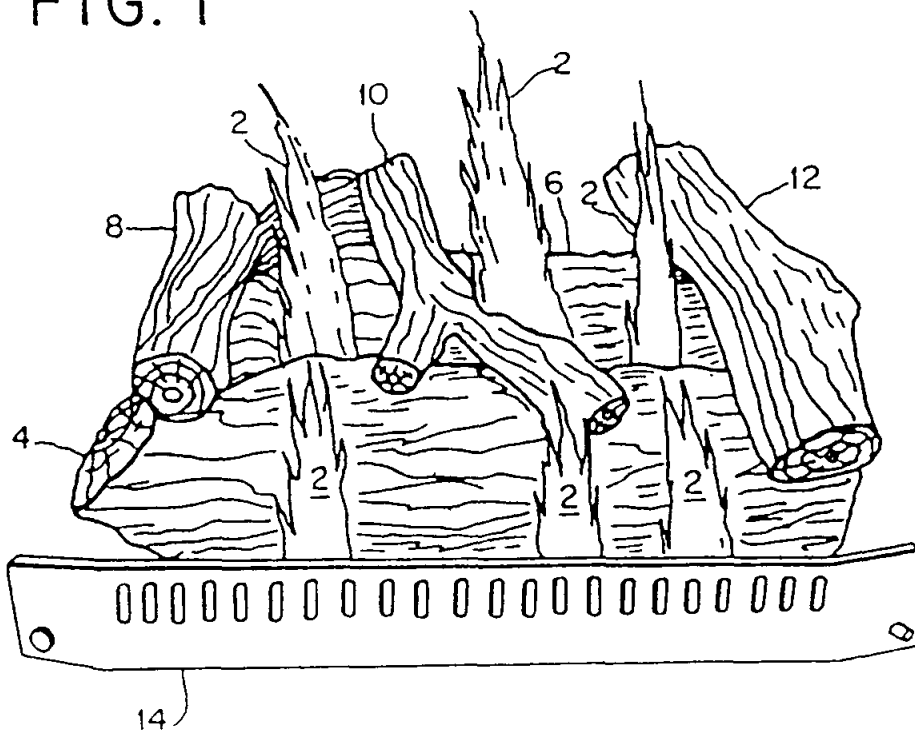


FIG. 4

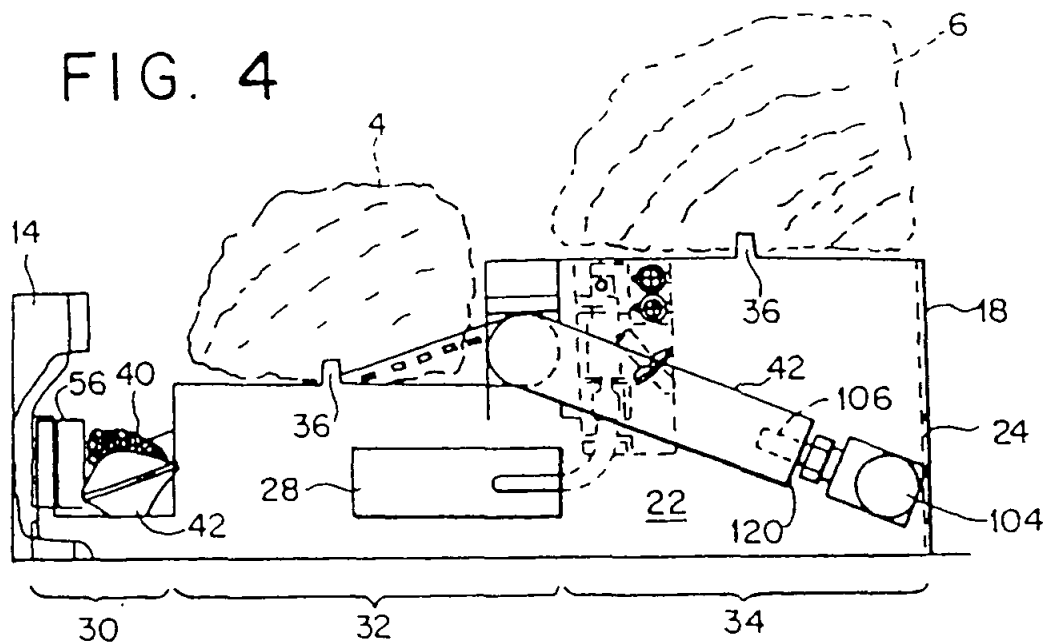


FIG. 2

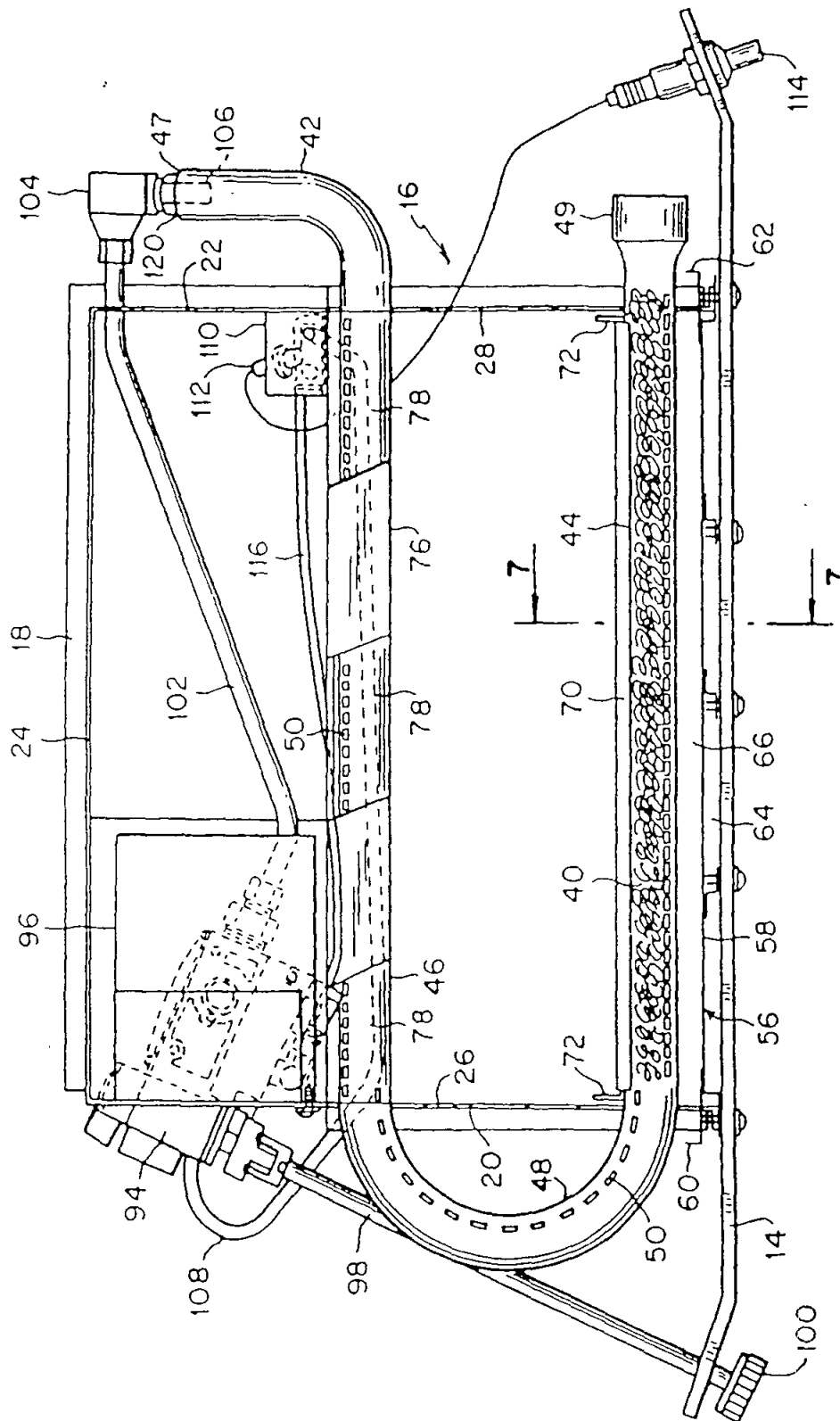


FIG. 9

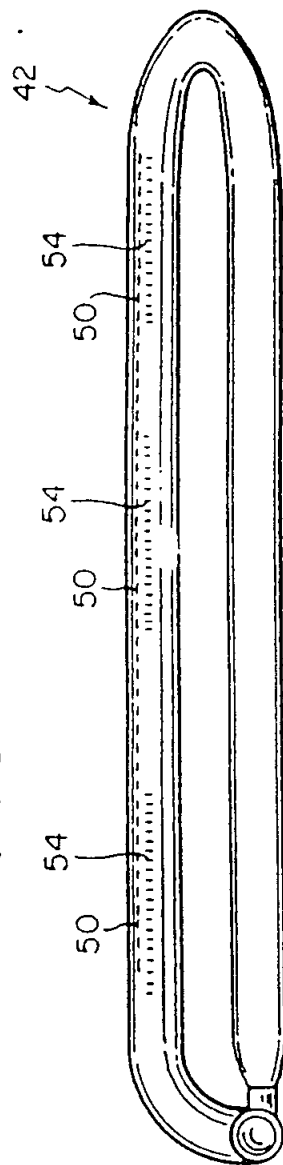


FIG. 3

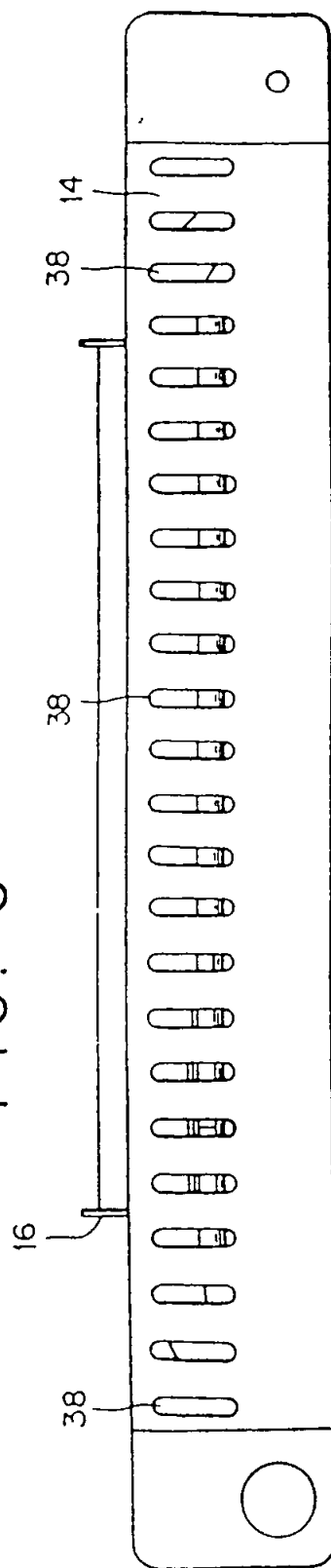


FIG. 6

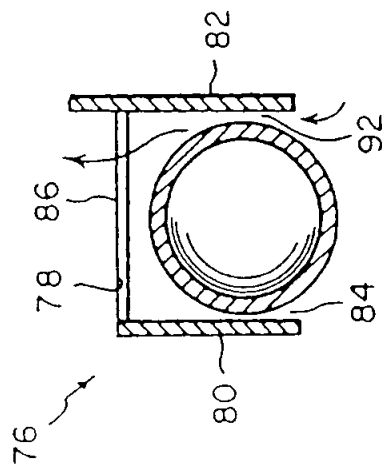


FIG. 5

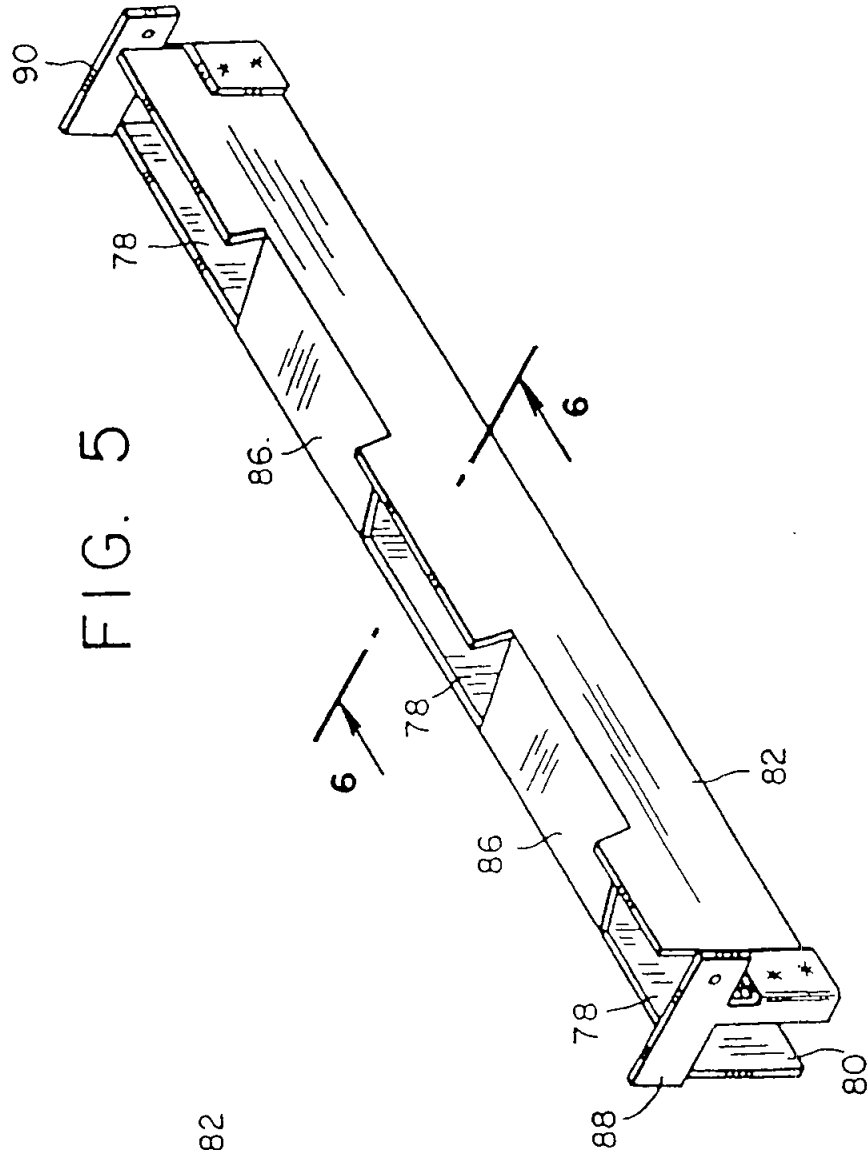


FIG. 10

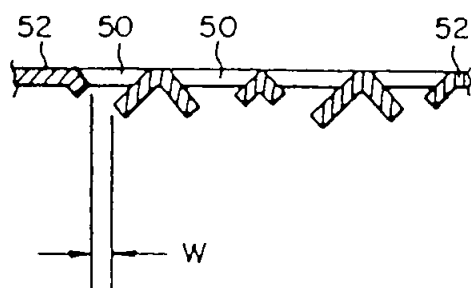


FIG. 11

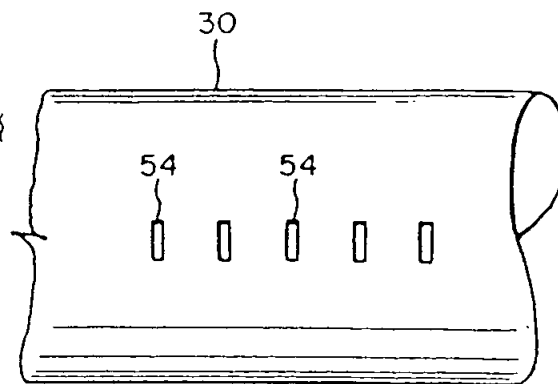
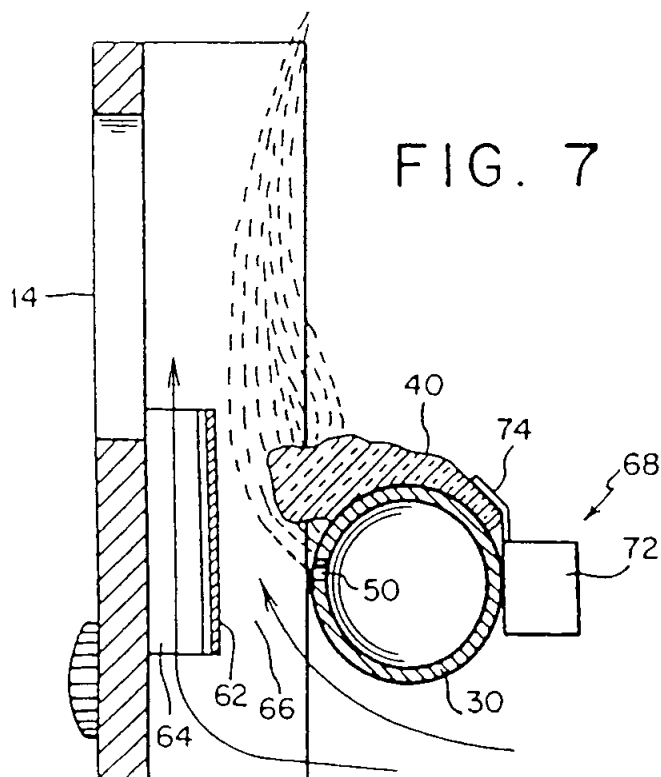
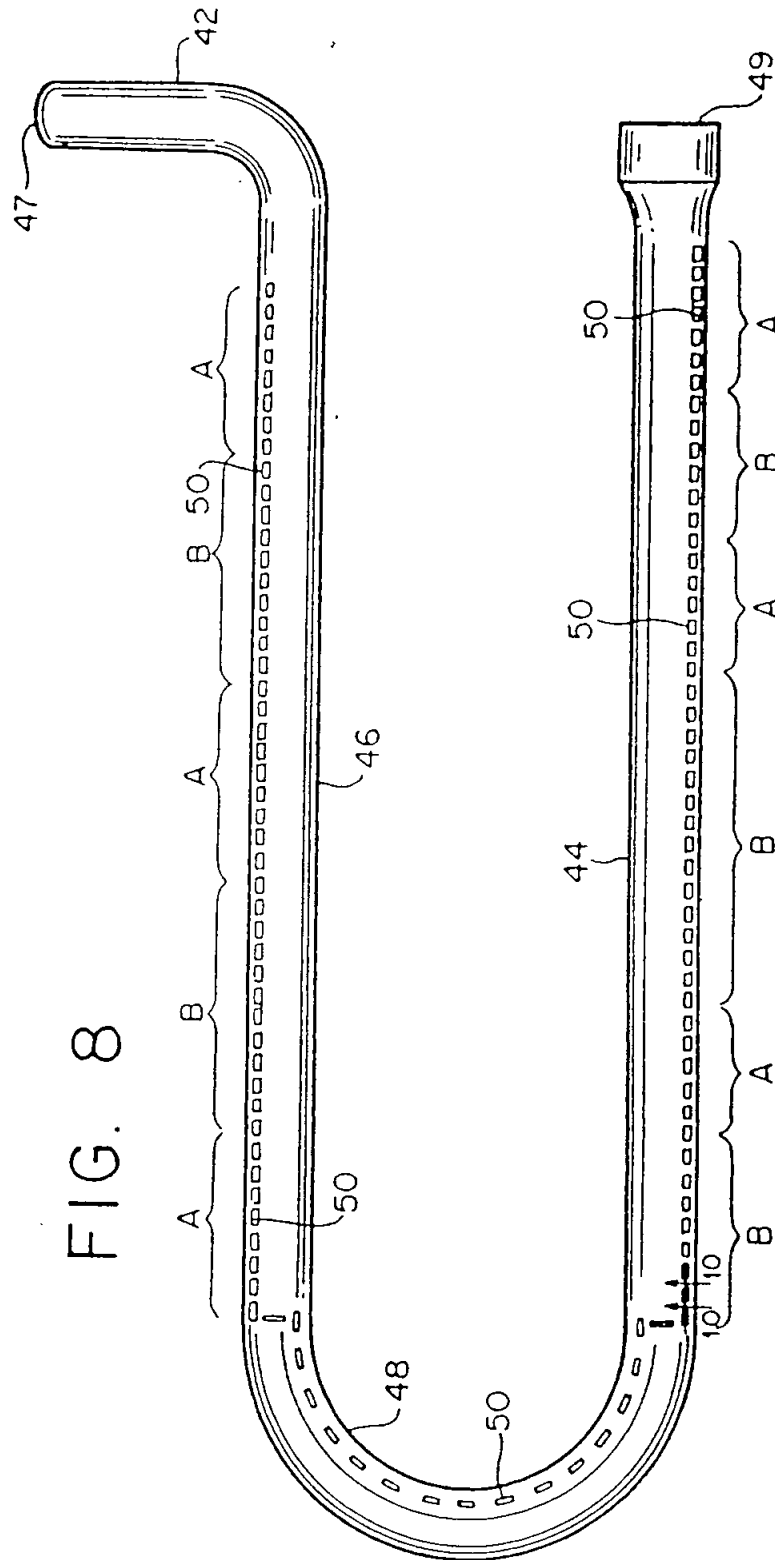


FIG. 7





YELLOW FLAME GAS FIREPLACE BURNER ASSEMBLY

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to a gas burner assembly, and more particularly relates to a burner assembly for burning natural gas or LP gas and which is adapted for use in a fireplace. Even more specifically, the present invention relates to a gas fireplace burner assembly which is capable of creating an essentially yellow flame pattern similar in appearance to yellow flames naturally formed in a real wood log fire with acceptable levels of carbon monoxide production.

2. Description of the Prior Art

Gas fireplace units have long been used as a substitute for real log or coal fires because of their convenience. The flames are produced by gas, either natural gas or liquid petroleum (LP) gas and the logs, while having the appearance and texture of real wood logs, are of a permanent non-combustible material.

The problem with all gas fireplace burner assemblies has been to produce a clean yellow flame. A clean blue flame is produced by mixing primary air with the gas before it is burned, thereby providing complete combustion and producing a clean flame. However, to make the flame yellow requires the elimination or reduction of the amount of primary air with only secondary air, air that mixes with the gas just at the base of the flame, to produce combustion. Examples of gas fireplace burners which are stated to produce a yellow flame are disclosed in U.S. Pat. No. 3,760,790 to Voges et al., U.S. Pat. No. 4,838,240 to Rieger, and U.S. Pat. No. 4,833,043 to Thow et al.

Many conventional gas fireplace units suffer from incomplete combustion. This may be due to insufficient secondary air, the uncontrolled direction of the secondary air in the burner or the flames impinging on the artificial logs used in the gas fireplace unit. The result is a yellow but very dirty flame producing carbon monoxide soot and other forms of pollution, the soot collecting on the logs or other fuel substance on which the flames impinge.

OBJECTS AND SUMMARY OF THE INVENTION

It is an object of the present invention to provide a fireplace gas burner assembly for producing an essentially yellow flame pattern having an appearance similar to the yellow flame that is produced by a natural wood log fire.

It is another object of the present invention to provide a burner assembly for use in a gas fireplace which produces virtually no carbon monoxide gas.

It is yet another object of the present invention to provide a yellow flame gas fireplace burner assembly which produces not only the effect of glowing embers but also a yellow flame pattern situated in front of the most forward log.

It is a further object of the present invention to provide a fireplace gas burner assembly which produces a highly visible and authentic yellow flame.

It is still another object of the present invention to provide a yellow flame gas fireplace burner assembly which overcomes the inherent disadvantages of conventional gas fireplace units

In accordance with one form of the present invention, a gas fireplace burner assembly which produces a yellow flame includes a log grate for supporting a plurality of artificial logs. The log grate is formed with a stepped configuration and has a back wall and opposite side walls joined to the back wall. Each of the back wall and opposite side walls has an opening formed through its thickness. The openings are dimensioned to allow sufficient secondary air to pass through the walls and into an interior space defined by the back wall and the opposite side walls. The log grate further includes a grate front member situated opposite the back wall.

The gas fireplace burner assembly further includes at least a front and a rear artificial log. The front and rear artificial logs are mounted on the log grate and supported by the grate. The logs are arranged generally parallel with each other.

A burner tube is also included. The burner tube has interconnected front and rear portions which are disposed in a spaced apart, parallel arrangement. The rear portion is disposed at least partially below and between the front and rear logs, and the front portion is disposed at least partially below and between the grate front member and the front log.

The gas fireplace burner assembly of the present invention further includes a front flame deflector. The front flame deflector has an elongated plate-like member interposed between and spaced apart from the grate front member and the front portion of the burner tube. The front flame deflector and the grate front member, and the front flame deflector and the front burner tube portion define first and second channels, respectively, for secondary air to flow through.

The gas fireplace burner assembly further includes artificial ember material. The artificial ember material is situated adjacent to the front burner tube portion and is further positioned with respect to the front burner tube portion so that flames emanating from the front burner tube portion impinge on the artificial material to cause it to glow.

A rear flame deflector is further included. The rear flame deflector is at least partially superposed over the rear burner tube portion, and has a plurality of flame openings formed in it. The rear flame deflector and rear burner tube portion define a third channel for secondary air to flow through.

The gas fireplace burner assembly of the present invention further includes a gas control assembly for controlling the passage of gas through the burner tube. The gas control assembly has a gas valve which communicates with the burner tube and which is adapted to be coupled to a source of gas.

These and other objects, features and advantages of this invention will be apparent from the following detailed description of illustrative embodiments thereof, which is to be read in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a gas fireplace burner assembly formed in accordance with the present invention and illustrating its general appearance when operating and with artificial logs in place.

FIG. 2 is a top plan view of the assembly with the artificial logs removed.

FIG. 3 is a front view of the assembly with the artificial logs removed.

FIG. 4 is a side view of the assembly with some of the artificial logs used in the assembly shown in phantom.

FIG. 5 is a perspective view of a component used in the gas fireplace burner assembly of the present invention.

FIG. 6 is a detailed sectional view of the component shown in FIG. 5 taken along line 5—5, and illustrating its relationship to the other components of the assembly.

FIG. 7 is a detailed sectional view of a portion of the burner assembly shown in FIG. 2 taken along line 7—7.

FIG. 8 is top view of a burner tube employed in the burner assembly of the present invention.

FIG. 9 is a rear perspective view of the burner tube shown in FIG. 8.

FIG. 10 is a detailed sectional view of the burner tube shown in FIG. 8 taken along line 10—10.

FIG. 11 is an enlarged view of a portion of the burner tube shown in FIG. 9.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring initially to FIG. 1 of the drawings, it will be seen that a gas fireplace burner assembly constructed in accordance with the present invention is designed to provide a plurality of separate yellow flames 2 of different heights and widths between the artificial logs of the assembly. Two rather large front and rear artificial logs 4, 6 appear to support smaller logs 8, 10, 12 of various shapes mounted transversely across the front and rear logs. The yellow flames 2 are visible between the transversely mounted logs 8-12 as well as between the front and rear logs 4, 6, and also in front of the front log. Each of the logs is formed from a non-combustible material.

Also, in the preferred form of the invention, the rear log 6 is supported at a level above the front log 4 so that the rear log is visible and not obscured from view by the front log and so that the transversely disposed logs 8-12 are also sloping downwardly from back to front and are thus more visible to the viewer.

Also, the gas fireplace burner assembly of the present invention includes material situated at the front of the burner assembly which glows when heated to give the appearance of burning embers underneath the artificial logs. The burning ember material is clearly visible through slots formed in the log grate front member 14, as will be described in greater detail.

The particular layout of the artificial logs, the positioning of the yellow flames between the logs and forward of the front log and the glow given off by the burning ember material create the ambiance and authenticity of a real log burning fireplace.

Referring now to FIGS. 2-4 of the drawings, it will be seen that the gas fireplace burner assembly of the present invention includes a log grate 16. The log grate 16 is provided for supporting a plurality of artificial logs 4-12.

The log grate 16 is preferably formed with a stepped configuration. It may be formed from a single blank of sheet metal which is bent in a U-shaped configuration to define a back wall 18 and opposite left and right side walls 20, 22 joined to the back wall.

Each of the back wall 18 and opposite side walls 20, 22 has an opening 24, 26, 28 formed through its thickness. The openings 24-28 are dimensioned to allow sufficient secondary air to pass through the openings and into an interior space of the grate defined by the back wall 18 and the opposite left and right side walls 20, 22. The secondary air mixes with the gas provided

to the burner assembly and aids in the combustion process.

Each of the left and right side walls 20, 22 includes successively a front, middle and rear portion 30, 32, 34.

Each of the front, middle and rear portions 30-34 has a different height. The front portion 30 is lower than the middle portion 32, and the middle portion 32 is lower than the rear portion 34. This provides the log grate with the overall stepped configuration, increasing in height from front to back.

The middle and rear portions 32, 34 of the left and right side walls support the main front and rear artificial logs 4, 6, respectively, and, as will be described in greater detail, the front and middle portions 30, 32 of the side walls of the grate support front and rear portions of a burner tube used in the burner assembly of the present invention.

Each of the middle and rear portions 32, 34 of the left and right side walls includes an upstanding tab or protrusion 36 extending from its upper surface. The tabs 36 are received by holes (not shown) formed partially into the main front and rear artificial logs 4, 6 to hold the logs in place on the side walls 20, 22. The stepped configuration of the log grate 16 supports the rear log 6 at a level which is at least partially above the front log 4 so that both logs are clearly visible to the viewer, and provides a more realistic appearance to the fireplace.

The log grate 16 further includes a grate front member 14. The grate front member 14 is situated opposite the back wall 18 and is joined to the left and right side walls 20, 22. The grate front member has a plurality of vertical, spaced apart slots 38 formed through its thickness. The slots 38 are provided so that the glowing ember material 40 employed in the burner assembly will be visible to the viewer.

The gas fireplace burner assembly of the present invention further includes a burner tube 42. The burner tube 42 has an overall U-shaped configuration with front and rear portions 44, 46 disposed in a spaced apart, parallel arrangement and interconnected by a curved burner section 48. The tube includes an open end 47 and an opposite sealed end 49. As mentioned previously, the burner tube is mounted on and supported by the log grate 16.

As shown in FIG. 4 of the drawings, the rear portion 46 of the burner tube is disposed at least partially below and between the front and rear logs 4, 6, and the front portion 44 is disposed at least partially below and between the grate front member 14 and the front log 4.

Referring now to FIGS. 8-11 of the drawings, it will be seen that the burner tube 42 has a plurality of ports 50 of a first type formed through the wall of the tube which the gas in the tube flows out of. The tube is substantially cylindrical in cross section, and the ports are formed in the tube at about a 45° angle from the vertical on the rear side of rear burner tube portion 46, and at about a 65° angle from the vertical on the front side of front burner tube portion 44.

A detailed view of the ports 50 of the burner tube is shown in FIG. 10. The ports are formed by lancing the tube so that portions of the tube wall 52 are forced inwardly of the burner tube.

In order to help create three yellow flames between the front and rear artificial logs and in front of the front log, the ports 50 are formed over three separated sections, indicated by the letter A in FIG. 8, on the front and rear portions 44, 46 of the burner tube and have a width W which is greater than the width of the ports in

other sections, indicated in FIG. 8 by the letter B, of the front and rear burner tube portions so that a greater amount of gas flows out of the ports located in sections A than in sections B. The typical width W of the section A ports is about 0.045 inches, whereas the typical width W of the section B ports is about 0.027 inches. The ports 50 formed in the curved section 48 interconnecting the front and rear portions of the burner tube have the same configuration as the ports formed in the front and rear portions and have a width which is typically about 0.035 inches, and are formed at about a 45° angle from the top of the tube on the inside curvature of the tube.

As will be explained in greater detail, additional ports 54 are formed through the thickness of the rear burner tube portion wall in three spaced apart sets. These ports 54 are disposed below the ports 50 previously described at about 60° to about 65° from the vertical on the rear side of portion 46, and are provided for increasing the height of the three flames emanating from the rear burner tube portion. As shown in greater detail in FIG. 11, these ports 54 are slightly elongated slots formed transversely in the burner tube and spaced apart from each other typically a distance of about 0.188 inches. The slots have a length of about 0.125 inches and a width of about 0.035 inches.

The gas fireplace burner assembly of the present invention further includes a front flame deflector 56. The front flame deflector includes an elongated plate-like member 58 which is interposed between and spaced apart from the grate front member 14 and the front portion 44 of the burner tube. The front flame deflector 56 may also include left and right end deflectors 60, 62 which are mounted on opposite ends of the elongated plate-like member and which include portions extending inwardly toward the front burner tube portion.

As shown in FIG. 7 of the drawings, the elongated plate-like member 58 of the front flame deflector defines between it and the grate front member 14 a first channel 64, and defines between it and the front burner tube portion 44 a second channel 66. The first and second channels 64, 66 are provided for the passage of secondary air from the interior space of the log grate 16 through the burner assembly. This flow of secondary air helps produce a clean yellow flame from the front burner tube portion 44, and helps shape the yellow flame to ensure that the flame does not impinge on or roll over the front portion of the front artificial log 4.

The particular positioning of the front flame deflector 56 is also important for another two reasons. First, the deflector keeps the front flames from impinging on the slotted grate front member 14, which could cause the production of carbon monoxide gases and other pollutants. Because room temperature is on one side of the grate front member 14 and the burner tube and flames are on the other side at a higher temperature, the difference in temperatures would have tended to quench the flames, producing carbon monoxide and carbon, if the flames were allowed to impinge on the grate front member.

Second, the position of the deflector 56 in relation to the front burner tube portion 44 is such that the flames emanating from the burner tube impinge on the flame deflector. As its name implies, the flame deflector directs the yellow flame upwardly and maintains the shape of the yellow flame.

The front flame deflector 56 is preferably made from a stainless steel material which can accept high temperatures. The stainless steel material keeps the flame de-

flector hot and the temperatures high on the burner tube side of the grate front member 14. This further aids in shaping the yellow flame produced from the front burner tube portion 44.

As mentioned previously, the gas fireplace burner assembly of the present invention also includes an artificial ember material 40. The artificial ember material is preferably a ceramic wool or the like which glows when heated. The material is situated adjacent to the front burner tube portion 44 and is further positioned with respect to the front burner tube portion so as to be adapted to come in contact with flames emanating from the front burner tube portion to cause the artificial ember material to glow.

As can be seen from FIG. 7 of the drawings, the ember material 40 rests on an upper portion of the front burner tube portion 44 and is in contact with the flames emanating from the ports 50 formed in the front burner tube portion. This will ensure that the ember material is exposed to the flames and heated sufficiently to glow. The glowing ember material is visible to the viewer through the slotted grate front member 14.

The gas fireplace burner assembly further includes an ember hold down bracket 68. The ember hold down bracket 68 includes an elongated plate-like member 70 having end tabs 72 mounted on each end of the member and protruding inwardly of the burner assembly. The ember hold down bracket 68 further includes a cantilevered arm 74 extending from the elongated plate-like member 70 and disposed tangential to the circumference of the front burner tube portion 44. The ember material is held in place between the front burner tube portion and the cantilevered arm 74 of the ember hold down bracket.

The gas fireplace burner assembly of the present invention further includes a rear flame deflector 76. The rear flame deflector 76 is at least partially superposed over the rear burner tube portion 46 and includes a plurality of flame openings 78 formed in it.

As more specifically shown in FIGS. 5 and 6 of the drawings, the rear flame deflector includes a pair of parallel, spaced apart front and back plates 80, 82 which define an open space 84 between them. The open space 84 is provided so that the rear burner tube portion 46 may be at least partially received by the open space.

The rear flame deflector 76 further includes a plurality of top deflector plates 86 which are joined to the front and back plates 80, 82 at the top surfaces of the front and back plates. The top deflector plates 86 extend transversely to the front and back plates to cover portions of the open space 84.

The rear flame deflector 76 further includes left and right end deflector plates 88, 90. The end deflector plates are mounted on the opposite lateral ends of the front and back plates 80, 82 and extend transversely between the front and back plates.

The top deflector plates 86 define between each other at their lateral sides and between them and the left and right end deflector plates 88, 90 flame openings 78 in the top surface of the flame deflector. These openings are particularly situated so that flames emanating from the rear burner tube portion 46 will pass through the flame openings 78 and will not impinge on either the front or rear logs 4, 6, or the transversely disposed logs 8-12 mounted on the front and rear logs.

In a preferred form, the back plate 82 of the rear flame deflector is greater in height than the front plate 80. Also, when situated over the rear burner tube por-

tion, the rear flame deflector 76 is particularly positioned so that there is a slight spacing of about one-quarter inch between the top of the rear burner tube portion 46 and the top deflector plates 86. Furthermore, the spacing between the front and back plates of the rear flame deflector, in relation to the diameter of the rear burner tube portion, is such that a spacing of preferably about one-quarter inch is provided between the rear burner tube portion 46 and the back plate 82 of the rear flame deflector. This spacing between the back plate 82 and the rear burner tube portion 46 provides a third channel 92 for secondary air to flow through.

The particular configuration of the rear flame deflector 76 and its positioning in relation to the rear burner tube portion 46 provides a much taller flame from the rear burner tube portion, and further provides more control over the flame so that it does not burn over the rear log 6. This minimizes the production of carbon monoxide, carbon and other pollutants, and prevents soot from forming on the artificial logs.

The rear flame deflector may be conveniently formed from a single blank of sheet material which may be folded or bent to the particular shape shown in FIGS. 5 and 6 of the drawings.

The gas burner assembly of the present invention further includes a gas control assembly. The gas control assembly controls the passage of the gas through the burner tube.

The gas control assembly includes a gas valve 94 which is partially disposed in the interior space defined by the log grate 16 and under the rear log 6. To protect the gas valve 94 from excessive heat, the log grate 16 may include a radiant shield 96 in the form of a metal plate situated above the gas valve and below the rear artificial log.

The gas valve is adapted to be connected to the gas piping of the house or establishment in which the gas fireplace burner assembly is to be used. A suitable valve which may be used when natural or LP gas is used in the burner assembly is Model No. 7000 MVRLC ($\frac{1}{2}$ PSI In. 3.5 W.C. Out for natural gas and $\frac{1}{2}$ PSI In. 10.0 W.C. Out for LP gas), manufactured by Robertshaw Controls Company in Long Beach, Calif.

An extension rod 98 is coupled to the gas valve 96 and extends from the gas valve through the grate front member 14. A knob 100 is mounted on the free end of the extension rod 98 in front of the grate front member. The knob 100 allows the operator to adjust the flow of gas through the fireplace burner assembly.

The gas control assembly further includes tubing 102 between the gas valve 94 and the burner tube 42. The tubing 102 is connected to a 90° fitting 104 which, in turn, is connected to an orifice 106 which extends partially into the open end 47 of the burner tube. Gas from the gas source passes through the gas valve 94, through the tubing 102 and fitting 104 and into the orifice 106. Primary air passes through the burner tube 42 at 120 and around the orifice and mixes with the gas to flow into the burner tube.

Pilot tubing 108 is also connected to the gas valve 94 and extends to an igniter or continuous pilot assembly 110. The pilot assembly provides a continuous pilot flame, and includes a thermopile or thermogenerator 112 situated with its tip over the pilot flame, which thermogenerator is connected to a piezo igniter 114 which is mounted on the log grate front member 14 within easy reach of the operator. The piezo igniter 114 is used to light the pilot flame of the continuous pilot

assembly 110. A pair of wires 116 extend between the continuous pilot assembly 110 and the gas valve 94 so that, if the thermogenerator 112 senses that the pilot flame is extinguished, the gas valve will automatically prevent gas from flowing through the pilot tubing 108 to the pilot assembly. The continuous pilot assembly will ignite the gas, flowing through the burner tube, which flow may be adjusted by turning knob 100.

The gas fireplace burner assembly of the present invention produces a realistic yellow flame pattern having an appearance and distribution which is similar to the yellow flame pattern produced by a natural wood log fire, and with virtually no carbon monoxide gas, carbon or other pollutants being produced. The configuration and placement of the front flame deflector 56 and the rear flame deflector 76 provide a tall yellow flame not only at the front of the fireplace assembly, as in a natural wood log fire, but also between the various artificial logs mounted 4-12 on the log grate. The deflectors also keep the flames from impinging on the artificial logs. The various channels provided for secondary air flow not only allow the burner assembly to produce a yellow flame but also control the height and direction of the flame and prevent the flame from rolling over the artificial logs.

Although illustrative embodiments of the present invention have been described herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to those precise embodiments, and that various other changes and modifications may be effected therein by one skilled in the art without departing from the scope or spirit of the invention.

What is claimed is:

1. A gas fireplace burner assembly, which comprises:
 - a log grate for supporting a plurality of artificial logs, the log grate being formed with a stepped configuration and having a back wall and opposite side walls joined to the back wall, each of the back wall and opposite side walls having an opening formed through the thickness thereof, the openings being dimensioned to allow secondary air to pass there-through and into an interior space defined by the back wall and opposite side walls, the log grate further including a grate front member situated opposite the back wall;
 - at least a front and rear artificial log mounted on the log grate and supported thereby, the front and rear logs being arranged generally in parallel with each other;
 - a burner tube, the burner tube including interconnected front and rear portions disposed in a spaced apart, parallel arrangement, the rear portion being disposed at least partially below and between the front and rear logs, and the front portion being disposed at least partially below and between the grate front member and the front log;
 - a front flame deflector, the front flame deflector including an elongated plate-like member interposed between and spaced apart from the grate front member and the front portion of the burner tube, the front flame deflector and the grate front member, and the front flame deflector and the front burner tube portion defining first and second channels, respectively, for secondary air to flow through; and
 - gas control means for controlling the passage of gas through the burner tube, the gas control means including a gas valve communicating with the

burner tube and adapted to be coupled to a source of gas.

2. A gas fireplace burner assembly as defined by claim 1, which further comprises a rear flame deflector, the rear flame deflector being at least partially superposed over the rear burner tube portion and having a plurality of flame openings formed therein, the rear flame deflector and rear burner tube portion defining a third channel for secondary air to flow through.

3. A gas fireplace burner assembly as defined by claim 2, wherein the rear flame deflector includes spaced apart opposite front and back plates and defining an open space therebetween by which the rear burner tube portion is at least partially received, the back plate and rear burner tube portion being spaced apart from each other to define the third channel therebetween for secondary air to flow through.

4. A gas fireplace burner assembly as defined by claim 3, wherein the back plate of the rear flame deflector has a height which is greater than that of the front plate of the rear flame deflector.

5. A gas fireplace burner assembly as defined by claim 3, wherein the rear flame deflector further includes at least one top deflector plate joined to the front and back plates and extending transversely across the open space defined by the front and back plates, the top deflector plate being superposed over the rear burner tube portion and defining the flame openings on opposite lateral sides thereof.

6. A gas fireplace burner assembly as defined by claim 5, wherein the rear flame deflector further includes end deflector members situated at opposite lateral ends of the front and back plates and extending transversely across the front and back plates, the flame openings being defined between the end deflector plates and the top deflector plate.

7. A gas fireplace burner assembly as defined by claim 1, which further includes artificial ember material, the artificial ember material being situated adjacent to the front burner tube portion and being further positioned with respect to the front burner tube portion so as to be adapted to come in contact with flames emanating from the front burner tube portion to cause the artificial ember material to glow as a result thereof.

8. A gas fireplace burner assembly as defined by claim 1, wherein each of the opposite side walls of the log grate includes successively a front portion, a middle portion joined to the front portion, and a rear portion joined to the middle portion, each of the front, middle and rear portions having a different height, the front portion being lower than the middle portion, and the middle portion being lower than the rear portion to provide the log grate with a stepped configuration.

9. A gas fireplace burner assembly as defined by claim 8, wherein the middle portion and the rear portion of each of the side walls of the log grate include upwardly protruding tabs extending from an upper portion thereof, and wherein the front and rear artificial logs have a pair of openings formed therein, the openings being provided to receive the tabs of the log grate side walls to help secure the front and rear artificial logs on the log grate.

10. A gas fireplace burner assembly, which comprises:

a log grate for supporting a plurality of artificial logs, the log grate being formed with a stepped configuration and having a back wall and opposite side walls having an opening formed through the thickness thereof, the openings being dimensioned to allow secondary air to pass therethrough and into an interior space defined by the back wall and opposite side walls, the log grate further including a grate front member situated opposite the back wall, each of the side walls including a front portion, a middle portion, and a rear portion, each of which has a different height, the front portion being lower than the middle portion, and the middle portion being lower than the rear portion;

at least a front and rear artificial log mounted on the log grate and supported thereby on the middle portion and rear portion of the log grate side walls, the front and rear logs being arranged generally in parallel with each other, the middle portion and rear portion of each of the log grate side walls including a tab protruding from an upper surface thereof, which tab is received by the front and rear artificial logs to help secure the artificial logs to the log grate;

a burner tube, the burner tube including interconnected front and rear portions disposed in a spaced apart, parallel arrangement, the rear portion being disposed at least partially below and between the front and rear logs, and the front portion being disposed at least partially below and between the grate front member and the front log;

a front flame deflector, the front flame deflector including an elongated plate-like member interposed between and spaced apart from the grate front member and the front portion of the burner tube, the front flame deflector and the grate front member, and the front flame deflector and the front burner tube portion defining first and second channels, respectively, for secondary air to flow through;

artificial ember material, the artificial ember material being situated adjacent to the front burner tube portion and being further positioned with respect to the front burner tube portion so as to be adapted to come in contact with flames emanating from the front burner tube portion to cause the artificial ember material to glow as a result thereof;

a rear flame deflector, the rear flame deflector being at least partially superposed over the rear burner tube portion, the rear flame deflector including spaced apart opposite front and back plates defining an open space therebetween by which the rear burner tube portion is at least partially received, the back plate and rear burner tube portion defining a third channel therebetween for secondary air to flow through, the rear flame deflector having at least one top deflector plate superposed over the rear burner tube portion and defining flame openings on opposite lateral sides thereof; and

gas control means for controlling the passage of gas through the burner tube, the gas control means including a gas valve communicating with the burner tube and adapted to be coupled to a source of gas.

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US005263852A

United States Patent [19]

[11] Patent Number: 5,263,852

Beck

[45] Date of Patent: Nov. 23, 1993

[54] FIREPLACE BURNER PAN ASSEMBLY

5,052,370 10/1991 Karabin 126/512

5,069,200 12/1991 Thow et al. 126/512

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[21] Appl. No.: 869,323

[57]

ABSTRACT

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[52] U.S. Cl. 431/125; 431/326;

126/86; 126/512

[58] Field of Search 126/512, 86, 88;

431/126, 326, 328, 125

[56] References Cited

U.S. PATENT DOCUMENTS

3,385,551 5/1968 Rasmussen et al. 431/328

3,583,845 6/1971 Pulone 431/125

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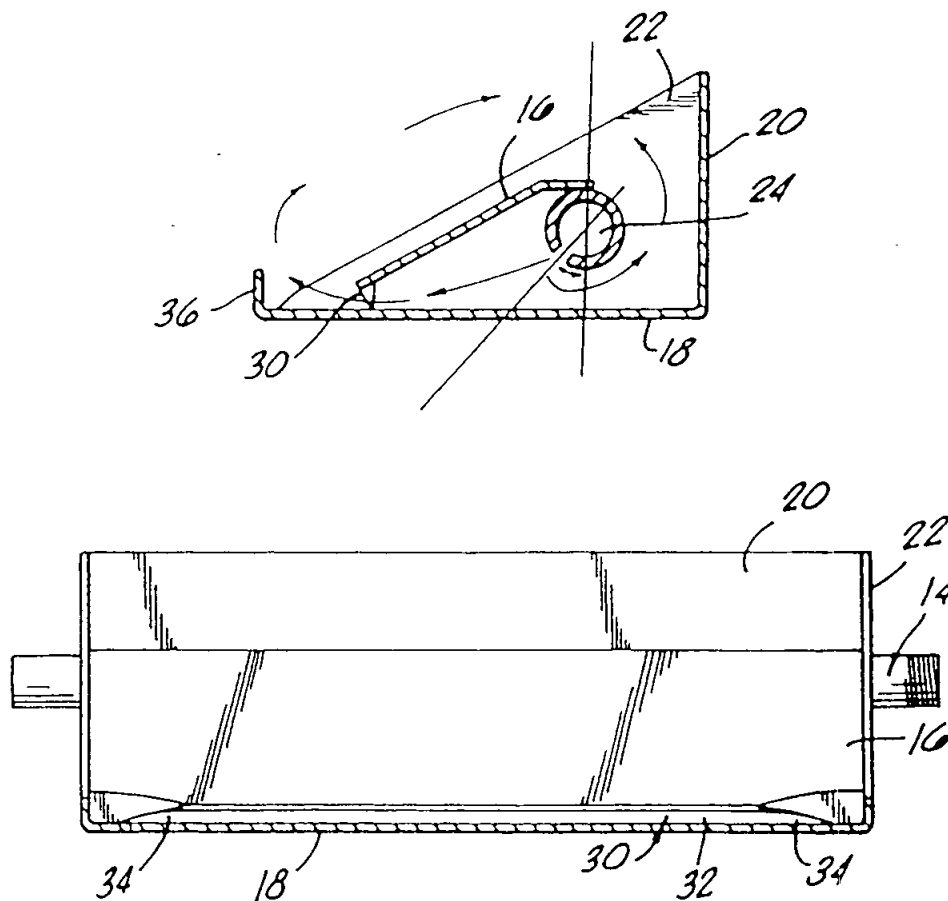
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A fireplace gas burner unit is provided which allows for excellent aeration and distribution of the combustion gas without excessive gas flow noise. The burner includes a typical open-topped container box with triangular sides. A perforated burner pipe is disposed horizontally within the container box, with the perforations angled slightly towards the front of the box. A deflector plate is attached across the top of the burner pipe and is slanted forward and downwardly to form a narrow slit near the front of the container box. The narrow slit has a long central section and opposing periphery sections. The central section has a greater opening height than the periphery sections.

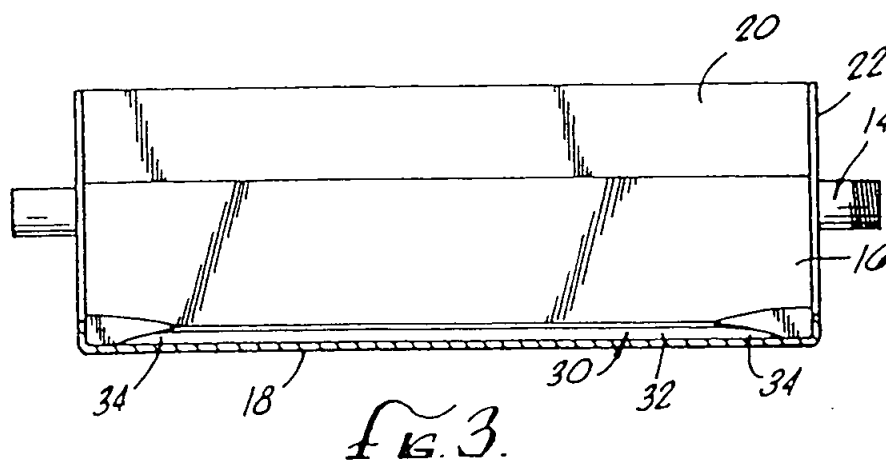
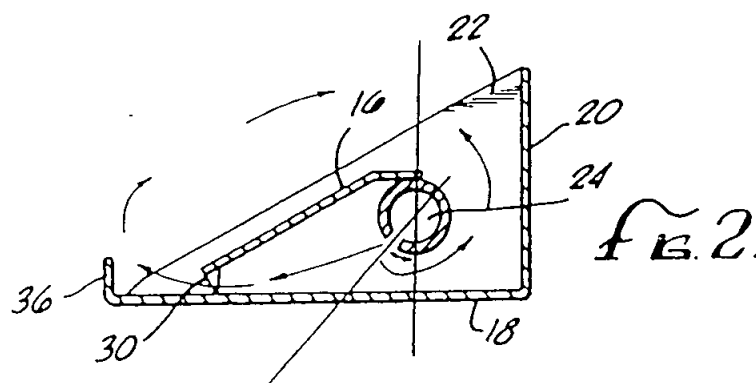
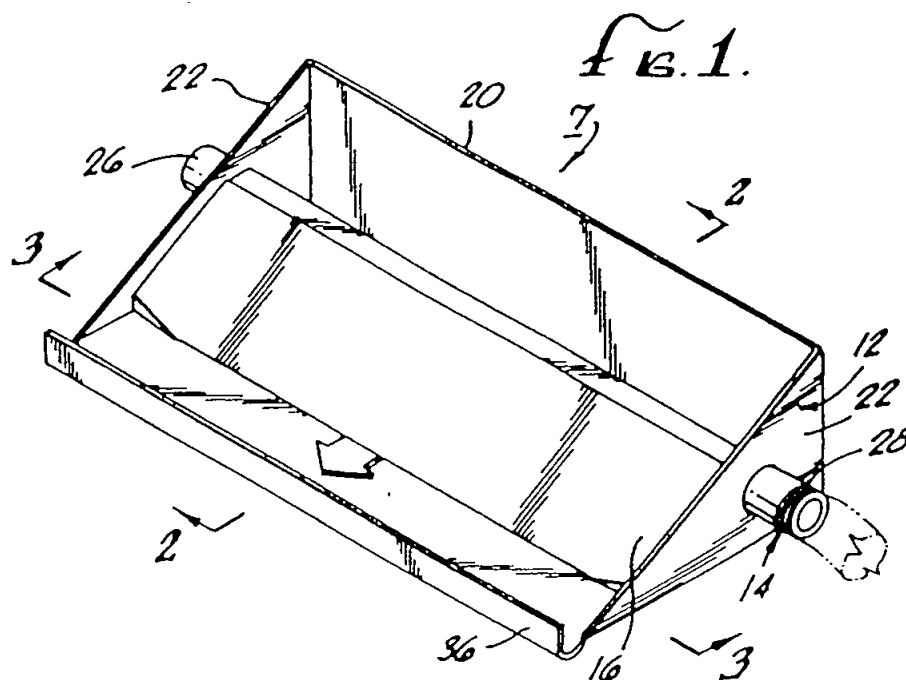
20 Claims, 1 Drawing Sheet



EXHIBIT

D-11

JT-APP 2254



FIREPLACE BURNER PAN ASSEMBLY

BACKGROUND

This invention relates generally to gas-fired burner assemblies and, in particular, to gas-fired burner assemblies used in fireplaces.

For safety, ecology and ease of operation reasons, gasfired fireplace units are being increasingly used in new construction rather than traditional wood burning units. However, gas-fired fireplace units traditionally suffer from the problem that they do not generally have the same "look and feel" of a traditional wood-burning unit.

One attempt to overcome this problem was suggested by Pulone in U.S. Pat. No. 3,583,845. Pulone taught to place the burner pipe in an open-topped box having triangular sides that slope from the rear of the fireplace towards the front. A simulated log is positioned on a grate immediately above the box. The box is filled with sand. In operation, the gas percolates up through the sand and ignites at the surface of the sand. Such combustion gives the approximate appearance of a glowing bed of burning charcoal.

Unfortunately, Pulone and other prior art units are not wholly satisfactory. For example, the use of small grained noncombustible material in the burner pan, such as sand, frequently results in channeling of the gas as it percolates to the surface. Such channeling causes a marked non-uniformity in the ignition pattern across the surface of the sand. Also, the use of such small grain non-combustible materials inhibits the mixing of air with the gas, and sometimes results in the incomplete combustion of the gas.

In an attempt to get better air/gas mixing, large, irregularly-shaped granules such as crushed cinders have been tried. Although partially successful in this regard, the use of large, irregularly-shaped granules has not helped the gas distribution problem and has introduced the additional problem of excessive gas-flow noise.

Accordingly, there is a need for a gas-fired fireplace burner unit which more closely approximates the "look and feel" of a traditional wood burning unit.

Along these lines, there is a need for a gas-fired fireplace burner unit wherein gas is evenly distributed across the surface of the non-combustible material.

Finally, there is a need for a gas-fired fireplace unit wherein the gas is wholly aerated to assure complete combustion, without a resulting excessive amount of gas-flow noise.

SUMMARY OF THE INVENTION

The invention satisfies these needs.

The invention is a gas burner assembly comprising (a) an open-topped container pan, (b) a perforated gas burner pipe disposed horizontally within the container pan, and (c) a gas deflector plate disposed between the gas burner pipe and the forward edge of the container pan. The deflector plate is disposed with its forward-most edge proximate to the bottom wall of the container pan so as to form a narrow, horizontal slit. The horizontal slit has a long central section and a pair of periphery sections on each side of the central section. The height of the central section is more than 30% greater than the height at the periphery sections.

In a preferred embodiment of the invention, the sides of the container pan slope downwardly from the rear of

the container pan towards the front of the container pan. In a most preferred embodiment, a short vertical baffle is disposed along the leading edge of the container pan bottom wall to form a small "gas dam" in front of the horizontal slit.

Preferably, the openings in the gas burner pipe are directed slightly towards the front of the container pan, such as about 10°-20° from the vertical.

In operation, it is preferred to use the burner pan with a combination of large grain sand and larger non-combustible particles, such as crushed cinders. The sand is placed at the bottom of the pan, below the burner pipe and the rest of the container box is covered with the large particle material.

The invention provides a clean-burning, quiet fireplace burner unit which very closely approximates the "look and feel" of a wood burning unit.

DESCRIPTION OF THE DRAWINGS

These and other features, aspects, and advantages of the present invention will become better understood with reference to the following descriptions, appended claims, and accompanying drawings where:

FIG. 1 is a perspective view of a burner pan having features of the invention;

FIG. 2 is a cross-sectional view of the burner pan of FIG. 1 taken along 2—2; and

FIG. 3 is a cross-sectional view of the burner pan of FIG. 1 taken along 3—3.

DETAILED DESCRIPTION

The burner assembly of the invention 10 comprises (a) an open-topped container pan 12, (b) a perforated gas burner pipe 14, (c) means for connecting the burner pipe 14 to a source of combustion gas, and (d) a gas deflector plate 16.

The open-topped container pan 12 is made from a noncombustible material, such as sheet metal. In a typical embodiment, the container pan 12 is rectangular and has a horizontal bottom wall 18, a vertical back wall 20, and two opposing vertical side walls 22. Preferably, the two opposing side walls 22 are triangle-shaped or some other shape which slopes downwardly from the back wall 20 towards the bottom wall 18. In a typical embodiment, the opposing side walls 22 are parallel and spaced apart by a distance between about 10 inches and about 36 inches long.

The gas burner pipe 14 is a standard burner pipe commonly used in the art. It has at least one perforation 24 to allow gas to flow out of the burner pipe 14 and into the container pan 12. Preferably, the burner pipe 14 has at least 3 perforations 24, spaced between about 1 inches and about 3 inches apart. Such a plurality of perforations 24 allows for the even distribution of the outflow of burner gas along the length of the burner pipe 14. Preferably, the perforations 24 in the burner pipe 14 are uniform in diameter.

In a preferred embodiment, the perforations 24 in the burner pipe 14 are disposed within the burner pipe 14 at a slight angle to the vertical so that gas flowing out of the perforations is directed towards the front of the container pan 12. Preferably, the perforations are angled towards the front of the container pan 12 between about 5 degrees and about 35 degrees from the vertical, most preferably between about 10 degrees and 20 degrees from the vertical.

In a typical embodiment, the downstream end 26 of the burner pipe 14 is capped and the upstream end 28 of the burner pipe 14 comprises connection means to attach the burner pipe 14 to a source of combustion gas (not shown). Such connection means can be a conventional threaded end.

The gas deflector plate 16 is disposed in between and transverse to the side walls 22 in a plane parallel to the burner pipe 14. The deflector plate 16 extends between the burner pipe 14 and the forward moiety of the bottom wall 18 of the container pan 12. The forward edge of the deflector plate 16 is disposed proximate to the bottom wall 18 of the container pan 12 so as to form a narrow, horizontal slit 30.

In a typical embodiment, the gas deflector plate 16 is disposed proximate to the opposing side walls 22. Preferably the gas deflector plate 16 is actually attached to the opposing side walls 22. Also, it is preferable for the gas deflector plate 16 to be physically attached to the top of the burner pipe 14.

The narrow, horizontal slit 30 has a central section 32 and two opposing periphery sections 34. The height of the central section 32 is more than about 30% greater than the height of the periphery sections 34. In a typical embodiment, the height of the central section 32 is uniform and measures between about $\frac{1}{2}$ inch and about $\frac{1}{4}$ inch. Typically, the periphery sections 34 are between about $\frac{1}{2}$ inches and about 3 inches in length, preferably between about 1 inch and about $1\frac{1}{4}$ inches. The central section 32 is at least 80% longer than the length of either of the periphery sections 34 and, preferably, between four and ten times the length of either of the periphery sections 34.

In a preferred embodiment, a small vertical baffle 36 is disposed along the forward edge of the bottom wall 18 to form a "gas dam." The vertical baffle 36 is disposed between about $\frac{1}{2}$ inch and about 2 inches forward of the horizontal slit 30. In a typical embodiment, the height of the vertical baffle 36 is also between about $\frac{1}{2}$ inch and about 2 inches.

The burner unit is advantageously used by filling the container pan 12 about 40% full of large grained sand and then placing above the sand a layer of irregularly-shaped, larger noncombustible particles, such as crushed cinders.

In operation, gas from a combustion gas source (not shown) is caused to flow into the burner pipe 14, out of the burner pipe perforations 24 and into the container pan 12. The majority of the gas flows forward underneath the deflector plate 16 and exits through the horizontal slit 30. Some of the gas, however, flows towards the back of the container pan 12 and exits around the rear edge of the deflector plate 16. The gas percolates upward through the bed of non-combustion particles and is ignited across the surface of the bed.

Because of the unique configuration of the burner assembly of the invention, gas distribution tends to be very even across the top of the bed. The result is a consistent glowing fire above the top of the bed. The gas is well-aerated so that it is fully combusted, but the burner assembly operates with a minimum of gas-flow noise.

What is claimed is:

1. A gas burner assembly comprising:

(a) an open-topped container pan having a bottom wall, a back wall and two opposing side walls, the bottom wall having a forward moiety and a rearward moiety,

(b) a perforated gas burner pipe header disposed above the bottom wall and in between and transverse to the two opposing side walls;

(c) means for connecting the burner pipe to a source of combustion gas;

(d) a gas deflector plate having a forward edge and a rearward edge, the deflector plate being disposed in between and transverse to the side walls and in a plane parallel to the burner pipe;

wherein the deflector plate extends between the burner pipe and the forward moiety of the bottom wall with the forward edge of the deflector plate being disposed proximate to the bottom wall so as to form a narrow, horizontal slit having a central section and two opposing periphery sections; and wherein the height of the central section of the horizontal slit is more than 30% greater than the height of the periphery sections of the horizontal slit.

2. The gas burner assembly of claim 1 wherein the central section of the horizontal slit is uniform in height.

3. The gas burner assembly of claim 2 wherein the height of the central section of the horizontal slit is between about $\frac{1}{2}$ inch and $\frac{1}{4}$ inch.

4. The gas burner assembly of claim 1 wherein the central section of the horizontal slit is at least 80% longer than the length of either of the periphery sections of the horizontal slit.

5. The gas burner assembly of claim 1 wherein each of the periphery sections of the horizontal slit is between about $\frac{1}{2}$ inches and about 3 inches in length.

6. The gas burner assembly of claim 1 wherein the periphery sections of the horizontal slit are both between about 1 inch and about $1\frac{1}{4}$ inches in length.

7. The gas burner assembly of claim 1 wherein the gas deflector plate is disposed proximate to the opposing sidewalls.

8. The gas burner assembly of claim 1 wherein the gas deflector plate is attached to the opposing sidewalls.

9. The gas burner assembly of claim 1 wherein the gas deflector plate is attached to the burner pipe.

10. The gas burner assembly of claim 1 wherein the opposing side walls of the container pan are triangular in shape.

11. The gas burner assembly of claim 1 wherein the opposing sidewalls of the container pan are disposed in parallel planes spaced apart by a distance between about 10 inches and about 36 inches.

12. The gas burner assembly of claim 1 wherein the opposing sidewalls of the container pan are disposed perpendicular to the bottom wall.

13. The gas burner assembly of claim 1 wherein the burner pipe is disposed horizontally between the opposing sidewalls.

14. The gas burner assembly of claim 1 wherein the perforations in the burner pipe are angled toward the forward moiety of the bottom wall at an angle between about 5° and about 35° from the vertical.

15. The gas burner assembly of claim 1 wherein the perforations in the burner pipe are angled toward the forward moiety of the bottom wall at an angle between about 10° and about 20° from the vertical.

16. The gas burner assembly of claim 1 wherein the perforations in the burner pipe are uniform in diameter.

17. The gas burner assembly of claim 1 wherein a vertical baffle is attached to the forward moiety of the bottom wall at a location forward of the horizontal slit.

18. The gas burner assembly of claim 1 wherein the height of the vertical baffle is between about $\frac{1}{2}$ inch and about 2 inches.

19. The gas burner assembly of claim 1 wherein the distance between the vertical baffle and the horizontal slit is between about $\frac{1}{2}$ inch and about 2 inches.

20. A gas burner assembly comprising:

(a) An open-topped container pan having a bottom wall, a back wall and opposing side walls, the bottom wall having a forward moiety and a rearward moiety, the side walls being disposed in parallel vertical planes perpendicular to the bottom wall, and the opposing side walls being triangular in shape with a height proximate to the back wall of between about 4 inches and about 10 inches;

(b) A perforated gas burner pipe disposed horizontally between about 1 inch and about 4 inches above the bottom wall and disposed in between and transverse to the two opposing side walls;

(c) Means for connecting the burner pipe to a source of combustion gas;

(d) A gas deflector plate having a forward edge, a rearward edge and opposing side edges, the rearward edge being attached to the gas burner pipe and each of the opposing side edges being attached to a corresponding opposing side wall of the container pan;

wherein the forward edge of the deflector plate is disposed proximate to the bottom wall so as to form a narrow, horizontal slit having a central section and two opposing periphery sections;

wherein the central section of the horizontal slit is between about 4 and 10 times the length of either of the periphery sections; and

wherein the height of the central portion of the horizontal slit is at least about 50% greater than the height of the periphery sections of the horizontal slit.

* * * * *

United States Patent

(111) 3,583,845

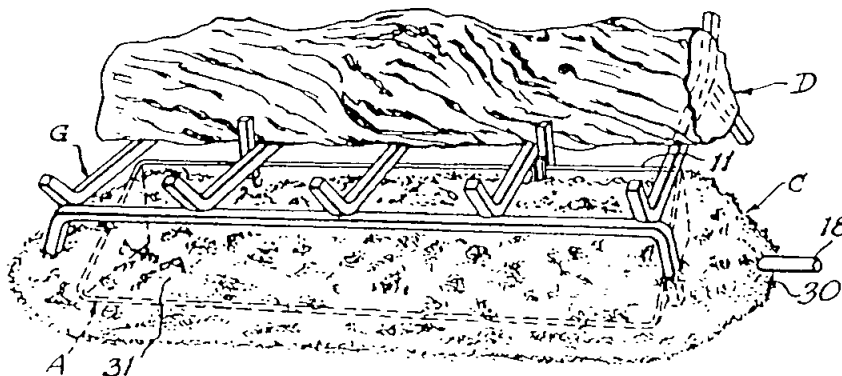
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211 N. Madison Ave., Los Angeles, Calif.
90004
[21] Appl. No. **867,530**
[22] Filed **Oct. 20, 1969**
[45] Patented **June 8, 1971**

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Primary Examiner—Edward G. Favors
Attorney—Lynn H. Latta

[54] **CLOSING COALS BURNER ATTACHMENT FOR
GAS LOG FIREPLACE FIXTURE**
8 Claims, 6 Drawing Figs.

[52] U.S. CL. 431/125,
126/127, 431/328
[51] Int. Cl. F24b 1/18
[50] Field of Search 431/125,
328, 126/127, 41

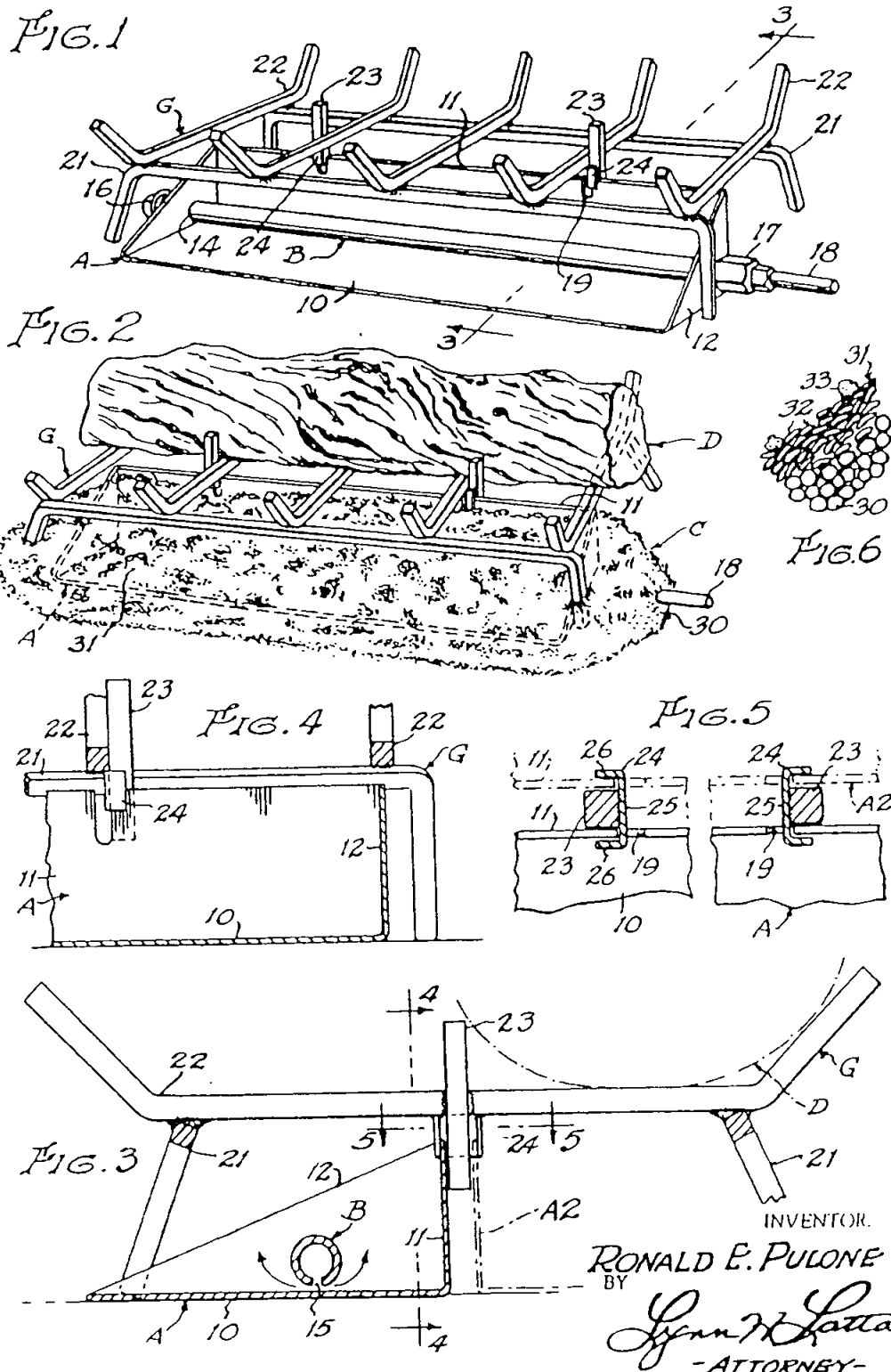
ABSTRACT: A burner having a pan containing a loose body of gas-diffuser particles having a surface coating adapted to realistically simulate a bed of glowing coals and ashes in the presence of burning gas, is positioned beneath a log-holding grate having a lift-off loose positioning attachment thereto, the pan and diffuser body dispersing the gas emitted from burner orifices with maximum realism of simulation of a log fire.



EXHIBIT

D-12

JT-APP 2259



GLOSING COALS BURNER ATTACHMENT FOR GAS LOG FIREPLACE FIXTURE

BACKGROUND OF THE INVENTION

It has been common practice heretofore to utilize a heap of noncombustible particles as a covering over a gas burner (perforated tube) to spread the gas emitted from the burner. Prior devices however, have not been successful in realistically simulating a real fireplace fire.

It has also been common practice to utilize an assembly of perforated tube burner and one or more imitation logs of noncombustible material supported in a grate above the burner, the flame from the burner heating some areas of the logs to a glowing condition

SUMMARY OF THE INVENTION

The invention provides a burner in which a perforated tube extends between the ends of crystal silica sand-holding pan, close to the bottom thereof, the gas jets being directed by the burner tube downwardly against the pan, thence spreading and rising through the bed of silica grains and burning at the surface of the bed which is coated with a sprinkling of a mixture of noncombustible particles which, when contacted by burning gas, produce the appearance of glowing coals overlaid with ashes. The pan has a configuration sloping downwardly and forwardly so as to contain and shape the heap of gas-diffuser material in a downwardly and forwardly sloping bed in which a maximum display area is provided by a minimum quantity of the diffuser material. The grate is provided with downwardly projecting fingers having coupling clips which fit downwardly over edges of the back of the pan to loosely couple the pan to the grate in properly positioned relation thereto while the pan and grate rest flatly on the fireplace firebox floor.

A mixture of asbestos and expanded mica particles with a minor proportion of artificial volcanic rock provides a surface covering for the bed of silica grains, to produce the glowing coals and ashes effect.

The general object of this invention is to attain improved realism in simulating a burning bed of flowing coals beneath an imitation log or logs in a fireplace grate. A further object is to provide a coupled burner and grate assembly in which the grate can be uncoupled from the burner simply by lifting it off.

Other objects will become apparent in the ensuing specifications and appended drawings, in which:

FIG. 1 is a perspective view of my improved burner and grate assembly;

FIG. 2 is a perspective view of a fireplace installation including the gas-diffuser bed and a log in assembly with the burner and grate in a gas log apparatus;

FIG. 3 is a vertical sectional view taken on line 3-3 of FIG. 1;

FIG. 4 is a detail sectional view taken on line 4-4 of FIG. 3;

FIG. 5 is a detail sectional view taken on line 5-5 of FIG. 3;

and FIG. 6 is a detail of the glowing-coals coating

Referring now to the drawing in detail, I have shown therein, as an example of one form in which the invention can be embodied, a gas log assembly including, in general, a burner comprising a pan A and a burner tube B, a grate G disposed above and loosely coupled to the pan A with both units resting on a firebox; a bed of gas-diffuser particles C to simulate a bed of coals; and an imitation log D which may be of conventional construction, only one log being shown although the invention contemplates the use of one or more logs in piled assembly

Pan A comprises a bottom 10 adapted to rest flatly on a firebox floor, a back 11 and triangular ends 12 sloping downwardly and forwardly to the front edge of bottom 10, the front of the pan being open. Burner tube B extends through openings 14 in ends 12 near the bottom 10, being slightly spaced above the bottom so that gas may emerge from orifices

15 in the lower side of tube B, spread forwardly and rearwardly into the diffuser bed C, and thence percolate upwardly through the bed, to burn at the surface thereof. Tube B is provided with a conventional closure cap 16 at one end and a fitting 17 at its other end for attachment to a connector tube 18 for connecting it to a gas outlet.

The back 11 is provided with upwardly opening vertical notches 19 for reception of coupling clips on the grate

Grate G is largely of conventional design, including forward and rear leg arches 21 bridged by basket U-bars 22 welded thereto. Leg arches 21 are adapted to rest on the same firebox floor which supports pan A. To two of the U-bars 22 (e.g. the second bar from each end) are secured respective vertical fingers 23 having downwardly extending portions to which are secured coupling clips 24 of channel section. The web 25 of each clip (FIG. 5) is welded to a side of a respective finger 23 in a plane at right angles to the longitudinal axis of the assembly, and its lateral lips 26 are spaced from the front and rear side of the finger to define slots in which vertical edges of the back 11 in notches 19 may be received. The two clips 24 may be arranged with their coupling lips 25 extending in opposite directions, to provide a symmetrical arrangement, although this is not essential.

U-bars 22 collectively define a basket in which a pile of logs D may be supported, with two base logs resting directly against the U-bars and one or more additional logs piled upon the two base logs, positioning and spacing them for improved support of the superimposed log or logs.

Refractory body C comprises a main body of silica sand 30 and a thin surface coating 31 comprising a mixture of asbestos and expanded mica (e.g. Zonolite) particles 32 along with a minor proportion of artificial volcanic rock fragments 33. This mixture, in the presence of burning gas, provides a visual surface effect of mottled appearance, a mixture of dark and bright spots, the dark spots being created by the deeper recesses of the mixture, the high fringes of the mixture glowing where the flame touches them, the expanded mica particles and asbestos fibers glowing with a reddish color, and the non-glowing portions remaining a greyish white having the appearance of ashes. The glowing coals mixture 31 covers the silica grains 30 completely but not uniformly, being scattered over the sand body so as to obscure the same somewhat unevenly. The volcanic rock fragments 33, when heated to incandescence, will attain a more sustained glow than the asbestos and mica particles, which create a somewhat flickering glow when touched by slightly flickering flames of the burning gas. The overall effect is an appearance of red coals, dark burned clumps and greyish white ashes. When cold, the mixture 31 gives the appearance of grey-white ashes.

As indicated in FIG. 3, a second burner pan A2 (shown in phantom) may be coupled to clips—in back-to-back relation to pan A, where a more extensive bed of coals is desired. The pan A2 is coupled to the alternate pair of coupling lips

I claim.

1. In a gas log assembly, in combination:

a burner comprising a tube having a gas-emitting orifice, a pan for holding a gas-diffuser bed of loose, noncombustible particles covering said burner tube and dispersing the gas jet issuing from said orifice for burning at the surface of said body,

said pan having a bottom for resting flatly on a hearth in a horizontal plane and its front being completely open so that said bed can extend beyond its front margin and rest directly on the hearth so as to conceal said front margin,

said pan having an upstanding back to contain the rear portion of said bed and having generally triangular ends with free margins sloping downwardly and forwardly from the upper margin of said back to the plane of said bottom at the forward margin thereof, said sloping margins functioning as guides to determine a slope for the forward surface of said gas-diffuser bed, said burner being disposed above said bottom and closely adjacent thereto intermediate its forward margin and said back;

said pan being attached to said burner in fixed relation thereto;
a grate disposed above said burner when resting on said hearth; and
means for loosely coupling said grate to said pan to position the grate with reference to the pan and burner while allowing the grate to be freely lifted off the burner and pan assembly.
2. The combination defined in claim 1, wherein said loosely coupling means comprises a pair of fingers projecting downwardly from said pan; and
respective coupling clips on said fingers, defining vertical slots in which vertical edges of said back are loosely received to position said grate relative to said burner while allowing the grate to be freely lifted off the burner
3. The combination defined in claim 2, wherein said back has a pair of vertical open notches in its upper marginal portion, one side of each notch defining one of the vertical edges loosely received in said coupling clips.
4. The combination defined in claim 2, wherein said back has a pair of vertical slots adapted to receive said clips, said vertical edges being defined within said slots.
5. The combination defined in claim 1, including said gas-diffuser bed comprising a main body of silica grains contained in said pan in a heap covering said burner tube

6. The combination defined in claim 1, including said gas-diffuser bed comprising a main body of silica grains contained in said pan in a heap covering said burner tube; and
a thin surface coating of asbestos particles mixed with a minor proportion of larger particles of artificial volcanic rock and cinders adapted when areas of said coating are contacted by flames, to simulate glowing coals and ashes on the surface of said bed.
7. The combination defined in claim 1, including said gas-diffuser bed comprising a main body of silica grains contained in said pan in a heap covering said burner tube; and
a thin surface coating of asbestos particles mixed with a minor proportion of larger particles of artificial volcanic rock adapted when areas of said particles are contacted by flames, to simulate glowing coals and ashes on the surface of said refractory body,
said thin coating further including expanded mica particles mixed with said asbestos and volcanic rock particles.
8. The combination defined in claim 1, including said gas-diffuser bed comprising a main body of silica grains contained in said pan in a heap covering said burner tube;
said gas-emitting orifice being disposed on the underside of said burner tube and directing the emitted gas jets downwardly.

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December 10, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

President
Robert H. Peterson Company
14724 East Proctor Ave
City of Industry, CA 91746

Re.: United States Patent 5,988,159
Our File: 09842/60434

Dear Sir:

Our firm represents Golden Blount, Incorporated. On November 23, 1999, United States Patent 5,988,159 was issued by the United States Patent and Trademark Office. Golden Blount, Incorporated is the exclusive licensee of the patent. For your information, we are enclosing a copy of the patent.

Our client has informed us that your company is marketing a device that is substantially similar to the burner assembly that is claimed in each of the claims of the subject patent.

The purpose of this letter is to place you on notice of the issuance of the patent and to inform you that our client has instructed us to take whatever steps are reasonable and necessary to prevent infringement of the patent.

Please let us know your intentions regarding the continued sale of your products vis-à-vis the subject patent. Since time is of the essence in protecting our client's rights, we expect to hear from you no later than January 14, 2000.

Very truly yours,

LOCKE LIDDELL & SAPP LLP

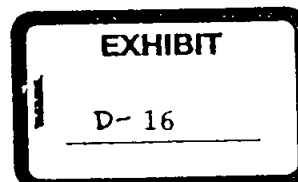


L. Dan Tucker

LDT/klu
Enclosure

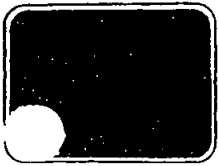
c: Golden Blount

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JT-APP 2263



ROBERT H. PETERSON CO.

Established 1949

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December 17, 1999

F. William Mc Laughlin
Wood Phillips, Van Santen, Clark & Mortimer
Suite 3800
500 W. Madison Street
Chicago, IL 60661

RECEIVED
DEC 23 1999

WOOD, PHILLIPS, VAN SANTEN.

Dear Bill,

Enclosed is a patent infringement letter we received from Golden Blount's Attorney. I have also enclosed a copy of our instructions and working drawings.

We have been selling this product since May 1999 and received certification from CSA (AGA) in April 1999.

Please call me after you have reviewed.

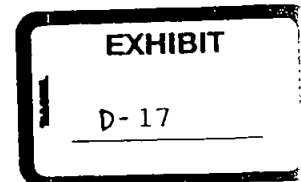
Sincerely,

Tod M. Corrin
Vice President & General Manager

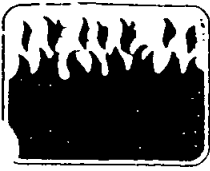
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CC: Leslie Bortz

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December 30, 1999

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2200 Ross Avenue, #2200
Dallas, TX 75201-6776

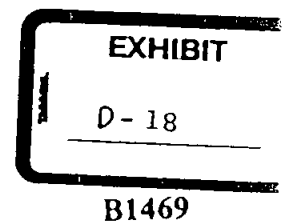
Dear Mr. Tucker,

We acknowledge receipt of your letter of December 10, 1999. The letter has been forwarded to our attorneys for their review and consideration. We will try to get back to you as soon as possible. However, your expectation as to when we should respond is unreasonable.

Sincerely,

Tod M. Corrin
Vice President & General Manager

TC:lf

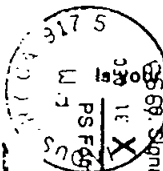
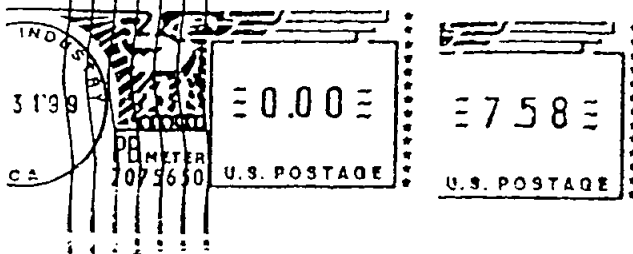


Manufacturers of "Fire Magic" Barbecues, "Real-Fyre" and "Hallmark" Hearth Products

JT-APP 2265

ROBERT H. PETERS N CO.

City of Industry, CA 91746



RETURN ADDRESS completed on the reverse side?

SENDER: Complete items 1 and/or 2 for additional services. Complete items 3, 4a, and 4b. Print your name and address on the reverse of this form so that we can return the card to you. Attach this form to the front of the mailpiece, or on the back if space does not permit. Write "Return Receipt Requested" on the mailpiece below the article number. The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. ☐ Addressee's Address 2. ☐ Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Mr. L. Dan Tucker Locke Hiddell & Scapp LP 2200 Ross Ave #2200 Dallas, TX 75201-6776		4a. Article Number 4b. Service Type ☒ Registered ☐ Certified ☐ Express Mail ☐ Insured ☐ Return Receipt for Merchandise ☐ COD	
5. Received By: (Print Name) 6a. Signature: (Addressee or Agent)		7. Date of Delivery 8. Addressee's Address (Only if requested and fee is paid)	

PS Form 3811, December 1994
 102595-97-8-0179 Domestic Return Receipt
 75201-6776
 Receipt Requested

Thank you for using Return Receipt Service.

B1470

LOCKE LIDDELL & SAPP LLP

ATTORNEYS & COUNSELORS

2200 ROSS AVENUE
SUITE 2200
DALLAS, TEXAS 75201-6776

AUSTIN • DALLAS • HOUSTON • NEW ORLEANS

(214) 740-8000
FAX: (214) 740-8800
www.lockeliddell.com

Writer's Direct Dial
214-740-8730
email: ldtucker@lockeliddell.com

May 3, 2000

CERTIFIED - RETURN RECEIPT REQUESTED

Mr. Tod M. Corrin
Vice President and General Manager
Robert H. Peterson Co.
14724 East Proctor Ave
City of Industry, CA 91746

Re.: United States Patent 5,988,159
Our File: 09842/60434

Dear Mr. Corrin:

On December 10, 1999, I forwarded a letter to Robert H. Peterson Co. with an enclosed copy of U.S. Patent 5,988,159. On December 30, 1999, you indicated that we would be receiving some response from you regarding our earlier letter.

As of this date, we have not received the response you indicated would be forthcoming.

We have inspected your EMB Series Ember Flame Booster and find it to be clearly within the scope of at least some of the claims of the subject patent. Our client views any infringement of its patent with great concern and will take necessary steps to stop any such infringement.

Our client wishes to resolve the matter of infringement of the subject patent as soon as possible.

use to our earlier letter.

truly yours,

KE LIDDELL & SAPP LLP

John Tucker

in Tucker

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail (See reverse)

Signature of Addressee	Signature of Sender
<i>T. Corrin - Rbt. Peterson Co</i>	<i>John Tucker</i>
Street Address	City, State, ZIP Code
<i>14724 East Proctor Ave</i>	<i>City of Industry, CA 91746</i>
Postage	Postmark or Date
\$	
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$

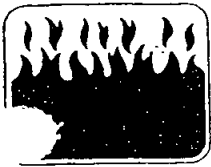
PS Form 3800, April 1995

EXHIBIT

D-19

B1214

JT-APP 2267



ROBERT H. PETERSON CO.

Established 1949

14724 East Proctor Avenue, City of Industry, CA 91746 • (626) 369-5085 • FAX (626) 369-5979

May 16, 2000

Mr. L. Dan Tucker
Locke Liddell & Sapp, LLP
2200 Ross Avenue, Suite 2200
Dallas, TX 75201-6776

Dear Mr. Tucker:

We have received your letter of May 3, 2000 and you are correct in that we have not yet responded.

Our lack of response has been due to at least in part to our inability to understand what you want. Your December 10, 1999 letter states that your client has informed you that the Robert H. Peterson Company is "marketing a device that is substantially similar to the burner assembly that is claimed in each of the claims of the subject patent". We very much disagree with this statement.

Your letter of May 3, 2000 states, "We have inspected your EMB Series Ember Flame Booster and find it to be clearly within the scope of at least some of the claims of the subject patent"

Please explain to us, in detail, the basis upon which you believe that we are infringing on your client's patent.

Very truly yours,

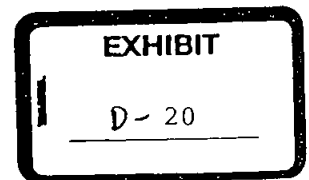
Terrell A. Stone
Vice President

TS sv

Mailed 5/17/00

lvd/peterson/tucker

Manufacturers of "Fire Magic" Barbecues, "Real-Fire" and "Hallmark" Hearth Products



B1467

JT-APP 2268

LOCKE LIDDELL & SAPP LLP

ATTORNEYS & COUNSELORS

2200 ROSS AVENUE
SUITE 2200
DALLAS, TEXAS 75201-6776

AUSTIN • DALLAS • HOUSTON • NEW ORLEANS

(214) 740-8000
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DIRECT NUMBER: (214) 740-8556
email: rhardin@lockeliddell.com

January 19, 2001

Mr. Todd M. Corrin
Vice President and General Manager
Robert H. Peterson Company
14724 East Proctor Avenue
City of Industry, California 91746

Re: Infringement of United States Patent No. 5,988,159

Dear Mr. Corrin:

Our office contacted you by way of letter December 10, 1999, forwarding to you a copy of the above-identified United States Patent. We informed you at that time that Golden Blount, Inc. had informed us that your company is marketing a device that is substantially similar to the burner assembly that is claimed in each of the claims of the subject patent.

By return letter of December 30, 1999, you advised that our letter had been forwarded to your attorneys for their review and consideration and indicated you would try to get back to us as soon as possible.

In expectation of a reasonable response, our client has not taken any action until recently. In view of your company's failure to respond or indicate in any manner its intentions with respect to the infringing product, we have been instructed by our client to file a patent infringement action in the United States District Court for the Northern District of Texas, Dallas Division. A copy of the Complaint as filed, as well as a Notice of Lawsuit and Request for Waiver of Service for Summons is enclosed with this correspondence. Please review the Notice carefully and let us know within thirty (30) days whether or not you will waive service of summons as explained in those papers.

Golden Blount, Inc. demands that your company immediately cease and desist all further sales of your company's "Ember Flame Booster" and any similar infringing accessory kits. Since your company has been on notice for some time regarding the rights of Golden Blount, Inc. under the '159 patent, the company will be seeking treble damages, as well as attorneys fees in addition to injunctive relief.

EXHIBIT

D- 21

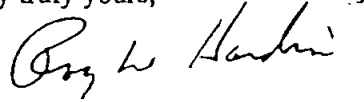
B1462

JT-APP 2269

Mr. Todd M. Corrin
January 19, 2001
Page 2

This action has become necessary due to the complete silence and lack of communication from your company regarding this matter. In the absence of an indication from your company that it is willing to acknowledge and respect the rights granted to Golden Blount, Inc. under the '159 patent, our firm has been instructed to vigorously pursue the litigation.

Very truly yours,



Roy W. Hardin

RWH:js

Enclosures



ROBERT H. PETERSON CO.

Established 1949

14724 East Proctor Avenue, City of Industry, CA 91746 • (626) 369-5085 • FAX (626) 369-5979

February 9, 2001

Mr. F. William McLaughlin
Wood, Phillips, Van Santen, Clark & Mortimer
Northwestern Atrium Center
500 West Madison Street, Suite 3800
Chicago, Illinois 60606-2511

RECEIVED
FEB 14 2001

WOOD, PHILLIPS, ET AL

Re: Golden Blount Lawsuit

Dear Bill:

Please find enclosed the following material:

- Enclosure 1A: This is an F3 Series Circular Burner-actually three burners. They each have individual gas control valves (HE-1)
- Enclosure 2A: Picture of various valves used routinely in various of our products to selectively control the flow of gas from primary burner to secondary or tertiary burners.
- Enclosure 3A: A sample of a price list (1977) showing products which had "gas control valves" after the primary burner on them. These or similar products were on our price list for about 20 years; from the mid to late 1960's until the mid-1980's. We continued to sell these products until very recently.
- Enclosure 4A: Instruction Sheet used with some of the sets we sold. dated 1970-1975(?).
- Enclosure 5A: A supplemental sheet showing use of a gas control valve after the primary valve, (and, often, after the primary burner).
- Many thousands of these were installed over many years.
- Enclosure 6A: Another Circular Set wherein flame control after primary burner was used- dated 1975-1985(?).

Sincerely,

Leslie S. Bortz

CONFIDENTIAL FOR ATTORNEYS EYES ONLY

CONFIDENTIAL FOR ATTORNEYS EYES ONLY

EXHIBIT

D-22

000009

wd/peterson/mclaughlin2901

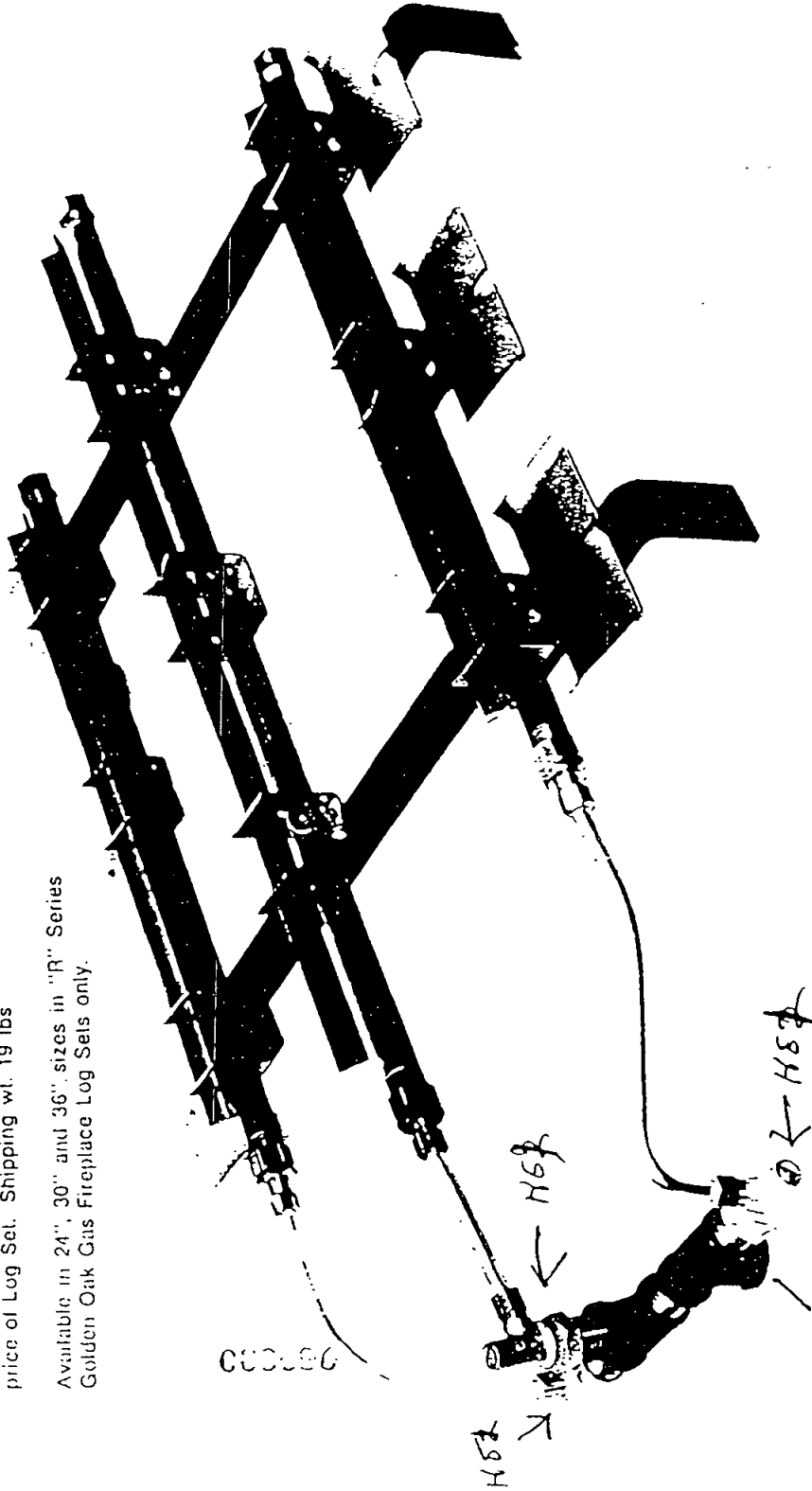
Manufacturers of "Fire Magic" Barbecues, "Real-Fyre" and "Hallmark" Hearth Products

JT-APP 2271

Real-Fyre F3 SERIES CIRCULAR BURNER

Model F3-30 Series Circular 30" Burner with Type "B" Installation Kit. Attach to Model LR-4 Log Rests which are included with the price of Log Set. Shipping wt. 19 lbs

Available in 24", 30" and 36" sizes in "R" Series Golden Oak Gas Fireplace Log Sets only.

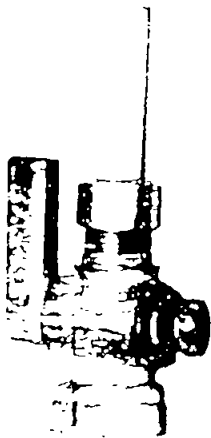


MAIN
GAL

1A

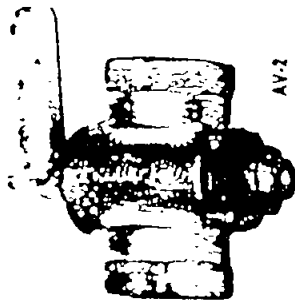
Robert H. Peterson Company 2835 Sierra Grande St., Pasadena, Calif. 91107 • (213) 793-3118 • 681-9784
a Division of Beatrice Foods Co.

REAL-FYRE AUXILIARY VALVES AND BURNER PARTS



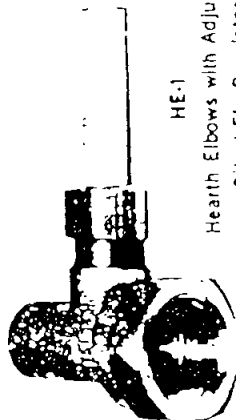
AV-1

Attaches to output end of hearth elbow. Used with 18" to 36" conventional or see-thru sets



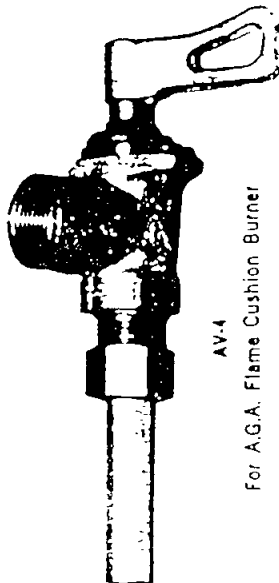
AV-2

Installs in 1/2" gas line to control multiple air mixers on 42" to 60" sets as well as all circular sets.



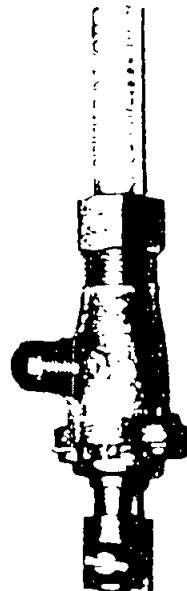
HE-1

Hearth Elbows with Adjustable Silent Flo Regulator



AV-4

For A.G.A. Flame Cushion Burner



AV-3 Consists of V-3 valve, VA-2 adapter and extension handle for mounting on burner.

000001

JT-APP 2273

© 1971

ROBERT H. PETERSON COMPANY / 2835 Sima Grande St., Pasadena, California / (213) 793 3118/681 9784

2A

REAL-FYRE HEARTH LOGS with FRONT-FLAME BURNER

FOR CONVENTIONAL LOG SET SIZES 16" THRU 60"
SEE THRU AND CIRCULAR LOG SETS—SIZES 18" THRU 48"

IMPORTANT

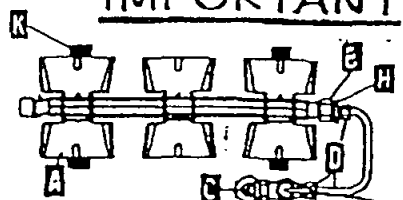


FIGURE 1 — SEE THRU BURNERS

HEARTH LOG IS TO BE OPERATED ONLY IN VENTED FIREPLACE WITH CHIMNEY FREE OF ANY OBSTRUCTIONS, USING NATURAL OR LP GASES. Like the burning of real fireplace wood, operation of the gas burner will result in fumes and smoke coming into the room unless exhausted up the chimney. Flame from the Real-Fyre burner will appear the same as from a "natural" fire, blackening the inner walls of the fireplace with the same carbon or soot deposits.

If fumes from the burner emerge into the room leaving a smell like a smoldering oil lamp, it indicates that the fireplace draft is defective and NOT THE BURNER. Check chimney for obstructions and be certain the damper is fully open. Do not operate logs until fireplace draft is corrected.

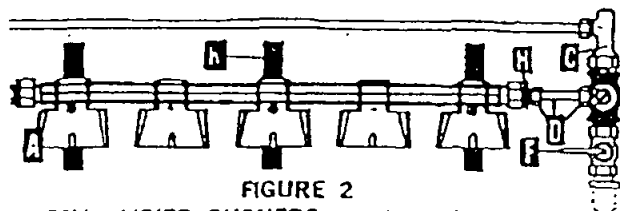


FIGURE 2

DUAL MIXER BURNERS — 42" OR LONGER
CONVENTIONAL OR SEE THRU

1. **BURNER PLACEMENT.** Remove burner from shipping box and set on any available grate or attach to log rests "K" which may be used in place of grate. Always face flame chutes "A" toward room. Fuel injector "B" may be mounted on opposite end of burner if desired.

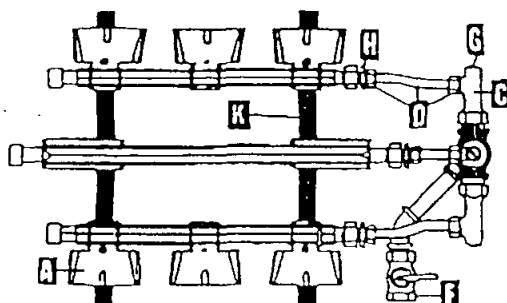


FIGURE 3 — CIRCULAR SET BURNERS

2. **BURNER CONNECTION.** Separate connections are made to EACH (Fig. 1, 2 and 3), using hearth elbows "C" and tubing with compression fittings "D". Auxiliary valves, "E" or "F", are used only when fireplace has no built-in valve, and must be ordered separately.

3. **ADJUSTING FLAME SIZE.** Open gas valve "E" "F" or your built-in gas shut off valve wide and light burner. Using a screwdriver remove plug in top of hearth elbow "C". Beneath this is a regulating screw which can be adjusted by turning to control the amount of gas through the burner. Adjust control for desired flame height. Adjusting screw is not to be removed from hearth elbow "C". Be certain plug is replaced after any adjustment.

4. **ADJUSTING FLAME CHARACTERISTICS.** Air shutter "H", controlling air flow into the burner, is used to adjust flame characteristics. Turned counterclockwise, air flow is increased. Flame then becomes bluish and burner emits maximum heat. As logs are heated flame then turns yellow. Turning shutter clockwise, shuts off air flow. Flame becomes larger, brighter, and "natural," disappearing from flame pans beneath logs. Adjust shutter until desired flame characteristic is obtained.

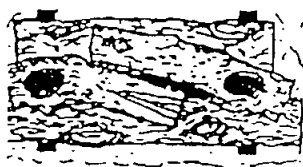


FIGURE 4 — TOP VIEW
CONVENTIONAL OR SEE THRU ARRANGEMENT

5. **LOG PLACEMENT.** Place bottom logs with cavities towards burner. With top logs lay cavity downwards with open knotholes centered over outer ends of burner (Fig. 4). Top logs must not "choke-off" flames which must be free to cascade up and around logs. "Wiggling" or re-positioning logs slightly will yield the desired flame patterns.

To add to the natural appearance of your hearth log installation, place real wood ashes and charred twigs on hearth below logs.

Real-Fyre hearth logs are carefully inspected before shipment and are free from defects in material and workmanship. If a hairline crack appears in a log after use it is due to "heat shock" and is not a concern since logs are reinforced with iron rods and will remain intact.

00000

REAL-FYRE®

GAS FIREPLACE LOG SETS & ACCESSORIES

LIST PRICE SHEET
Effective March 1, 1977
Supersedes all other price sheets

HOW TO USE THIS PRICE LIST

SELECT BURNER SYSTEM

1. Glowing Ember (See Block I)
2. Front-Flame (See Block II)
3. Flame Pan (See Block III)
4. AGA/CGA Design Certified (See Block IV)

SELECT LOG STYLE

1. Oak, Pine and Birch (See Blocks I to IV)
2. Royal English Oak (See Block I)
3. Manzanita (See Block III)

I. "G4" SERIES Log Sets with Glowing Ember Burner

Includes: 1. Logs 2. Ember Burner 3. Custom Grate 4. Connector Kit 5. Ember Kit

Note: Shipped for use w/Natural Gas — specify if for L.P. Gas.

STYLE	Fireplace	No.	PRICE	18"	18"	24"	30"	36"	42"	48"	54"	60"
 MOUNTAIN OAK	Standard	KG4	PRICE weight no. ctns. part no.		78.50 65.00 2 176318	88.00 74.00 2 176324	107.50 90.00 2 176330	139.00 154.00 3 176336				
	See-thru	KG4-2	PRICE weight no. ctns. part no.		109.00 78.00 2 176618	124.00 89.00 2 176624	153.50 129.00 2 176630	186.50 202.00 4 176636				
 GOLDEN OAK	Standard	RG4	PRICE weight no. ctns. part no.	64.50 40.00 2 171316	77.00 59.00 2 171318	87.50 71.00 2 171324	108.50 95.00 3 171330	139.50 147.00 3 171336	191.00 214.00 4 171342	222.50 244.00 4 171348	252.00 299.00 6 171354	272.00 327.00 6 171360
	See-thru	RG4-2	PRICE weight no. ctns. part no.	96.50 54.00 1 171618	110.50 71.00 2 171618	125.00 88.00 2 171624	151.00 121.00 2 171630	184.00 199.00 3 171636	242.00 265.00 5 171642	281.50 306.00 5 171648	338.50 375.00 5 171654	343.50 384.00 5 171660
 TWISTED PINE	Standard	CG4	PRICE weight no. ctns. part no.		78.50 59.00 2 172318	88.50 69.00 2 172324	99.50 86.00 2 172330	134.50 125.00 3 172336				
	See-thru	CG4-2	PRICE weight no. ctns. part no.		107.00 71.00 2 172618	122.00 85.00 2 172624	143.00 111.00 2 172630	178.50 161.00 4 172636				
 WHITE BIRCH	Standard	WG4	PRICE weight no. ctns. part no.		81.00 65.00 2 173318	88.00 69.00 2 173324	110.00 90.00 2 173330					
	See-thru	WG4-2	PRICE weight no. ctns. part no.		114.50 77.00 2 173618	124.00 88.00 2 173624	163.00 123.00 2 173630					
 ROYAL ENGLISH OAK	Standard	BG4	PRICE weight no. ctns. part no.			133.50 122.00 3 175324	157.00 157.00 3 175330	177.50 200.00 4 175336				
	See-thru	BG4-2	PRICE weight no. ctns. part no.			161.50 152.00 3 175624	182.50 180.00 3 175630	229.50 236.00 4 175636				

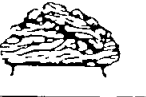
HOW TO ORDER

1. Give quantity and Stock Number.
2. Add length to Log Set Stock Number.
Example: Golden Oak, Glowing Ember 24" Burner Order. Quantity and No. RG4-24

II. "F" SERIES Log Sets with Front-Flame Burner

Includes: 1. Logs 2. Gas burner(s) 3. Custom grate 4. Connector kit(s)

Note: Shipped for use w/Natural Gas — specify if for L.P. Gas

STYLE	Fireplace	No.	PRICE	18"	18"	24"	30"	36"	42"	48"	54"	60"
 MOUNTAIN OAK	Standard	KF	PRICE weight no. ctns. part no.		59.00 47.00 2 176118	70.00 58.00 2 176124	91.50 79.00 2 176130	127.00 127.00 3 176136				
	See-thru	KF2	PRICE weight no. ctns. part no.		70.00 48.00 2 176418	74.50 61.00 2 176424	99.00 90.00 2 176430	140.50 152.00 4 176436				
 GOLDEN OAK	Standard	AF	PRICE weight no. ctns. part no.	53.00 26.00 1 171118	64.00 41.00 2 171118	74.00 55.00 2 171124	96.50 75.00 2 171130	120.00 120.00 3 171136	181.50 181.00 4 171142	208.50 204.00 4 171148	232.50 268.00 4 171154	255.50 298.00 4 171160
	See-thru	AF2	PRICE weight no. ctns. part no.	60.00 31.00 1 171418	67.00 42.00 2 171418	80.50 60.00 2 171424	115.00 93.00 2 171430	151.50 149.00 4 171436	191.00 199.00 4 171442	221.50 231.00 4 171448	253.00 269.00 4 171454	259.50 309.00 4 171460
	Circular	AF3	PRICE weight no. ctns. part no.			110.00 86.00 2 171824	175.00 155.00 3 171830	257.00 250.00 5 171836				
 TWISTED PINE	Standard	CF	PRICE weight no. ctns. part no.		55.50 41.00 2 172118	65.00 53.00 2 172124	79.50 66.00 2 172130	114.50 98.00 3 172136				
	See-thru	CF2	PRICE weight no. ctns. part no.		59.00 42.00 2 172418	66.50 57.00 2 172424	87.00 73.00 2 172430	126.00 111.00 4 172436				
 WHITE BIRCH	Standard	WF	PRICE weight no. ctns. part no.		66.30 47.00 2 173118	78.00 53.00 2 173124	86.00 76.00 2 173130					
	See-thru	WF2	PRICE weight no. ctns. part no.		63.30 48.00 2 173418	70.50 56.00 2 173424	111.00 85.00 2 173430					

CODE FOR GAS LOG SETS

- LOG STYLE
- K. Mountain Oak
 - R. Golden Oak
 - C. Twisted Pine
 - W. White Birch
 - B. Royal English Oak
 - M. Manzanita

BURNER STYLE

- G4. Glowing Ember
- F. Front Flame
- P. Flame Pan
- A. AGA and CGA
- E. Deluxe Log Lighter
- 2. See-thru Fireplaces
- 3. Circular Fireplaces

000092

R.H.P.

F A C S I M I L E

Date: 2/09/01

TO: Leslie Bortz

FIRM: RH Peterson Co

FAX #: _____

FROM: Vince Jankowski

(47)

Total No. of pages transmitted including this cover sheet: 2

Leslie, this is the copy of our instructions
on the HE-1 Adjusting Hearth Elbow to regulate
the flame and gas flow to other burners in the
same assembly, after the main gas valve supply.

*I believe we sold units with these
particular instructions from the mid to late 1950's until
about the mid 1980's*

From the desk of ...

Robert H. Peterson Co
14724 E. Proctor Ave.
City of Industry, CA
91746

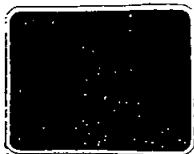
(626) 369-5085
(626) 369-5979 Fax

☐ Reply Requested

Note: if receiving location does not receive all pages, PLEASE call (626) 369-5085.
This is being transmitted from Fax (626) 369-5979 or (626) 369-2458.

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JT-APP 2276



Charmglow PETERSON PRODUCTS

A Division of Beatrice Foods Co 2835 Sierra Grande Street, Pasadena, California 91107 (213) 793-3118 681-9784

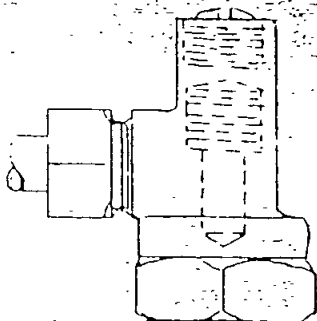
QUIET BURNER OPERATION —

A partially opened gas valve, unlike one turned on full, creates a loud hissing noise, appearing to come from burner itself.

The SILENT-FLO feature within the REAL-FYRE hearth elbow, provides means for permanently regulating the flow of gas, so burner may always be operated with valve in "wide open" position, where it is silent.

Proper procedure for this adjustment is as follows:

1. Light burner and make sure valve is turned on full.



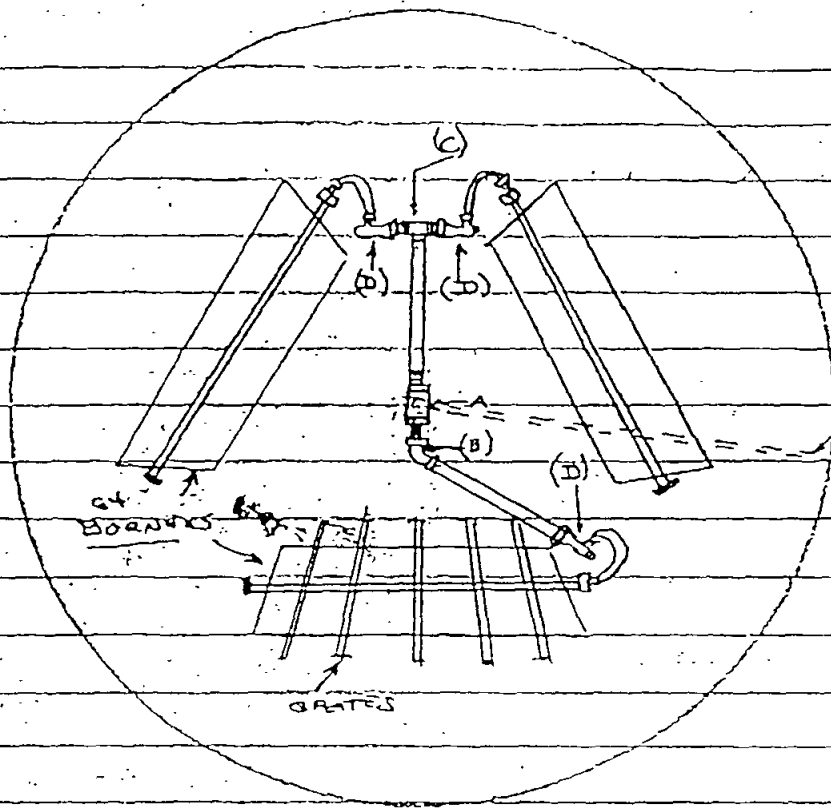
2. Remove this seal plug screw.

3. Adjust size of flame with this inner screw. Start with large roaring flames, then throttle them down until flame characteristics are as you desire them.

4. BE SURE TO REPLACE SEAL PLUG SCREW IN TIP.

5. After this adjustment, always operate burner by turning valve to wide open position. Notice the loud "hiss" when opening the valve, which disappears when valve is wide open.
6. If burner noises are still apparent, then insert a small piece of steel wool into the 3/8" aluminum tubing between the valve and the air mixer. This should quiet down burner noise.

This bulletin enlarges information contained in paragraph "ADJUSTING FLAME SIZE" on instruction sheet packed with each REAL-FYRE log set.



HOOK UP FOR CIRCULAR G4 BURNERS

A - $\frac{1}{2}$ " T

B - $\frac{1}{2}$ " 45° ELBOW

C - $\frac{1}{2}$ " T

D - ADJUSTABLE HEARTH ELBOWS

FLAME CONTROL TO EACH BURNER CAN BE ADJUSTED

BY (D) HEARTH ELBOWS.

REMOVE CAP SCREW IN TOP OF ELBOW & ADJUSTMENT SCREW IN

ELBOW CAN BE ADJUSTED W/ SCREW DRIVER. TURN BACKLASH &

TIGHTEN CAP SCREW BACK ON ELBOW.

000006

VS



ROBERT H. PETERSON CO.

Established 1949

14724 East Proctor Avenue, City of Industry, CA 91746 • (626) 369-5085 • FAX (626) 369-5979

Reply to:
2500 West Arthington Street
Chicago, Illinois 60612
Phone: 312-421-1358
Fax: 312-666-5810

FAX COVER SHEET

Date:

3/16/01

To:

BILL McLOUGHLIN

Company name:

WOOD PHILLIPS & CO.

Fax Number:

312-876-2020

From: Leslie Bortz

CONFIDENTIAL FOR ATTORNEYS EYES ONLY

RECEIVED

Total number of pages including cover sheet:

16

MAR 16 2001

if you do not receive all pages, please call 312-421-1358.

WOOD, PHILLIPS

Message:

BILL

- (A) 2 PAGES - Sold in 1983 - 12 DRAWINGS
MADE - Many sold in late 70's - thru early 90
this may be exactly what you are looking for
- (B) 1 PAGE - 1975 - Just another of the
multi-burner units

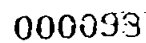
- (C) 12 PAGES - This 12 page catalog shows
1974? - shows many examples of several
burner systems together and shows one of the
burners may be looking for

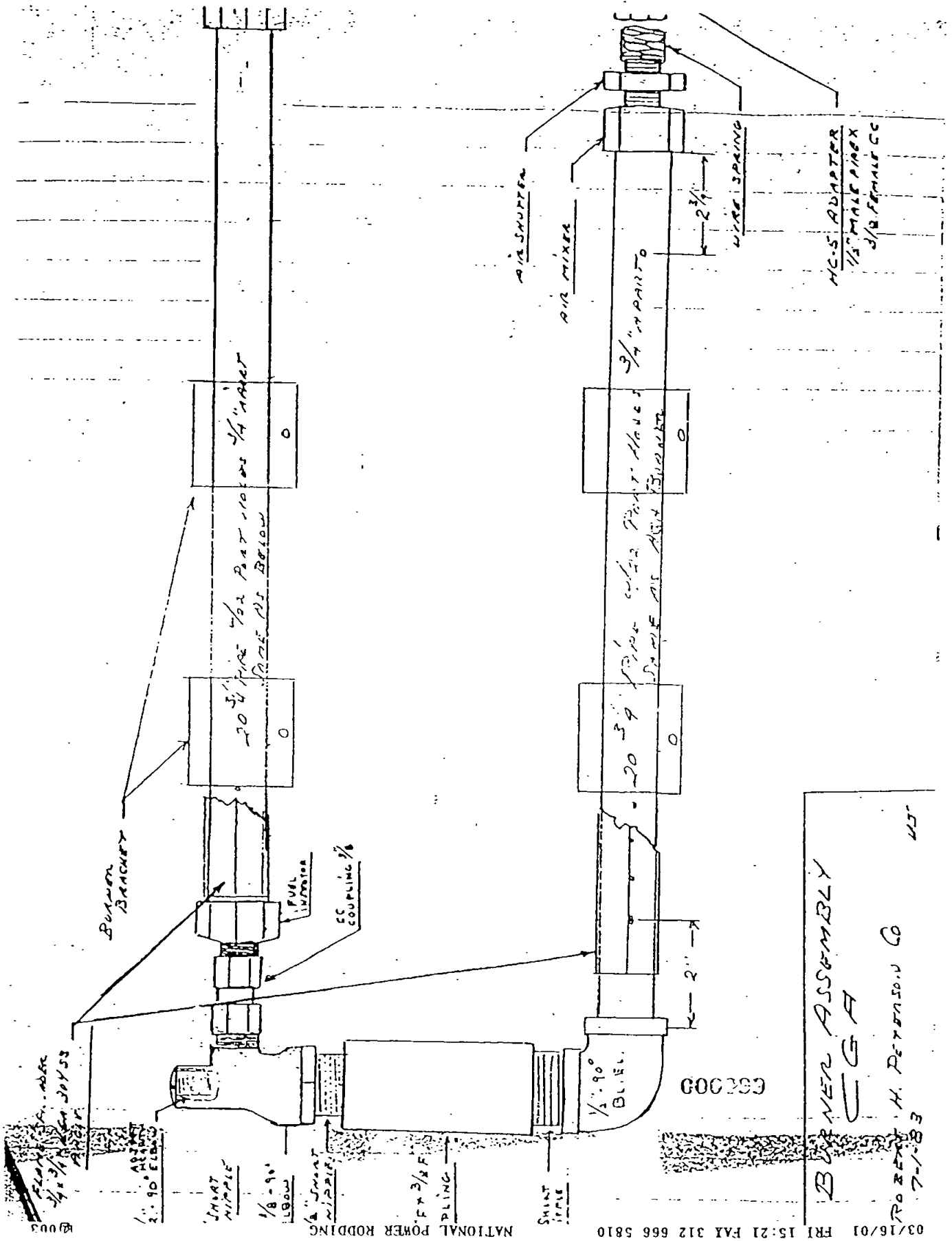
Manufacturers of "Fire Magic" Barbecues, "Real Fire" and "Hallmark" Hearth Products

EXHIBIT

D-23

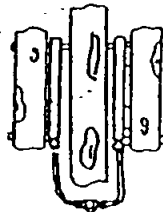
JT-APP 2279





CHAMBERSLOW/PETTERSON PRODUCTS

Quasi-free beach legs are carefully inspected before shipment and are free from defects to material and workmanship. If a hairline crack appears in a leg after purchase it is due to "heat shock" and is not a concern since legs are reinforced with carbon rods and will remain intact.

 $(1/2 \text{ "T"})$ and 2 (1/2 Close nipples)Nitin

FLAMÉ CHUTE (A)

If fumes from the burner emerge into the room leaving a smoky blue or smoldering all time, it indicates that the furnace draft is defective. **DO NOT** THE BURNER. Check chimney for obstructions and be ever certain the damper is fully open. Do not operate logs until furnace draft is corrected.

2. **BURNER CONNECTION.** Gasoline connections are made to each using heavy aluminum "C" and tubing with compression fittings "D". Auxiliary valves, ^{are used only} when liquid gas has no built-in valves, and should be ordered separately.

LOG PLACEMENT: Place bottom legs with carlines towards burner. With top legs by cavity downwards with open bookcases centered over outer ends of burner.

Top legs must read "chub-of" names which must be line to cascade up and around legs. "relating" or repositioning legs slightly onto side the desired name pattern.



Gas log warmth
from Peterson Real-Fyre

000001

C- 12 pgs

03/16/01

JT-APP 2283

The R.H. Peterson Story

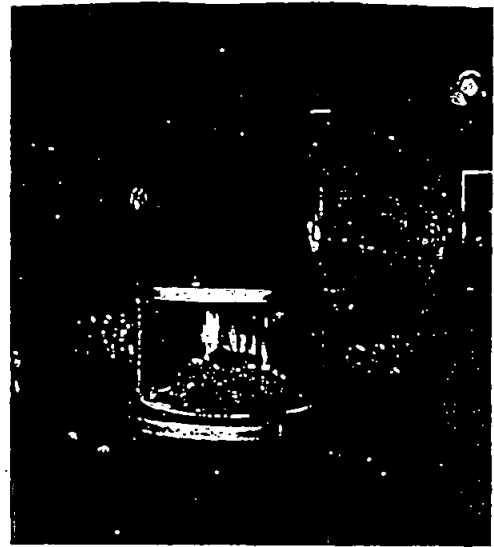
In 1949, Robert H. Peterson envisioned the value of having a gas appliance which would provide the warmth and comfort of a wood fire by simply turning on a gas valve. After considerable experimentation, Mr. Peterson molded a set of Real-Fyre Gas Logs from heat-resistant materials and developed burners which allowed flames to engulf the logs and radiate heat. The total effect was impressive. This led to the establishment of the Peterson Co. which today is the leading manufacturer of gas logs and related accessories designed to give you the most realistic of fireplace settings.

Real-Fyre® features

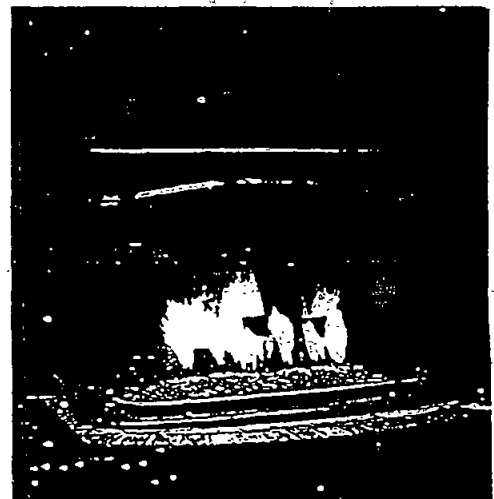
These authentic hand-molded log sets are made for installation in any vented, wood-burning fireplace. The special refractory materials, together with the scientifically designed Real-Fyre heat chamber within the logs, have proven to be an excellent source of secondary warmth and comfort. The illustration shows how the heat chamber intensifies and radiates heat more efficiently from the fireplace.



2 Natalie Wood and Robert Wagner conserve gas by warming their bedroom with Real-Fyre Gas Log Set No. RG4-30



Twisted Cypress CP-24



Franklin stove with Golden Oak RG4-24

BASIC COMPONENTS OF REAL-FYRE GAS LOG SETS

- FIREPLACE LOGS - Full size reproductions that intensify heat
- PATENTED BURNERS - 1/2" diameter
- GRATES OR LOG RESTS - Exclusive design for Real-Fyre logs

OPTIONAL FEATURES

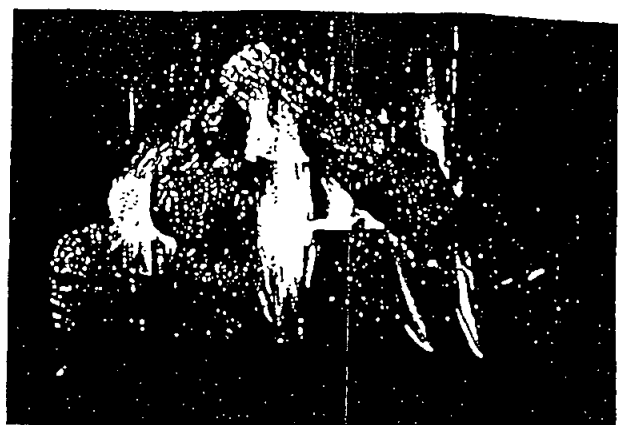
- SAFETY PILOT KIT - Eliminates need for matches
- PUSH BUTTON IGNITION KIT - Eliminates need for matches

000102

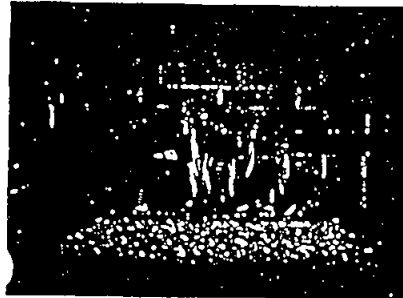
Available Natural Wood Styles



Royal English Oak No. BG4-J6



Golden Oak No. RF-24



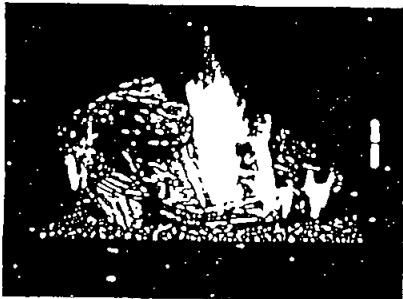
Twisted Cypress No. CG4-24



Mountain Oak No. KF-24



White Birch No. WAA-24



Manzanita No. MP-24



Driftwood No. DP-30



Volcanic Stone No. SJ-24

Like our top-selling Royal English Oak set, all the enchanting log and log-stump sets are manufactured from special, non-toxic materials. When these are used in the United States space program, Real-Fyre logs will be used in the future. Each set of logs is composed of a long bottom log and a shorter top log, and a shorter top log to form a set. The logs are the same length. Your choice of sets consisting of

logs and log-stumps are described on the Real-Fyre Price List and Specification Sheet. The Manzanita and Driftwood models are one massive log stump. They may be used only with Flame Path Series Burner with Lava-Fyre Granules or White Silica Sand. Important: All Real-Fyre Gas Logs are to be used in a vented, non-purging fireplace with the damper open.

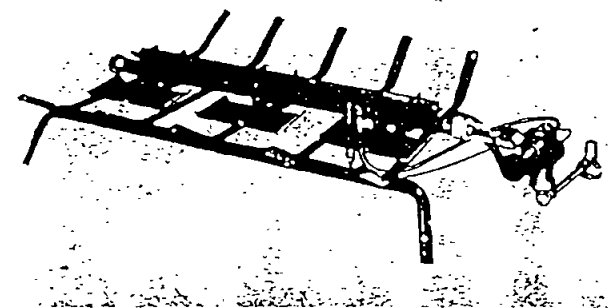
Real-Fyre F Series Front-Flame Gas Log Sets



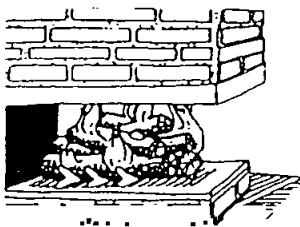
Golden Oak No. RF-24



Circular Golden Oak No. RFJ-30



Front-Flame Burner with Safety Pilot Kit No. 2

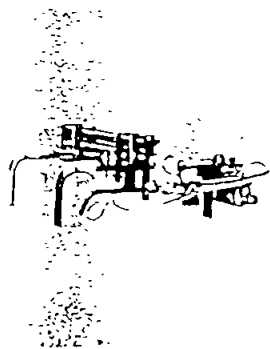


See-thru Fireplace

This patented Real-Fyre burner is designed to be placed on top of any grate (an optional accessory not included with set). It utilizes the unique "flame chutes" to provide the same realistic front-flame pattern of a natural wood fire. An air mixer permits flame adjustment from a flickering yellow to a mellow blue for maximum heat. A "Silent-Flo" elbow is included with the connector kit to assure quiet burner operation. Natural firewood may be burned with the gas logs, provided the ashes are kept clear of the F Series burner. See Accessory Page 11 for RE-24 Log Lighter Burner. As shown above, the Real-Fyre Front-Flame Burner is a

highly versatile system. It can be used in a standard, see-thru or circular fireplace as illustrated above. Illustration shows how it may also be installed in a see-thru, or two-sided fireplace, affording ultimate visual enjoyment of your chosen log set. Optional Safety Pilot Kit No. SPK-2 (illustrated above) features automatic shut-off if pilot is accidentally extinguished and 100% safety locking valve for additional protection. All Real-Fyre Front-Flame Burners are shipped for use with natural gas. Specify if for use with LP (Propane) gas. The attractive Golden Oak Set, as shown above, is manufactured in sizes 16" to 60". Connector Kit supplied with all

Front-Flame Burner
with Safety Pilot Kit No. 1

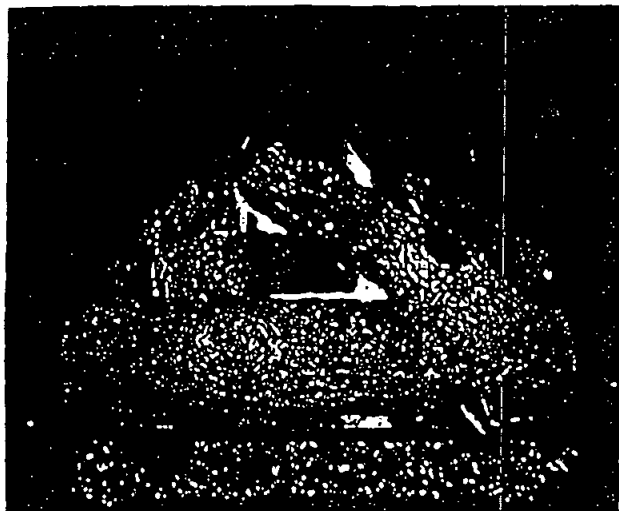


Twisted Cypress No. CF-24

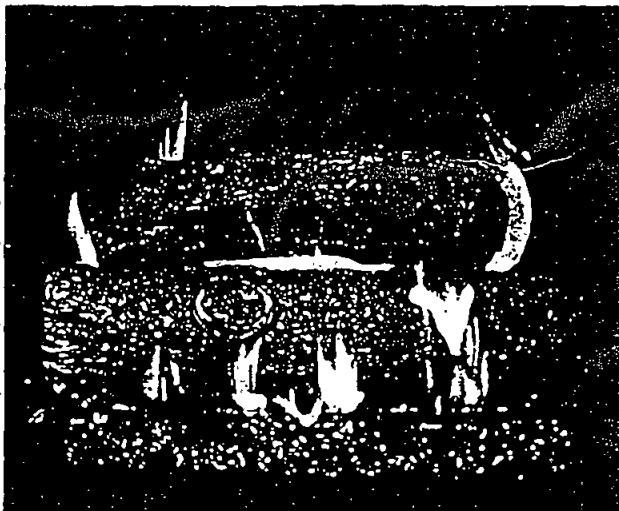
STYLE	NO.	16"	18"	24"	30"	36"	42"	48"	54"	60"
MOUNTAIN OAK	KF			3	3	3				
	KF2		3	3	3	3				
GOLDEN OAK	RF	6	6	6	6	7	7	7	7	7
	RF2	6	6	6	6	7	7	7	7	7
	RF3			10	13	13				
TWISTED CYPRESS	CF		6	6	6	6				
	CF2		6	6	6	6				
WHITE BIRCH	WF		6	6	6	6				
	WF2		6	6	6	6				

for standard fireplaces (F1 series)
see-thru fireplaces (F2 series)
circular fireplaces (F3 series)
set includes logs, burner(s), connector kit
Grate and Log Rests not included

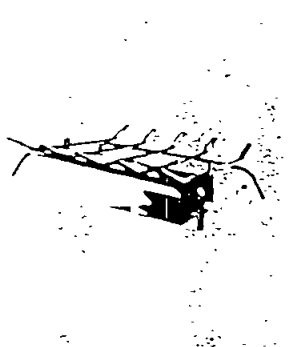
Real-Fyre G4 Series Glowing Ember Gas Log Sets



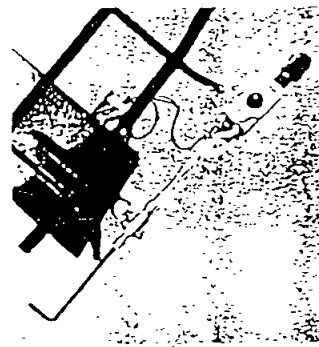
Golden Oak No. RG4-24



Mountain Oak No. KG4-24



Glowing Ember Burner



Glowing Ember Burner
with Safety Pilot Kit No. 6

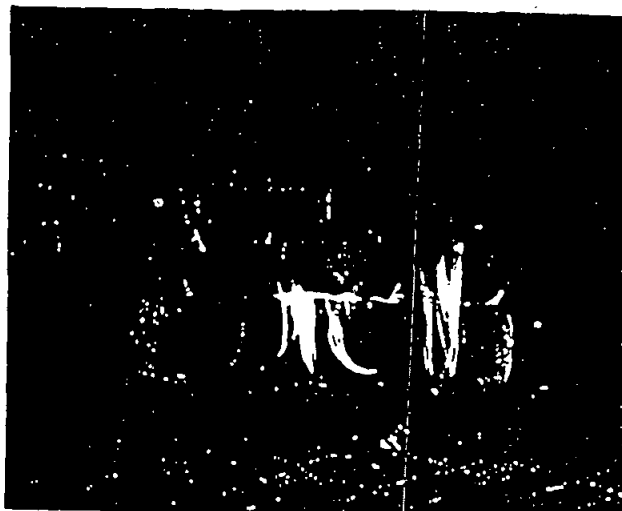
This burner system, for use with natural gas, includes everything needed to create the appearance of glowing embers on the hearth. As the flame gets hotter, the embers take on an orange glow, creating the illusion of red-hot coals under the logs. After allowing the embers to glow, the flame may be turned down to conserve fuel without destroying the mellow ember effect. The Golden Oak Log Set engulfed in flames perfectly simulates the look of the hardy Oak native to the foothills and valleys of America. This set is offered in sizes 16" to 60". See chart on page 5.

Sizes and number of logs are same as F Series burner. The dark furrowed bark of the attractive Mountain Oak Set gives the effect of real seasoned firewood. In addition to the two log sets illustrated above, the Real-Fyre Glowing Ember Burner System is available for use with all sizes of Twisted Cypress and White Birch Log Sets. Set includes logs, burner, grate, ember kit, silica sand, and connector kit. Specify optional Safety Pilot Kit No. 6 for G4 Burner and SPK No. 7 for G4-2 Series burner. Not recommended for use with LP Gas.

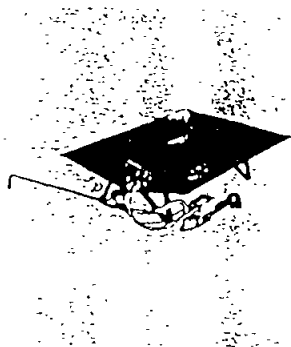
Real-Fyre P Series Flame Pan Gas Log Sets



Manzanita No. MP-24



Golden Oak No. RP-24



Flame Pan Burner
with Safety Pilot Kit No. 5

CHART SHOWS SIZES AND NUMBER OF LOGS IN EACH SET

STYLE	NO	16"	18"	24"	30"	36"	42"	48"	54"	60"
MOUNTAIN OAK	KP		3	3	3	3				
	KP2		3	3	3	3				
GOLDEN OAK	RP		6	6	6	7	7			
	RP2		6	6	6	7	7			
TWISTED CYPRESS	CP		6	6	6	6				
	CP2		6	6	6	6				
WHITE BIRCH	WP		6	6	6					
	WP2		6	6	6					
MANZANITA	MP			1	1					
DRIFTWOOD	DP		1	1	1	1				
VOLCANIC STONE	SP	x	x	x	x	x	x	x	x	x

x Stone Sets available in these sizes
for standard fireplaces (P series)
see-thru fireplaces (P2 series)

To be used in a vented wood-burning fireplace with DAMPER OPEN.

The Flame Pan Burner is a unique system designed for a commercial or contemporary setting. The Pan itself is constructed of heavy welded steel 14 1/2" deep and 5" high with legs. As indicated on the chart, length sizes available are from 18" to 42" for standard or see-thru fireplaces. No grate is required. Concealed baffles over the burner cause the flames to erupt over the entire surface of the Pan when it is filled with Lava-Fyre Granules and Glowing Embers. Although the picturesque Manzanita or Driftwood Log styles are

the most commonly used with the Flame Pan Burner, loose log sets like the pictured Golden Oak, create a striking effect in any fireplace. Safety Pilot Kit No. 5 shown makes it convenient to ignite the burner with just a twist of the extension handle. If the pilot is accidentally extinguished, the gas automatically shuts off. This Kit must be ordered separately. Not recommended for use with LP Gas.

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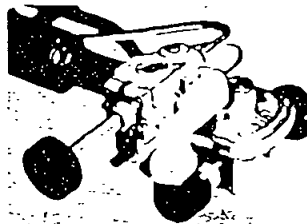
7

JT-APP 2289

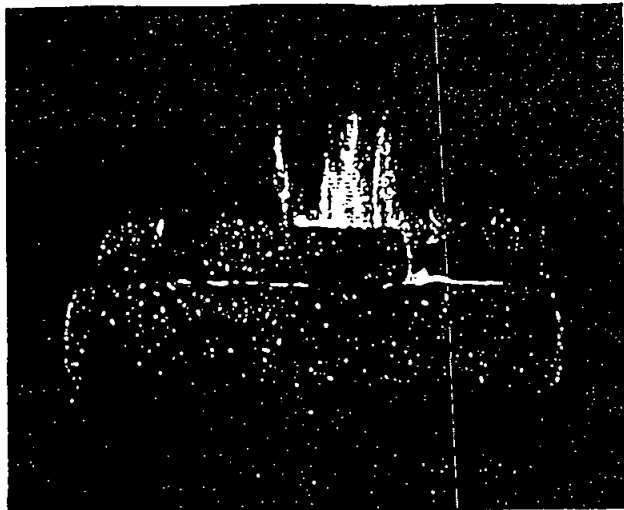
Real-Fyre A Series A.G.A. Design Certified Gas Log Sets



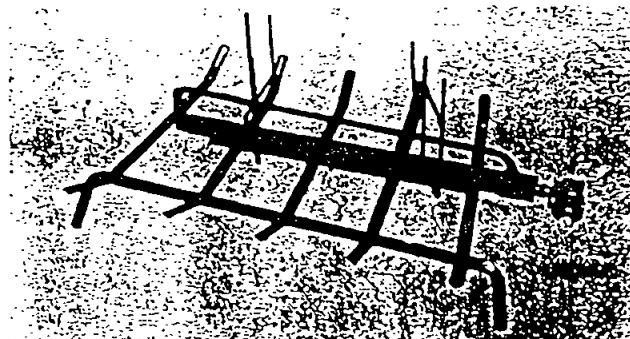
This A.G.A. Design Certified lanced port tube burner features flame control which regulates the air mixture for maximum heat and a fuel injector for economical and noiseless operation. Where automatic ignition is desired, the Safety Pilot Kit No. 8 should be ordered.



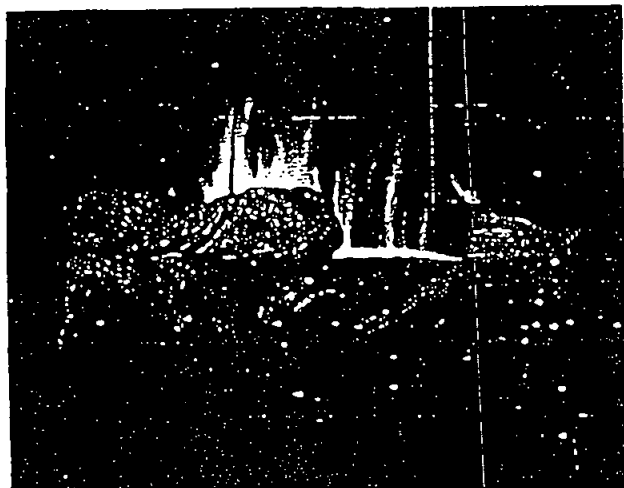
Lanced Tube Burner with Safety Pilot Kit No. 8



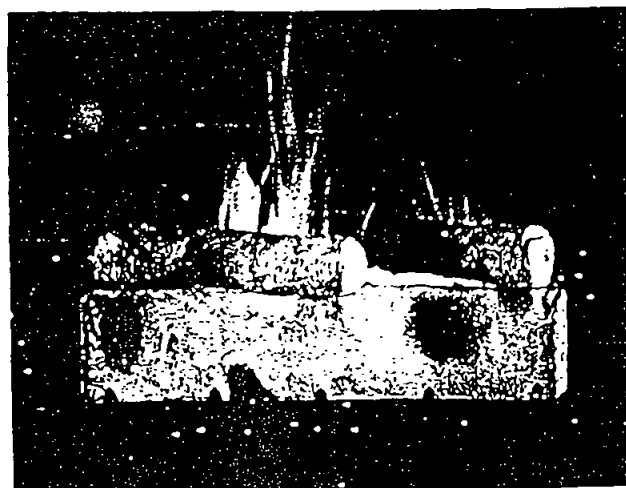
Golden Oak No. RAA-24



Lanced Tube Burner No. AA-24N



Twisted Cypress No. CAA-24

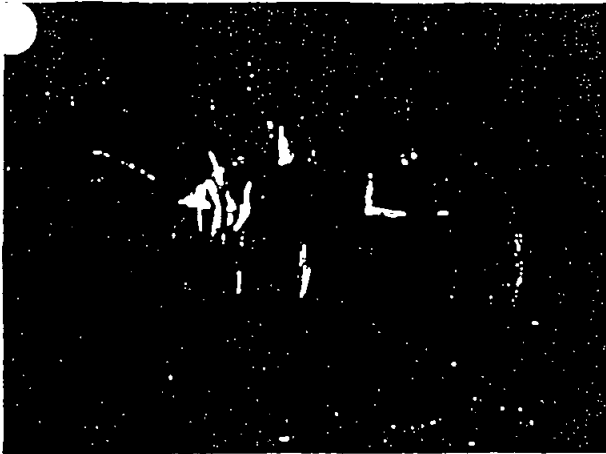


White Birch No. WAA-24

All the sets on this page carry an American Gas Association Certification of Design. They comply with building and safety requirements and can be installed throughout the United States. Loose log design permits following the flame pattern for a natural wood effect. Each set includes four individual

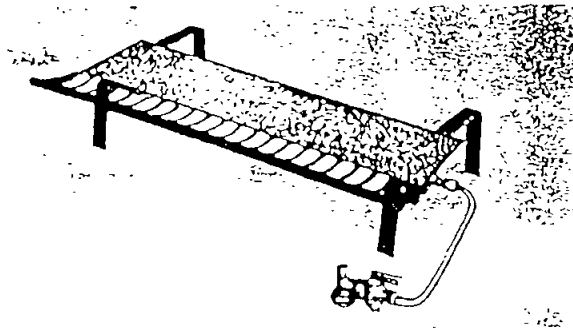
logs, burner, steel grate, Pressure Regulator Valve and easy-to-follow instructions. Available in 20", 24" and 30" sizes, the set should only be installed in an acceptable vented masonry or metal wood-burning fireplace with the damper open.

Real-Fyre G Series Fyre-Bed Grate Gas Log Sets

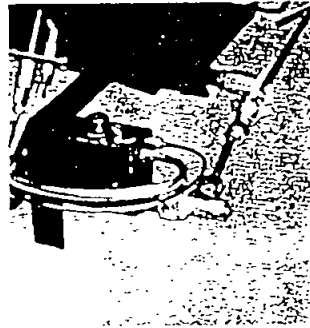


Golden Oak No. RG-24

This compact unit is equipped with log rests, built-in burner, granules and connector kit, which may be right or left hand mounted. Lava-Fyre Granules fill the burner and filter the gas as it rises to the surface. No grate is required with this burner which accommodates most of the wood styles in the Peterson line. This burner system is available in sizes 16" to 60" and provides maximum flame effect and whisper-quiet operation. Safety Pilot Kit No. 4 may be added to insure automatic gas shut-off and convenient ignition. Not recommended for LP (Propane) gas. See chart on page 5. Sizes and number of logs are same as "F" Series burner.



Fyre-Bed Grate Burner

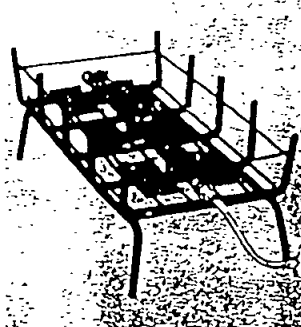


Fyre-Bed Grate Burner
with Safety Pilot Kit No. 4

Volcanic Stone Sets



Volcanic Stone with Flame Pan Burner No. SP-24



Volcanic Stone Burner

This lightweight stone was formed during one of the earth's violent upheavals. Due to its cellular structure, it resists erosion from heat but radiates the glow of red-hot coals immediately upon contact with flame. Volcanic Stone may be used with Basket-Grate (J Series) with optional Safety Pilot Kit No. 1, or Flame Pan (P Series) with optional Safety Pilot Kit No. 5. Please note that Front-Flame see-thru (F2 Series) Burner is used with Basket-Grate Available in 24" or 30" sizes and may be used with natural or LP gas.

JT-APP 2291

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Real-Fyre Burners



Front-Flame Burner (F Series)

This popular patented burner (shown with optional SPK-2 Safety Pilot Kit) can be used with natural or LP gas. Available in sizes 16" to 60" for standard, see-thru and circular fireplaces.



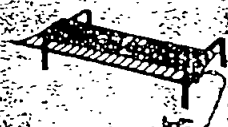
Glowing Ember Burner (G Series)

Our new burner system creates the appearance of glowing coals on the burner. Sizes 16" to 60" for standard and see-thru fireplaces. **ONLY** with natural gas.



Flame Pan (P Series)

This burner system has special baffles to cause torch-like flames to erupt over the entire surface of the pan containing granules and glowing embers. **NOT** recommended for LP gas.



Fyre-Bed Grate (G Series)

A compact unit to provide maximum flame effect and whisper-quiet operation. Sizes 16" to 60" for standard fireplaces only. **NOT** recommended for LP gas.

MERCHANDISING AIDS

Dealer Floor Display Merchandiser DM-568

Use this self-liquidating, award-winning display. Size: 36" wide, 15" deep, 60" high. Shipping weight 50 pounds.



000110

Real-Fyre Accessories



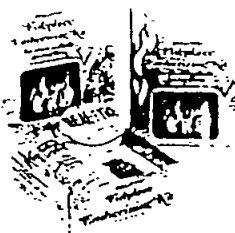
Long-Lasting Fireplace Crystals CR-12.

A colorful eye-catching display pack containing one dozen 16 ounce Fireplace Crystals shakers that retard soot and which produce multi-colored flames and a fresh pine aroma when sprinkled over an open fire.



Volcanic Stones VS-J

A package of three volcanic stones for use as a change in decor with the Gas Log Sets. Also available in 12 and 25 lb. cartons.



Fireplace Emberizing Kit GP-1

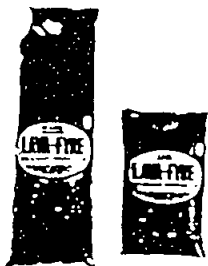
A fireplace owner's "kit pack" it includes Fireplace Crystals No. CR-1, a package of Glowing Embers EM-1 and a bottle of fireproof glue GL-1 to create a unique fireplace setting.



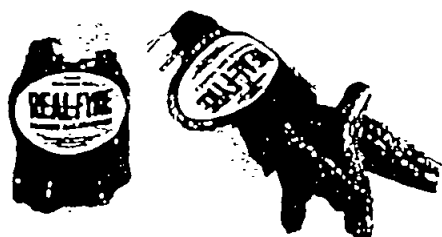
White Silica Sand CS-10

Carefully refined white beach sand for use with Glowing Ember Burners, Flame Pans, Fyre-Bed Grates, Barbecue grills and general patio use.

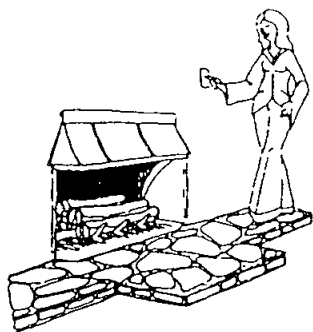
JT-APP 2292



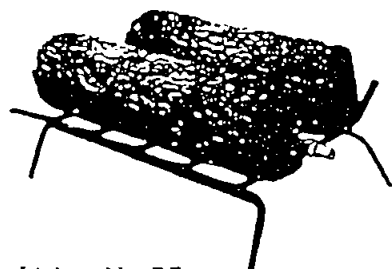
**Volcanic Granules
LF-10 and LF-5**
Ten and five pound
packages of volcanic
granules for use with
Fyre-Bed Grate, Flame
Pan or to cover the
floor of a discolored
hearth.



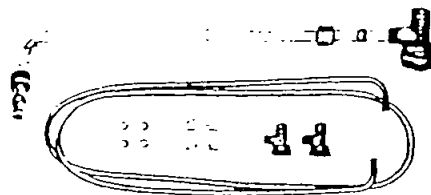
Charred Oak Branches BR-4
Reproductions of Oak tree branches to be used
as decorative accents with Peterson Log Sets.
Packed 4 in a poly bag



**Automatic Pilot
Kit APK-1**
All the same features as
our Safety Pilot Kits, but
with remote push-button
ignition which may be
installed in any
convenient wall location.

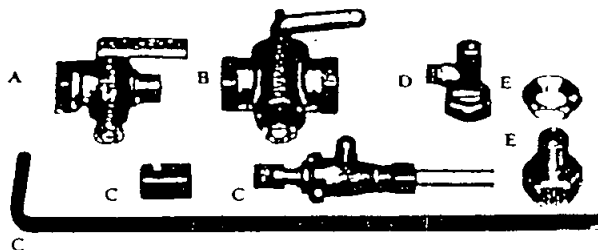


Log Lighter No. RE-24
For use in combination with burning real wood
logs. Available with (RE Series) or without (E Series)
bottom log in sizes 20", 24" and 30"



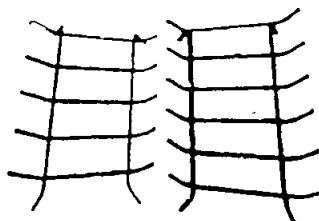
Connector Kits

Every Real-Fyre Log Set comes with one of these
two Connector Kits. CK-1 Kit for 36" sets and
smaller. CK-2 Kit for 42" sets and larger.

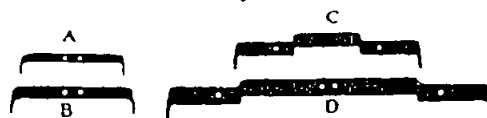


Custom Manufactured Valves

- A AV-1 On/Off Valve attaches to Hearth Elbow,
used with 18" to 36" sets.
- B AV-2 On/Off Valve, double 1/2" connections
for 42" to 60" sets, as well as all circular sets
- C AV-3 On/Off Valve with extension handle
Mounts to burner
- D HE-1 Hearth Elbow with adjustable Silent-Flo
regulator
- E AM-1 Air Mixer consists of air-mixing orifice
and air shutter



**Steel Fireplace Grates
SX and ST Series**
Medium and heavy-
weight grates to support
the Log Set. Available in
sizes 16" through 60"



Fireplace Log Rests

- A. LR-1 9" deep. Use 2 for 18" 24" and 30" sets.
- B. LR-2 10" deep. Use 2 for 36" sets. Use 3 for
42" sets
- C. LR-3 15" Custom-Made. Use 2 for 24"
Circular Sets.
- D. LR-4 23" Custom-Made. Use 2 for 30" and
36" Circular Sets

To conserve natural gas you don't have to be uncomfortable!

With Peterson Real-Fyre Gas Logs installed in your fireplace you can quickly remove the chill from a room with a minimum of fuel consumption. Here's how —

1. Avoid interior heat loss, draw drapes in front of windows, check weather stripping to eliminate drafts, close up unused rooms, and don't forget to turn off your Gas Log Set when not in use.
2. Log Sets may be used to maintain a comfortable temperature in the living area without wasting gas energy to heat the entire house.
3. These sets feature the exclusive Heat Chamber which acts like a small furnace to intensify the heat, thereby providing the most efficient use of our precious fuel.
4. The special design of our patented burners with built-in flame adjustment requires less natural gas to provide the desired heat and appearance at a lower cost.
5. May be used as an auxiliary source of heat and warmth when furnace is out due to shut off of electricity during brownout.

Real-Fyre fireplace logs

have the following guarantees, recommendations, approvals or listings when installed in a vented, wood-burning fireplace with damper open. In addition to the approvals listed, Real-Fyre fireplace logs are accepted by leading national and local building codes and authorities:

INTERNATIONAL
CONFERENCE
OF BUILDING
OFFICIALS
REPORT NO. 1399



Guarantee: All Real-Fyre Log Sets are carefully inspected before shipment and are guaranteed free from defects in material and workmanship for one year in the home.

This company reserves the right to change previous price lists and specifications without notice. All Real-Fyre products are protected by United States Patents or copyrights.

Robert H. Peterson Co.

A Division of Beatrice Foods Co.
2835 Sierra Grande St., Pasadena, California 91107 • (213) 793-3118

Sold by

JT-APP 2294

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REAL-FYRE[®]

GAS LOG SETS

& FIREPLACE ACCESSORIES

R. H. PETERSON CO.

LIST PRICE SHEET

MARCH 1, 1992

HOW TO USE THIS PRICE LIST

SELECT BURNER SYSTEM

- A. Glowing Ember G4-G5 Series
B. AGA Design Certified G5 & AG Series;
C. Front-Flame F Series
D. Flame Pan P Series

CODES FOR BURNER STYLES

- G4. Glowing Ember
GX4. Glowing Ember (for Royal English Oak)
G3. Glowing Ember (for Emberwood Designer)
G5. AGA Glowing Ember
AZ. Lazer
AG. AGA
F. Front-Flame
P. Flame Pan
2. See-Thru Fireplace
3. Circular Fireplaces (F Series)

SELECT LOG STYLE DESIGN within burner system

CODES FOR GAS LOG SETS

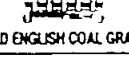
- R. Golden Oak
E. Emberwood
ED. Emberwood Designer
B. Royal English Oak
K. Mountain Oak
C. Twisted Pine
W. White Birch
L. AGA Lazer Set

GAS LOG SETS

"G4" SERIES Radiant Heat Gas Log Sets with Glowing Ember Burner

Note: Shipped for use w/Natural Gas—specify if for L.P. Gas and add \$109.00 for required SPK-20.

Set includes: 1. Logs 2. Glowing Ember Burner 3. Custom Grate 4. Connector Kit 5. Embers 6. Granules To Cover Burner

Style	Fireplace	No.	PRICE weight no. ctns.	12"	16"	18"	24"	30"	36"	42"	48"	54"	60"
 GOLDEN OAK	Standard	RG4	PRICE weight no. ctns.	168.00 49# 1	182.00 44# 1	202.00 63# 2	215.00 78# 2	258.00 104# 2	342.00 142# 3	527.00 255# 4	623.00 343# 4	664.00 385# 5	702.00 426# 5
	See-thru	RG4-2	PRICE weight no. ctns.	212.00 50# 1	236.00 54# 1	265.00 71# 2	291.00 88# 2	341.00 121# 2	505.00 199# 4	649.00 323# 4	767.00 388# 5	819.00 436# 5	869.00 479# 5
 EMBERWOOD	Standard	EG4	PRICE weight no. ctns.			202.00 63# 2	215.00 78# 2	258.00 104# 2					
	See-thru	EG4-2	PRICE weight no. ctns.			265.00 71# 2	291.00 88# 2	341.00 121# 2					
 EMBERWOOD DESIGNER	Standard	EDG4	PRICE weight no. ctns.			202.00 69# 2	225.00 84# 2	268.00 108# 2					
	See-thru	EDG4-2	PRICE weight no. ctns.										
 ROYAL ENGLISH OAK	Standard	BGX4	PRICE weight no. ctns.				302.00 132# 3	348.00 157# 3	420.00 200# 3				
	See-thru	BGX4-2	PRICE weight no. ctns.				408.00 152# 3	454.00 180# 3	543.00 236# 4				
 HERITAGE OAK	Standard	HGX4	PRICE weight no. ctns.			266.00 107# 3	302.00 132# 3	348.00 156# 3					
	See-thru	HGX4-2	PRICE weight no. ctns.			362.00 124# 3	408.00 152# 3	454.00 180# 3					
 MOUNTAIN OAK	Standard	KG4	PRICE weight no. ctns.			189.00 65# 2	202.00 77# 2	243.00 106# 2	323.00 156# 4				
	See-thru	KG4-2	PRICE weight no. ctns.			250.00 76# 2	275.00 89# 2	322.00 128# 2	460.00 202# 4				
 TWISTED PINE	Standard	CG4	PRICE weight no. ctns.			189.00 61# 2	202.00 70# 2	243.00 91# 2	323.00 125# 3				
	See-thru	CG4-2	PRICE weight no. ctns.			250.00 77# 2	275.00 89# 2	322.00 117# 2	460.00 138# 4				
 WHITE BIRCH	Standard	WG4	PRICE weight no. ctns.			202.00 67# 2	215.00 74# 2	258.00 96# 2					
	See-thru	WG4-2	PRICE weight no. ctns.			252.00 77# 2	291.00 84# 2	341.00 123# 2					
 OLD ENGLISH COAL GRATE	Coat Only	VG4-C	PRICE weight no. ctns.			273.00 80# 2	285.00 95# 2	340.00 110# 2					

EXHIBIT

D-25

SUPERSEDES ALL OTHER PRICE LISTS • PRICES SUBJECT TO CHANGE WITHOUT NOTICE • ALL PRICES FOB FACTORY TERMS NET 30 DAYS

No 65592

JT-APP 2295

GAS LOG SETS

"G5" SERIES

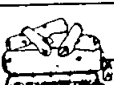
AGA Certified Radiant Heat Gas Log Set with Glowing Embers

Note: Shipped for use w/Natural Gas—specify if for L.P. Gas

Set includes:

1. Logs
2. AGA Ember Burner
3. Regulator and SPK Assembled on burner
4. Custom Grate
5. Connector Kit
6. Embers
7. Granules to cover Burner

Note: The G5 Series may be ordered with a Remote Control System (APK). Add the appropriate APK model number after the log set model number—example: "RG5-24APK10RC". Add the APK system list price found in Section IV of this price sheet and deduct \$109.00

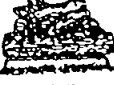
Style	Fireplace	No.		16"	18"	20"	24"	30"	36"
 GOLDEN OAK	Standard	RG5	PRICE weight no. ctns.	349.00 44# 1	367.00 63# 1	370.00 63# 2	388.00 78# 2	428.00 104# 2	487.00 142# 3
 EMBERWOOD	Standard	EG5	PRICE weight no. ctns.		367.00 63# 2		388.00 78# 2	428.00 104# 2	
 TWISTED PINE	Standard	CG5	PRICE weight no. ctns.		356.00 65# 2		375.00 84# 2	413.00 108# 2	
 WHITE BIRCH	Standard	WG5	PRICE weight no. ctns.		367.00 67# 2		388.00 84# 2	428.00 108# 2	

"AG" SERIES and "AZ" SERIES AGA Design Certified Gas Logs with Required Safety Pilot Kit No. SPK-20

Note: Shipped for use w/Natural Gas—Note: specify if for L.P. Gas.

Set includes:

1. Logs
2. Burner & Safety Pilot, and Regulator
3. Grate & Log Braces
4. Connector Kit
5. Embers (LAZ)

Style	Fireplace	No.		16"-5	20"-5	24"-5	30"-5		
 OAK	Standard	LAZ	PRICE weight no. ctns.			429.00 73# 2			
 OAK	Standard	RAG	PRICE weight no. ctns.		323.00 50# 1	342.00 60# 1	379.00 80# 1		
	Deluxe	RAG	PRICE weight no. ctns.	313.00 33# 1					

"F" SERIES

Radiant Heat Gas Log Sets with Front-Flame Burner

Note: Shipped for use w/Natural Gas—specify for L.P. Gas—and add \$109.00 for required SPK-20.

Set includes:

1. Logs
2. Burner
3. Grate
4. Connector Kit

Style	Fireplace	No.		12"	16"	18"	24"	30"	36"
 GOLDEN OAK	Standard	RF	PRICE weight no. ctns.	151.00 30# 1	164.00 33# 1	185.00 49# 2	204.00 65# 2	237.00 84# 2	323.00 116# 3
	See-thru	RF-2	PRICE weight no. ctns.	158.00 30# 1	180.00 34# 1	203.00 50# 2	225.00 70# 2	260.00 89# 2	382.00 149# 4
	Circular	RF-3	PRICE weight no. ctns.				277.00 86# 2	426.00 155# 3	572.00 250# 5
 MOUNTAIN OAK	Standard	KF	PRICE weight no. ctns.			174.00 51# 2	191.00 64# 2	222.00 86# 2	304.00 130# 3
	See-thru	KF-2	PRICE weight no. ctns.			188.00 53# 2	209.00 70# 2	241.00 98# 2	356.00 155# 4
 TWISTED PINE	Standard	CF	PRICE weight no. ctns.			174.00 46# 2	191.00 57# 2	222.00 71# 2	304.00 99# 3
	See-thru	CF-2	PRICE weight no. ctns.			188.00 47# 2	209.00 60# 2	241.00 76# 2	356.00 111# 4
 WHITE BIRCH	Standard	WF	PRICE weight no. ctns.			185.00 53# 2	204.00 61# 2	237.00 76# 2	
	See-thru	WF-2	PRICE weight no. ctns.			190.00 54# 2	225.00 64# 2	260.00 85# 2	

	42"	48"	54"	60"
Standard	507.00 222# 4	598.00 310# 4	634.00 350# 4	677.00 390# 4
See-thru	568.00 274# 4	641.00 336# 4	681.00 379# 4	737.00 420# 4

"F" SERIES—Golden Oak Style available in longer lengths

GAS LOG SETS

BLOCK D

"P" SERIES Radiant Heat Gas Log Sets with Flame Pan Burner & Detachable Legs

Note: Shipped for use
w/ Natural Gas—
specify if for L.P. Gas
and add \$109.00 for
required SPK-20

Set includes:

- 1 Logs
2. Burner
3. Pan with removable
legs
- 4 Connector Kit
- 5 Embers
6. Granules To Cover
Burner

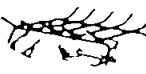
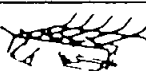
Style	Fireplace	No.		16"	18"	20"	24"	30"	36"	42"
 GOLDEN OAK	Standard	RP	PRICE weight no. ctns.	169.00 31# 1	192.00 48# 2	199.00 55# 2	207.00 65# 2	241.00 83# 2	324.00 120# 3	442.00 201# 4
	See-thru	RP-2	PRICE weight no. ctns.	181.00 33# 1	205.00 50# 2	212.00 58# 2	222.00 68# 2	255.00 87# 2	355.00 154# 4	484.00 244# 4
 MOUNTAIN OAK	Standard	KP	PRICE weight no. ctns.		181.00 50# 2		194.00 64# 2	226.00 85# 2	305.00 134# 3	
	See-thru	KP-2	PRICE weight no. ctns.		190.00 56# 2		206.00 66# 2	236.00 94# 2	329.00 157# 4	
 TWISTED PINE	Standard	CP	PRICE weight no. ctns.		181.00 46# 2		194.00 57# 2	226.00 70# 2	305.00 103# 3	
	See-thru	CP-2	PRICE weight no. ctns.		190.00 48# 2		206.00 62# 2	236.00 77# 2	329.00 116# 4	
 WHITE BIRCH	Standard	WP	PRICE weight no. ctns.		192.00 52# 2		207.00 61# 2	241.00 75# 2		
	See-thru	WP-2	PRICE weight no. ctns.		192.00 54# 2		222.00 64# 2	255.00 89# 2		

GAS LOG BURNERS & COMPONENT PARTS

"G4" SERIES Glowing Ember Radiant Heat Burner Assembly

Note: Shipped for use w/ Natural Gas—specify if for L.P. Gas and add \$109.00 for required SPK-20.

Set includes: 1 Glowing Ember Gas Burner(s) 2 Custom Grate 3. Embers 4. Granules 5 Connector Kit(s)

Style	Fireplace	No.		12"	16"	18"	24"	30"	36"	42"	48"	54"	60"
 GLOWING EMBER BURNER	Standard	G4	PRICE weight no. ctns.	88.00 23# 1	100.00 23# 1	104.00 24# 1	108.00 25# 1	127.00 32# 1	152.00 48# 1	255.00 76# 1	279.00 87# 2	294.00 93# 2	299.00 98# 2
	See-thru	G4-2	PRICE weight no. ctns.	132.00 35# 1	142.00 38# 1	154.00 43# 1	169.00 45# 1	196.00 57# 1	284.00 70# 1	335.00 79# 2	388.00 114# 2	415.00 126# 3	434.00 133# 3
 GLOWING EMBER BURNER (For Royal Oak Only)	Standard	GX4	PRICE weight no. ctns.			136.00 34# 1	142.00 38# 1	162.00 49# 1	191.00 64# 1				
	See-thru	GX4-2	PRICE weight no. ctns.			214.00 50# 1	233.00 58# 1	248.00 73# 1	284.00 100# 2				
	Burner Only	GG	PRICE weight	58.50 2#	67.00 2#	73.00 2#	80.50 3#	86.50 4#	105.00 5#	181.50 6#	193.50 7#	203.00 8#	208.00 9#

"G5" SERIES Glowing Ember Burner

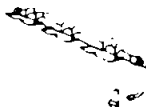
Note: Shipped for use
w/ Natural Gas—
specify if for L.P. Gas.

Style	Fireplace	No.		16"	18"	20"	24"	30"	36"
 GLOWING EMBER BURNER	Standard	G5	PRICE weight	267.00 25# 1	269.00 26# 1	269.00 28# 1	281.00 29# 1	297.00 34# 1	297.00 34# 1

Set includes: 1. AGA Certified Burner 2. Custom Grate 3 Embers 4. Granules 5. Connector Kit 6. Regulator and SPK-20 assembled on burner

Note: The G5 Series may be ordered with a Remote Control System (APK). Add the appropriate APK model number after the burner model number - example: "G5-24APK10RC". Add the APK system list price found in Section IV of this price sheet and deduct \$109.00.

"F" SERIES Front-Flame Burner Assembly Includes: 1 Front Flame Burner(s) 2. Custom Grate 3. Connector Kit(s)

Style	Fireplace	No.		12"	16"	18"	24"	30"	36"	42"	48"	54"	60"
 FRONT-FLAME BURNER	Standard	FST	PRICE weight	71.00 13#	82.00 14#	87.00 14#	97.00 15#	106.00 18#	133.00 22#	235.00 43#	252.00 54#	264.00 58#	274.00 62#
	See-thru	FST-2	PRICE weight	78.00 13#	86.00 13#	92.00 15#	103.00 17#	115.00 21#	161.00 24#	254.00 53#	262.00 62#	277.00 69#	302.00 74#
	Circular	FLR-3	PRICE weight				139.00 18#	194.00 20#	250.00 24#				
	Burner Only	F	PRICE weight	62.00 4#	69.00 4#	72.00 4#	80.00 5#	88.00 6#	108.00 8#	176.00 10#	188.00 12#	199.00 14#	205.00 18#

II

GAS LOG BURNERS

"P" SERIES Radiant Heat Flame Pan Burner including Glowing Embers

Note: Shipped for use w/Natural Gas—specify if for L.P. Gas and add \$109.00 for required SPK-20.

Set includes: 1. Pan Burner Assembly 2. Vermiculite 3. Connector Kit 4. Ember Kit

Style	Fireplace	No.		12"	16"	18"	20"	24"	30"	36"	42"
 FLAME PAN BURNER	Standard or See-thru	P	PRICE weight		87.00 10#	94.00 12#	98.00 14#	100.00 15#	110.00 17#	134.00 26#	170.00 26#

III

GAS LOGS (only)

Note: Logs only. See Section II for burners. For use with ALL BURNER SYSTEMS.

Style	No.		12"	16"	18"	20"	24"	30"	36"	42"	48"	54"	60"
GOLDEN OAK	R	PRICE weight no. ctns.	80.00 17# 1	82.00 19# 1	98.00 42# 1	101.00 47# 1	107.00 56# 1	131.00 69# 1	190.00 99# 2	272.00 179# 3	344.00 256# 3	370.00 292# 3	403.00 328# 3
GOLDEN OAK SEE-THRU	R-2	PRICE weight no. ctns.	80.00 17# 1	94.00 21# 1	111.00 42# 1	114.00 55# 1	122.00 61# 1	145.00 75# 1	221.00 118# 3	314.00 221# 3	379.00 274# 3	404.00 310# 3	435.00 346# 3
EMBERWOOD	E	PRICE weight no. ctns.			98.00 41# 1		107.00 54# 1	131.00 65# 1					
EMBERWOOD SEE-THRU	E-2	PRICE weight no. ctns.			111.00 42# 1		122.00 61# 1	145.00 75# 1					
EMBERWOOD DESIGNER	ED	PRICE weight no. ctns.			98.00 44# 1		117.00 58# 1	141.00 72# 1					
ROYAL ENGLISH OAK	B	PRICE weight no. ctns.					160.00 80# 2	186.00 100# 2	229.00 130# 3				
ROYAL ENGLISH SEE-THRU	B-2	PRICE weight no. ctns.					175.00 182# 2	206.00 105# 2	259.00 135# 2				
HERITAGE OAK	H	PRICE weight no. ctns.					130.00 65# 2	160.00 80# 2	186.00 100# 2				
HERITAGE OAK SEE-THRU	H-2	PRICE weight no. ctns.					148.00 65# 2	175.00 82# 2	206.00 105# 2				
MOUNTAIN OAK	K	PRICE weight no. ctns.			87.00 43# 1		94.00 60# 1	116.00 76# 1	171.00 101# 2				
MOUNTAIN OAK SEE-THRU	K-2	PRICE weight no. ctns.			96.00 42# 1		106.00 61# 1	126.00 75# 1	195.00 118# 3				
TWISTED PINE	C	PRICE weight no. ctns.			87.00 36# 1		94.00 43# 1	116.00 56# 1	171.00 75# 2				
TWISTED PINE SEE-THRU	C-2	PRICE weight no. ctns.			96.00 42# 1		106.00 47# 1	126.00 60# 1	195.00 92# 3				
WHITE BIRCH	W	PRICE weight no. ctns.			98.00 36# 1		107.00 49# 1	131.00 59# 1					
WHITE BIRCH SEE-THRU	W-2	PRICE weight no. ctns.			98.00 42# 1		122.00 52# 1	145.00 65# 1					

See page 6 for individual branches

JT-APP 2298

SAFETY CONTROL SYSTEMS



For Use With
Natural or LP Gas
For SPK Assembled
on burner add an "A"
to burner model
number and \$30.00 to
list price plus SPK.

NOTE:

*RF and RF-2 Log Sets over 36" require 2 SPK Kits
*RF3-24 Log Sets require 2 SPK Kits
*RF3-30" and 36" Log Sets require 3 SPK Kits

GAS LOG LIGHTER KIT

The Peterson REAL-FYRE

Gas Log Lighter Kit

includes:

Log lighter tubes; 190,000 BTU

1/2" valve (pressure drop of 1" W.C.),

AGA-certified at 100,000 BTU, chrome-plated and
brass valve cover, valve key and 1/2" connector
coupling



AUXILIARY ON/OFF VALVE

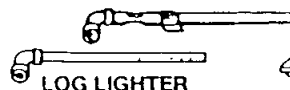
NO.	DESCRIPTION	PRICE
AV-2	Installs in 1/2" gas line to control multiple air mixers	16.50
AV-5	Installs on 1/2" gas line — with 1/4" Flared end	11.00
AV-17	On/Off valve with adaptor and knob handle Fits all burner systems with CK-4	29.00
AV-17-12	Case of 12	348.00
AV-18	On/Off valve with adaptor and 8" steel handle Fits all burner systems with CK-4	29.00
AV-18-12	Case of 12	348.00

REMOTE GAS SHUT-OFF VALVES

NO.	DESCRIPTION	PRICE
AV-30	Straight Gas Line Valve w/Key	32.50
AV-31	Angle Pattern Gas Line Valve w/Key	32.50
VK-1	Line Valve Key, Standard	2.90
VK-2	Long Valve Key - 10"	6.90

NO.	DESCRIPTION	PRICE
SPK-20	Safety Pilot Kit with removable knob handle	109.00
SPK-21	Safety Pilot Kit with removable 8" steel handle	109.00
SPK-30	Safety Pilot Kit with electronic spark pilot ignition	195.00
APK-10	Wall Switch ignition system with — wall tap switch (Natural Gas)	219.00
APK-10P	Wall Switch ignition system with — wall tap switch (LP - Propane Gas)	219.00
APK-10R	Wireless remote ignition system. Low voltage system requires 110V power (Natural Gas)	369.00
APK-10RP	Wireless remote ignition system. Low voltage system requires 110V power (LP Propane Gas)	369.00
APK 10RC	Wireless remote ignition system w/battery pine cone receiver (Nat)	359.00
APK 10RCP	Wireless remote ignition system w/battery pine cone receiver (LP)	359.00
PBO-10	Pilot Burner Orifice - Propane Gas (SPK)	4.50
PBO-18	Pilot Burner Orifice Natural Gas (SPK)	4.50
B-67	Control Body for APK, 10 Natural Gas	117.00
B-67P	Control Body for APK, 10 LP-Propane Gas	117.00
SV-3	Valve for all SPK systems	55.00
PG-1	Pilot generator and gas supply for APK-10	39.00
PG-1-60	Pilot generator and gas supply for APK-10 60"	48.00

NO.	DESCRIPTION	PRICE
LG-10	Standard Log Lighter w/AV-30 (Straight) In-Line Valve	44.00
LG-11	Standard Log Lighter w/AV-31 (Angle) In-Line Valve	44.00
LL-10	Gas Saver Lot Lighter w/AV-30 (Straight) In-Line Valve	48.00
LL-11	Gas Saver Log Lighter w/AV-31 (Angle) In-Line Valve	48.00
LC-10	14" Cast Iron Log Lighter w/AV-30 (Straight) In-Line Valve	52.50
LC-11	14" Cast Iron Log Lighter w/AV-31 (Angle) In-Line Valve	52.50
LC-20	18" Cast Iron Log Lighter w/AV-30 (Straight) In-Line Valve	54.50
LC-21	18" Cast Iron Log Lighter w/AV-31 (Angle) In-Line Valve	54.50



LOG LIGHTER

NO.	DESCRIPTION	PRICE
LG-1	Rigid Single 1#	16.50
LG1-12	Case of 12 18#	198.00
LL-1	Gasaver Single 1#	20.50
LL1-12	Case of 12 16#	246.00
LC-1	14" Cast Iron 4.5#	24.50
LC1-12	Case of 12 54-	294.00
LC-2	18" Cast Iron Log Lighter 5#	28.00
LC2-12	Case of 12 60#	336.00
LK-1	Natural Wood wt. 6#	23.50
LK1-12	Case of 12 wt. 72#	282.00
CW-1	Cream-wik single Wt. 1/2#	4.00

FIREPLACE & GAS LOG ACCESSORIES

EMBER GLOW

NO.	DESCRIPTION	PRICE
EM-1	Single Pack wt 4 oz.	10.00
EM1-12	Case of 12 Wt. 4#	120.00

SELECT WHITE SAND

NO.	DESCRIPTION	PRICE
CS-10	Select White Sand Wt. 10#	11.00
CS-10-6	Case of 6 66#	66.00

FIREPLACE GLUE

NO.	DESCRIPTION	PRICE
GL-1	Adhesive Wt. 4 oz.	6.00
GL1-12	Case of 12 Wt. 5#	72.00

DECOR PACK

NO.	DESCRIPTION	PRICE
DP-1	Includes PC-4, BR-2 EM-1 and GL-1	33.00

FIREPROOF CEMENT

NO.	DESCRIPTION	PRICE
FC-10	Single Pack #10	12.00
FC10-6	Case of 6 Wt. 60#	72.00

LAVA-FYRE GRANULES

NO.	DESCRIPTION	PRICE
LF-5	Lava-Fyre Granules Wt. 5#	8.00
LF-10	Lava-Fyre Granules Wt. 10#	15.00
LF-5-12	Case of 12 68#	96.00
LF-10-6	Case of 6 63#	90.00

VERMICULITE GRANULES

NO.	DESCRIPTION	PRICE
LF-15	Vermiculite Granules Wt. 1 1/2#	11.00
LF-15-12	Case of 12 18#	132.00

CERAMIC PINE CONES

NO.	DESCRIPTION	PRICE
PC-4	Single Pack 4 assorted sizes Pine Cones in poly bag Wt. 4#	11.00
PC4-12	Case of 12 45#	132.00

VOLCANIC STONE

NO.	DESCRIPTION	PRICE
VS-3	Lava-Fyre Volcanic Stone in Poly Bag Wt. 3#	6.00
VS-3-12	12 Poly Bags of VS-3 in box Wt. 30#	72.00
VS-12	12 Lbs. Assorted Stones in box Wt. 12#	22.00
VS-25	25 Lbs. Assorted Stones in box Wt. 25#	42.00

VI INDIVIDUAL LOGS & BRANCHES

INDIVIDUAL TOP LOGS FOR GAS LOG SETS (for all burner systems)

Style	No.		9"	12"	13"	14"	15"	16"	18"	20"	24"	30"	
GOLDEN OAK	RL	PRICE weight	10.00 2#	16.50 6#			20.00 7#		22.00 9#	31.00 11#	34.00 15#	42.00 16#	
EMBERWOOD	EL	PRICE weight	10.00 2#	16.50 6#			20.00 7#		22.00 9#				
EMBERWOOD DESIGNER	EDL	PRICE weight	10.00 2#	16.50 6#	17.50 6#		20.00 7#		22.00 9#				
ROYAL ENGLISH OAK	BL	PRICE weight	10.00 2#		20.00 6#	21.00 7#		25.00 8#	42.00 14#				
HERITAGE OAK	HL	PRICE weight	12.00 3#	14.00 3#	17.50 5#		20.00 8#						
MOUNTAIN OAK	KL	PRICE weight						42.00 16#		49.00 22#	57.50 29#	72.50 30#	
TWISTED PINE	CL	PRICE weight	10.00 2#	16.50 4#			20.00 5#		22.00 7#				
WHITE BIRCH	WL	PRICE weight	10.00 2#	16.50 5#			20.00 6#		22.00 8#				

INDIVIDUAL BOTTOM LOGS FOR GAS LOG SETS (for all burner systems)

Style	No.		12"	15"	16"	18"	20"	24"	30"	36"	42"	48"	54"	60"
GOLDEN OAK	RL	PRICE weight	26.00 6#	30.00 7#	31.00 8#	33.00 13#	36.00 16#	45.00 22#	61.00 25#	88.50 44#	132.00 86#	144.00 104#	167.00 122#	184.00 140#
EMBERWOOD	EL	PRICE weight		30.00 7#		33.00 12#	36.00 16#	45.00 19#	61.00 23#					
EMBERWOOD DESIGNER	EDL	PRICE weight			30.00 6#	35.00 14#	36.00 16#	47.00 23#	63.00 27#					
ROYAL ENGLISH OAK	BL	PRICE weight						62.00 29#	70.50 38#	94.00 52#				
HERITAGE OAK	HL	PRICE weight		35.00 15#		40.00 17#	50.00 19#	62.00 23#	70.50 30#					
MOUNTAIN OAK	KL	PRICE weight		30.00 7#		33.00 13#	36.00 16#	45.00 21#	61.00 25#	88.50 44#				
TWISTED PINE	CL	PRICE weight				33.00 10#	36.00 12#	45.00 16#	61.00 21#	88.50 35#				
WHITE BIRCH	WL	PRICE weight				33.00 10#	36.00 13#	45.00 18#	61.00 19#					

CONNECTOR KITS

NO.	DESCRIPTION	PRICE
CK-4	12" Flared connector	14.00
CK-4-18	18" Flared connector	18.00
CK-5	12" Flex connector (1/2" id)	20.00

DECORATIVE OAK TREE BRANCHES



DESC.	NO.	LENGTH	WEIGHT	PACKAGING	PRICE
OAK	BR-2	Length 9" each	3#	2 in plastic bag	11.50
OAK	BR-4	Length 9" each	5#	4 in plastic bag	21.00
OAK	BR-24	Length 9" each	22#	24 in carton	115.00
OAK	BR-17	Length 17"	4#	Packed in individual Poly Bag	16.50
OAK	BR-21	Length 21"	10 1/2#	Packed in individual Poly Bag	31.00

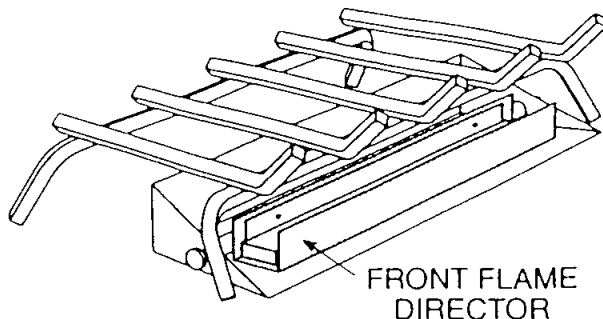
VII GRATES & BURNERS

FIREPLACE GRATES

Style	No.	Fireplace		16"	18"	24"	30"	36"	42"	48"	54"	60"
Steel Square 7/16	Standard	ST	PRICE weight	15.50 5#	17.50 6 1/2#	20.50 8#	23.50 8 1/2#	29.00 12 1/2#				
	See-thru	ST2	PRICE weight	18.50 5#	20.50 6 1/2#	23.50 9#	28.00 11#	33.00 12 1/2#				
Steel Square 1/2"	Standard	SD	PRICE weight		20.50 9#	23.50 11#	28.00 13#	33.00 15#				
	See-thru	SD2	PRICE weight		23.50 10#	28.00 12#	33.00 15#	37.00 17#				
Heavy-Duty Steel Square 3/4"x3/4"	Standard	SX	PRICE weight			39.00 22#	48.50 25#	55.50 27#	80.50 34#	92.50 42#	105.00 45#	117.50 48#
	See-thru	SX2	PRICE weight			42.00 22#	52.50 25#	59.50 30#	84.50 38#	97.00 44#	109.00 50#	121.50 53#
Forge Steel Grate	Standard	VV	PRICE weight		166.00 20#	178.00 35#	217.50 40#					

BURNER PARTS

NO.	DESCRIPTION	PRICE	NO.	DESCRIPTION	PRICE
AB-2	Fuel injector, use with CK-4 connector kit shipped blank or specify drill size	4.50	CE-1	Small brass connector elbow	3.40
AM-2	Air Mixer, use with CK-4 connector kit shipped blank or specify drill size	8.20	TA-3	Aluminum tubing 1/2" or flare 12" long with flare nuts	8.20
HE-2	Large brass hearth elbow	3.40	TH-1	Thermocouple for SPK safety pilots	7.50
			PT-1	Thermocouple and pilot burner for SPK safety pilot	13.50
			PT-1-36	Thermocouple and pilot burner 36"	19.50



ROBERT H. PETERSON CO. FRONT FLAME DIRECTOR (FD-SERIES)

FOR USE WITH G-4 GLOWING EMBER
BURNERS (NATURAL GAS ONLY)
Available sizes 18", 24" and 30"



INSTALLATION INSTRUCTIONS

INSTALLING ON AN EXISTING PETERSON GLOWING EMBERS GAS LOG SET:

1. Remove logs and grate. Remove all embers and remove all sand from pan. (If you wish to re-use your sand and embers, attempt to keep them separate. It is recommended that new sand and embers be used when placing the Front Flame Director in an existing log set.)

2. Place Front Flame Director in burner pan against burner pipe with angled side toward front, centered left to right. Note: The side with the two phillips screws faces the burner pipe (See Figure 1 and Figure 2).

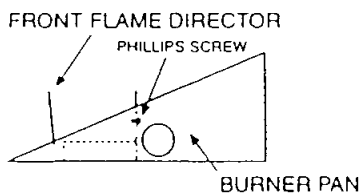


Figure 1

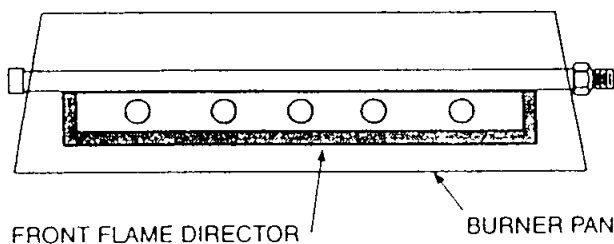


Figure 2

3. Refill pan with sand first. Fill back section of the pan, then completely cover the Front Flame Director and the front section of the burner pan (See Figure 3). Smooth and level the sand, hiding the Flame Director as best you can.

4. Place Embers evenly over entire surface of the sand (See Figure 3).

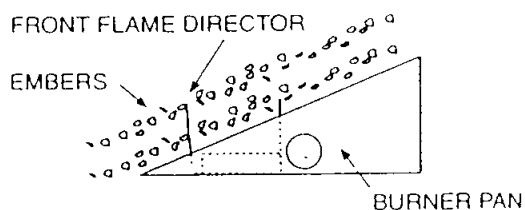


Figure 3

5. Replace the Grate so that the back edge of burner pan is under the middle of the grate front to back (See Figure 4).

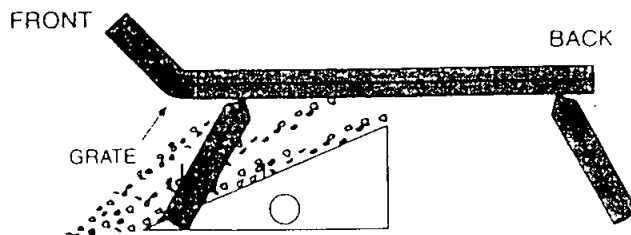


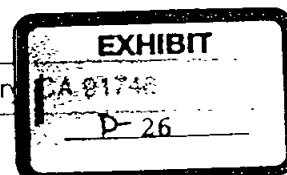
Figure 4

6. Re-install the Stabilizer Clips that secure the grate to pan.

7. Re-stack your gas logs onto the grate.

INSTALLING ON A NEW PETERSON GLOWING EMBERS GAS LOG SET:

1. Follow installation and operating instructions supplied with your gas log set. After connecting the gas supply but before filling the pan with sand and embers, install the Front Flame Director beginning with section #2 above.



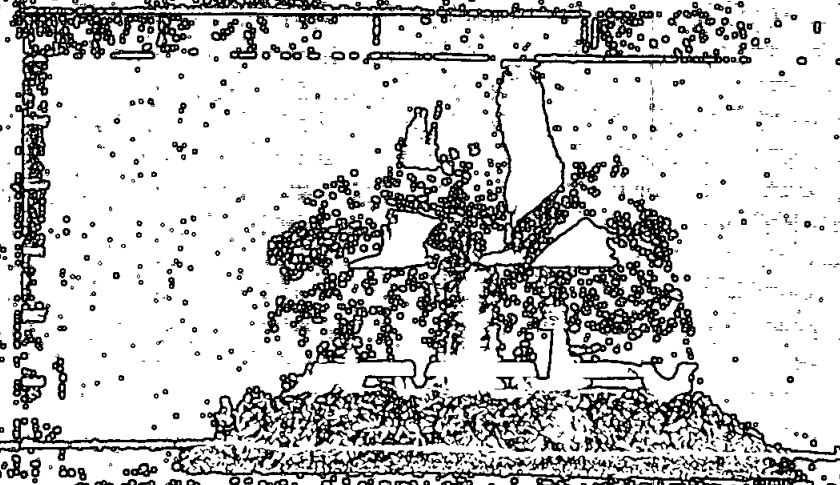
GB

Golden Blount

Round Mountain
Ceramic Gas Logs

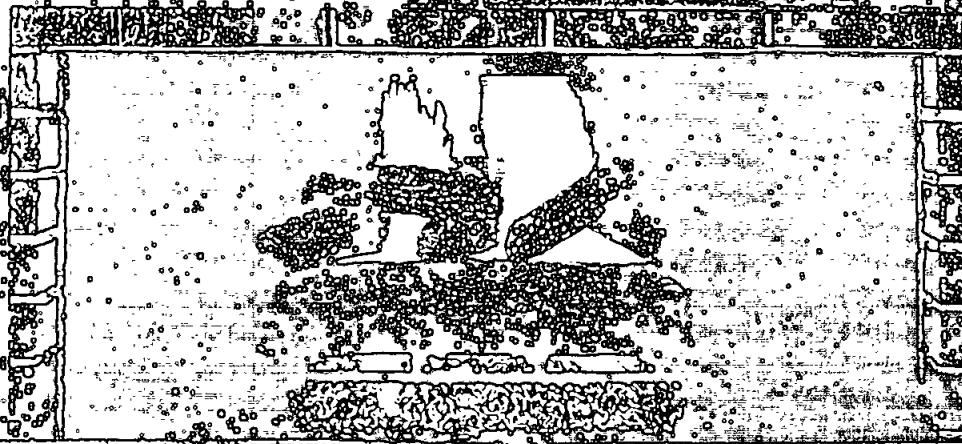
Added Features:

- More logs per set
- Hi-Temp Finish
- Large amounts of silica sand, lava rock, glowing embers
- Quality Hardware Kit



Pictured with standard burner only

Pictured with the standard pan burner
PLUS the optional CEBB Burner
Patent Pending



Without any question, our ceramic logs are the most realistic gas logs ever produced. The deep bark texture and exclusive hi-temp coloring is a real breakthrough in firing up customer interest.

Designed and manufactured by Golden Blount in Dallas, Texas.

UNBURNABLELY REAL

EXHIBIT

D-29

GB

Golden Blount

"Round Mountain" • Massive Oak

GAS LOG SETS ARE AVAILABLE IN SIZES

MODEL	NO. LOGS	C-THRU	LP MODELS with pilot Control and Air Mixer
GB-RM-18"	7	GB-RM-18-ST	GB-RM-18-LP
GB-RM-21"	7	GB-RM-21-ST	GB-RM-21-LP
GB-RM-24"	8	GB-RM-24-ST	GB-RM-24-LP
GB-RM-30"	8	GB-RM-30-ST	GB-RM-30-LP
GB-RM-36"	9	GB-RM-36-ST	GB-RM-36-LP

SAFETY PILOT LIGHT KITS AVAILABLE FOR ALL MODELS



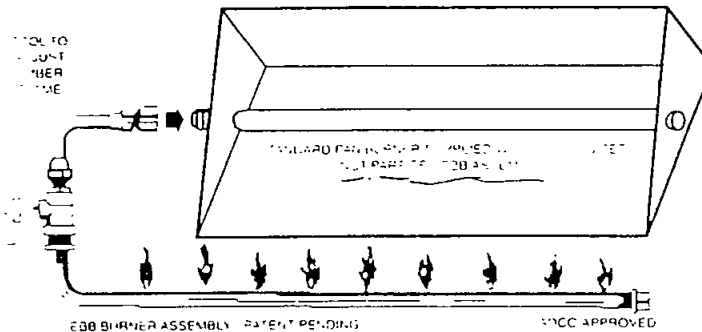
Controlled EMBER-BED BURNER

Complete With:

- Gas Control Valve
- Connector Parts
- Glowing Embers
- Vermiculite

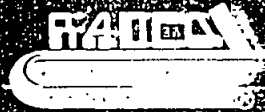
SHOWN IN MODEL 18" SET

Golden Blount
DALLAS, TEXAS



The Controlled Ember-Bed Burner illuminates artificial Ember-Bed material in front of the gas log assembly in order to stimulate the appearance of burning embers, thereby enhancing the attractiveness and realism of the fireplace.

Quality Fireplace
Products Since 1970



APPROVED • LIMITED LIFETIME WARRANTY

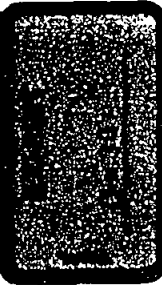
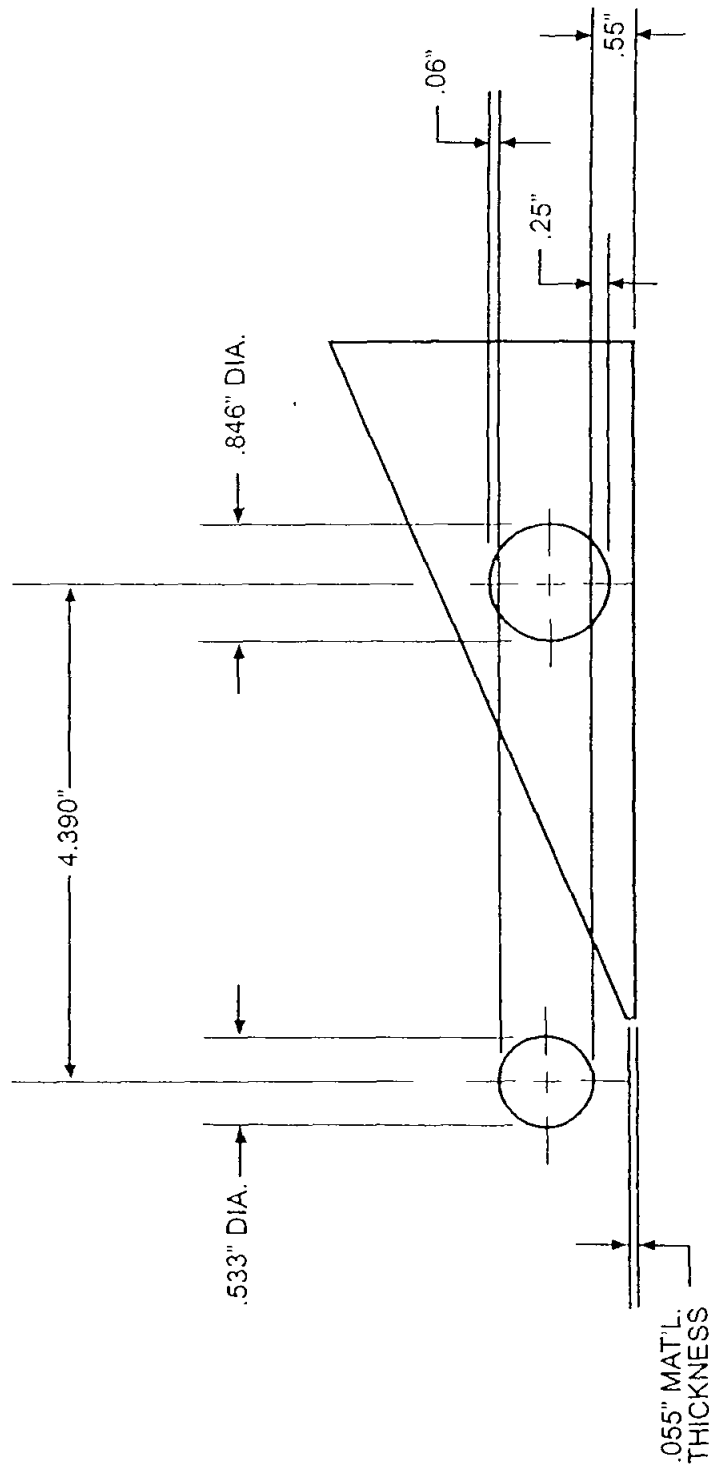
Sold By:

B1410

Manufactured by:

Golden Blount
Dallas, Texas

JT-APP 2303



ROBERT H. PETERSON
14724 E. PROCTOR AVE.
INDUSTRY CA. 91746

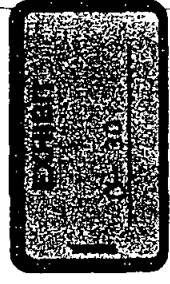
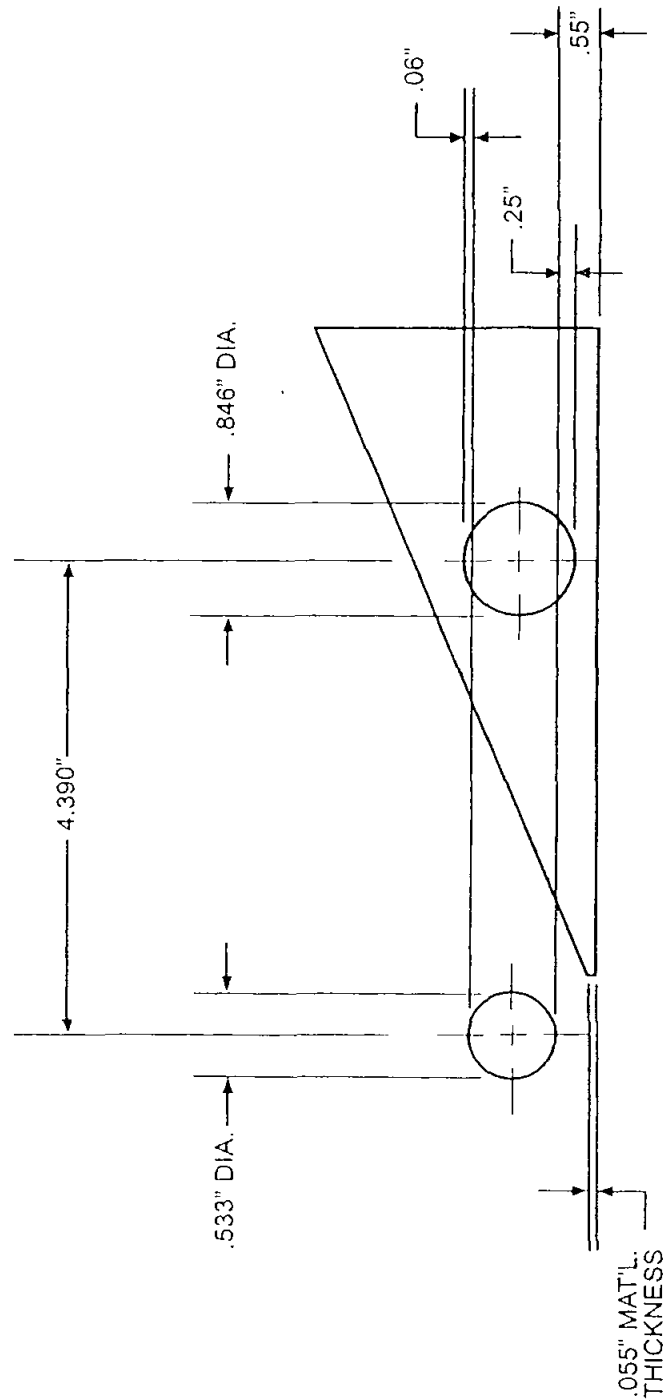
EMB G4 REFERENCE #2

DATE: 02-15-02

SCALE: N/A

FILE#: 70508

DRAWN BY: R.P.	APPROVED BY:	APPROVAL DATE:
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DATE: 02-15-02		EMB G4 REFERENCE #2		ROBERT H. PETERSON 14724 E. PROCTOR AVE. INDUSTRY CA. 91746	
SCALE: N/A		DRAWN BY: R.P.	APPROVED BY:	APPROVAL DATE:	
FILE#: 70508					

Enhance the glow and warmth of your hearth

The realism and excitement of your Real-Fyre Gas Log set is amplified by the Ember Flame Booster (EMB Series). This easy-to-install accessory adds dramatic front flames to your gas log set and magnifies its beauty. The Ember Flame Booster is available in sizes 18", 24", or 30" for Natural Gas only. Plus, the Ember Flame Booster has an independent control allowing for adjustable front flame and glowing ember settings.



Before
without Ember Flame Booster

Available for 18", 24", and 30" Gas Logs Sets.

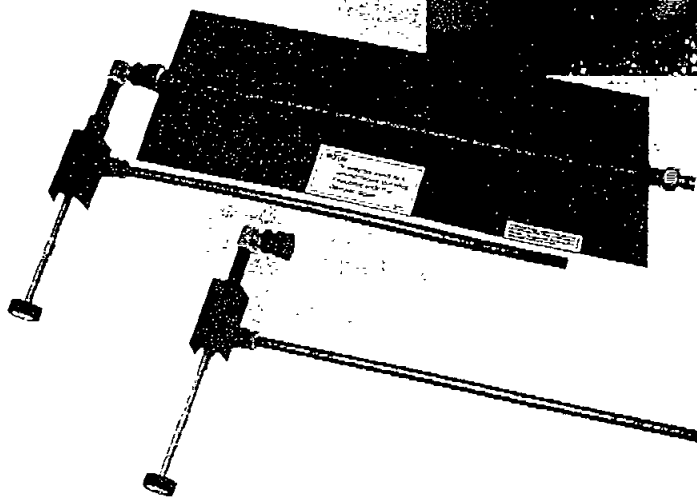


After
with Ember Flame Booster

As an accessory for your G4 Series Burner System. Model #s EMB-18, EMB-24, EMB-30.

or

Order pre-assembled on your G5 Series (AGA Design Certified) Log Set (eg. G5-24-14M-EMB).



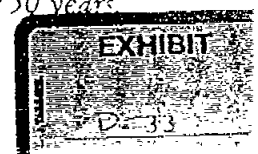
Real-Fyre Gas Logs ...

a Beautiful Tradition for 50 years



ROBERT H. PETERSON CO.

14724 East Proctor Ave., City of Industry, CA 91746 • LOG ON! www.rhpeterson.com



JT-APP 2306

Installer: please leave these instructions with consumer.

Consumer: please retain for future reference.

TO BE USED WITH THE REAL-FYRE G4 SERIES BURNER SYSTEMS.

AVAILABLE FOR USE ON THE FOLLOWING LOG SETS:

18"

24"

30"

FOR NATURAL GAS ONLY.

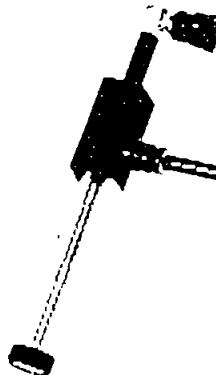
ROBERT H. PETERSON CO.

Real-Fyre®

EMB SERIES

"EMBER FLAME BOOSTER"

INSTALLATION AND OPERATING INSTRUCTIONS



EMB-24 Ember Flame Booster for 24" Log Set shown

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Open a window.
- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone and follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

IMPORTANT: READ THESE INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION OF YOUR LOG SET

Your Peterson Real-Fyre Ember Flame Booster is to be installed only with a Peterson Real-Fyre G4 Series Log Set in a solid-fuel burning fireplace with a working flue constructed of noncombustible material. Solid fuels shall not be burned in a fireplace where a gas log set is installed. The minimum permanent vent opening provided by the fireplace chimney or chimney damper to vent the flue products is listed in your G4 Series Owner's Manual. The chimney damper must be fixed in a manner to maintain the minimum permanent vent opening. A Damper Stop Clamp is provided as a means to maintain the minimum permanent vent opening and to prevent full closure of the damper blade (See Damper Stop Clamp Instructions in your G4 Series Owner's Manual). The installation, including provisions for combustion and ventilation air, must conform with the American National Standard Fuel Gas Code Z223.1 and applicable local building codes.

6437 0224.00

ROBERT H. PETERSON CO. 14724 East Proctor Ave., City of Industry

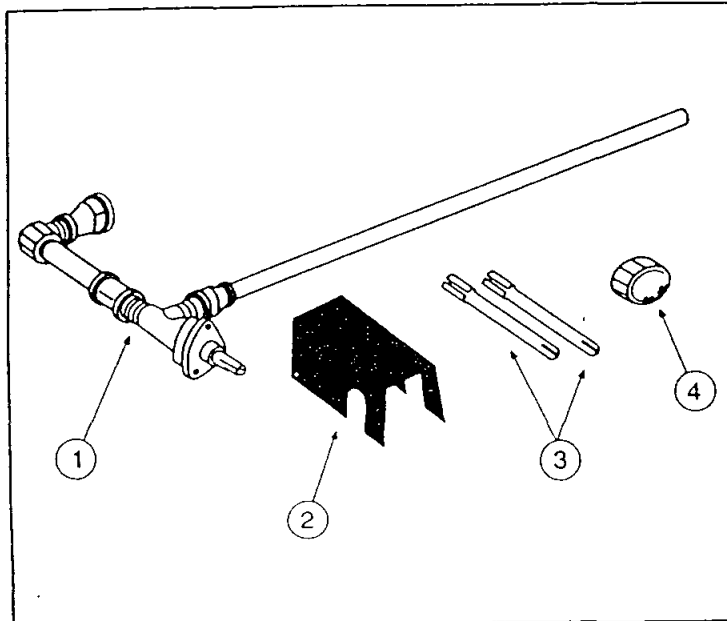
EXHIBIT

LA 81746
D-34

JT-APP 2307

PARTS LIST FOR PETERSON REAL-FYRE EMBER FLAME BOOSTER (EMB SERIES)

NOTE: The parts for the EMB-24 Ember Flame Booster 24" Accessory Set are illustrated and listed. Part numbers and sizes will vary depending upon the size of the EMB ordered. When ordering replacement parts, be sure to indicate your EMB size.



Item No.	Part No.	Description
1.	EMB-24-01	Ember Flame Booster Assembly
2.	HS-29-00	Heatshield
3.	EH-1	Handle Extension (2)
4.	Knobs	EMB Control Knob

IMPORTANT INFORMATION

Do not use this accessory if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

The appliance and its individual shutoff valve must be disconnected from the gas supply piping system when testing the system at test pressures in excess of ½" psig. This is accomplished by closing the gas supply line valve, which is required by NFPA54, section 5.54.

The minimum inlet gas supply pressure for the purpose of input adjustment is 5" for Natural Gas.

The maximum inlet gas supply pressure for this burner is 14" for Natural Gas.

A fireplace screen must be in place when the log set is burning. Provisions for adequate combustion air must be maintained. Combustion air is adequate when all flames curl into the fireplace and away from the screen.

When glass fireplace doors are used, operate the gas log set with the doors open.

Real-Fyre EMB Series Technical Data Table

Log Set Size	* Log Set Dimensions w/ EMB			BTU Rating Nat.
	Front	Depth	Back	
18"	19.5"	14"	15"	Refer to the Owner's Manual of your Real-Fyre G4 Series Burner System.
24"	25.5"	14"	20"	
30"	31.5"	14"	24"	
				The EMB Series Accessory does not effect BTU rating.

* Dimensions of G4 Series Log Sets with EMB accessory installed. If the log set is centered properly, your G4 Series log set with EMB can be installed in accordance with the Front Width of Fire Box Opening as listed in your G4 Series Owner's Manual.

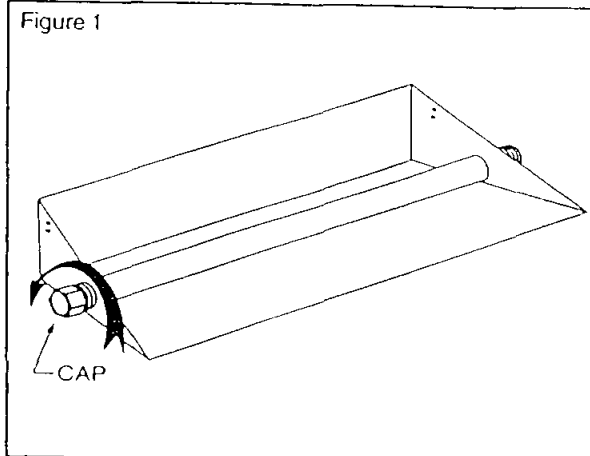
INSTALLING THE PETERSON REAL-FYRE EMBER FLAME BOOSTER (EMB SERIES)

INSTALLING THE EMB SERIES TO YOUR G4 SERIES BURNER

Refer to the Parts List on page 2 when installing your Real-Fyre Ember Flame Booster

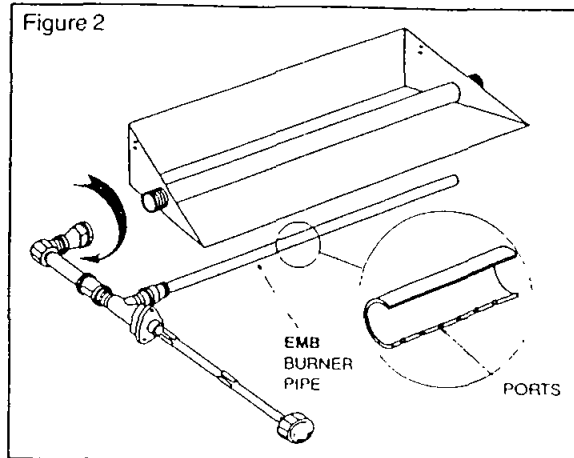
1. Carefully unpack your Bumer System and Ember Flame Booster. Check the parts list of both instruction manuals to be sure all parts are included.
2. Be sure the gas supply to the fireplace is turned off.
3. When installing your Ember Flame Booster and Log Set, use **Teflon Tape** or **pipe compound**, resistant to the action of Propane Gas, on all threaded male connections except brass to brass connections. The Burner Fuel Injector, although brass in color is not brass and Teflon Tape or pipe compound must be used.
4. If installing to an existing G4 Series Burner System, continue with step 5. If installing to a new G4 Series Burner System, continue with step 9.
5. Remove the logs and grate from the fireplace.
6. Disconnect your burner system from the main gas supply.
7. Remove any sand, embers and/or lava granules from the burner and floor of the fireplace.
8. Clean the floor of the fireplace of any dirt or ashes.
9. Remove the cap from the left side of the burner system, turning counterclockwise (Figure 1).

Figure 1



10. Attach the 1/2" female pipe fitting of the Ember Flame Booster to the left stub of your burner system. Rotate the Ember Flame Booster around your burner system clockwise. Use Teflon Tape or pipe compound. Tighten securely so the Ember Flame Booster valve faces forward and flush with the burner pan. The Ember Flame Booster burner ports should face downward (Figure 2).

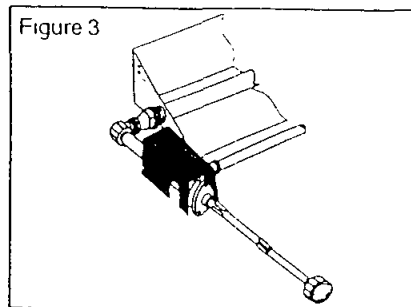
Figure 2



Note: For right sided installation mirror the installation instructions and, with a pipe wrench, rotate the EMB burner so the ports face downwards.

11. Attach the handle extensions and knob to the control valve.
12. Place the heat shield over the control valve as shown (Figure 3).

Figure 3



12. Follow the installation instructions supplied with your burner system to complete the installation of your gas log set. When placing the sand and Ember Glow in the burner pan, be sure to completely cover the Ember Flame Booster burner pipe.

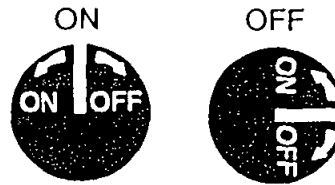
Test for leaks at all connections with a soapy water solution. **Never use an open flame to check for leaks.**

REAL-FYRE EMBER FLAME BOOSTER OPERATING INSTRUCTIONS

The Ember Flame Booster provides enhanced front flame and glowing embers with a boost of heat from an independent variable control valve. The EMB Series is easily operated with a turn of the EMB control knob for added front flame and heat to regular operation of your burner system.

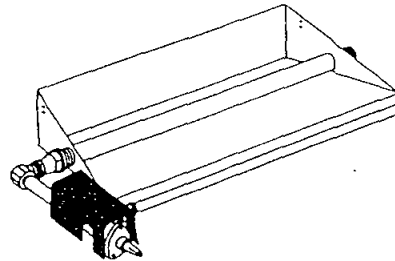
1. Follow the lighting instructions supplied with your G4 Series Burner System to light the log set.
2. For added Front Ember Flame and a Heat Boost, turn the EMB Control Knob counterclockwise to the **desired setting**.
3. To lower or extinguish the Ember Flame Booster, turn the EMB Control Knob clockwise (all the way clockwise to extinguish).
4. To extinguish your Log Set, follow the instructions supplied with your G4 Series Burner System.

Figure 4



Caution: The EMB Control Knob and the Handle Extensions may become 'HOT' by the radiant heat of your log set.

The Control Knob and Handle Extensions can be removed after the **desired setting** is achieved.



Note: The Ember Flame Booster can be left at the desired setting, when extinguishing your Log Set.

PETERSON REAL-FYRE GAS LOG SET ACCESSORIES

**CERAMIC
PINE CONES**
Hand colored.
Model # PC-4,
PCD-4 or PCW-4



WOOD CHIPS
Realistic accents.
Model # WC-6.
Also available for
White Birch
Style WCB-6



**DECORATIVE OAK
BRANCHES**
Ideal for
decorating fireplace.
BR Series, sizes 9", 17"
& 21".



BONUS LOGS
Customize your
fireplace and
log set.
Models #
SD Bonus &
SS Bonus.



SD BONUS

SS BONUS



LAVA-FYRE
GRANULES

or
LAVA-FYRE COALS
For covering bottom of
fireplace. LF 5, LF 10
or LFC 10.



GLOWING COALS
Creates appearance
of red hot coals.
Model # EM-1.

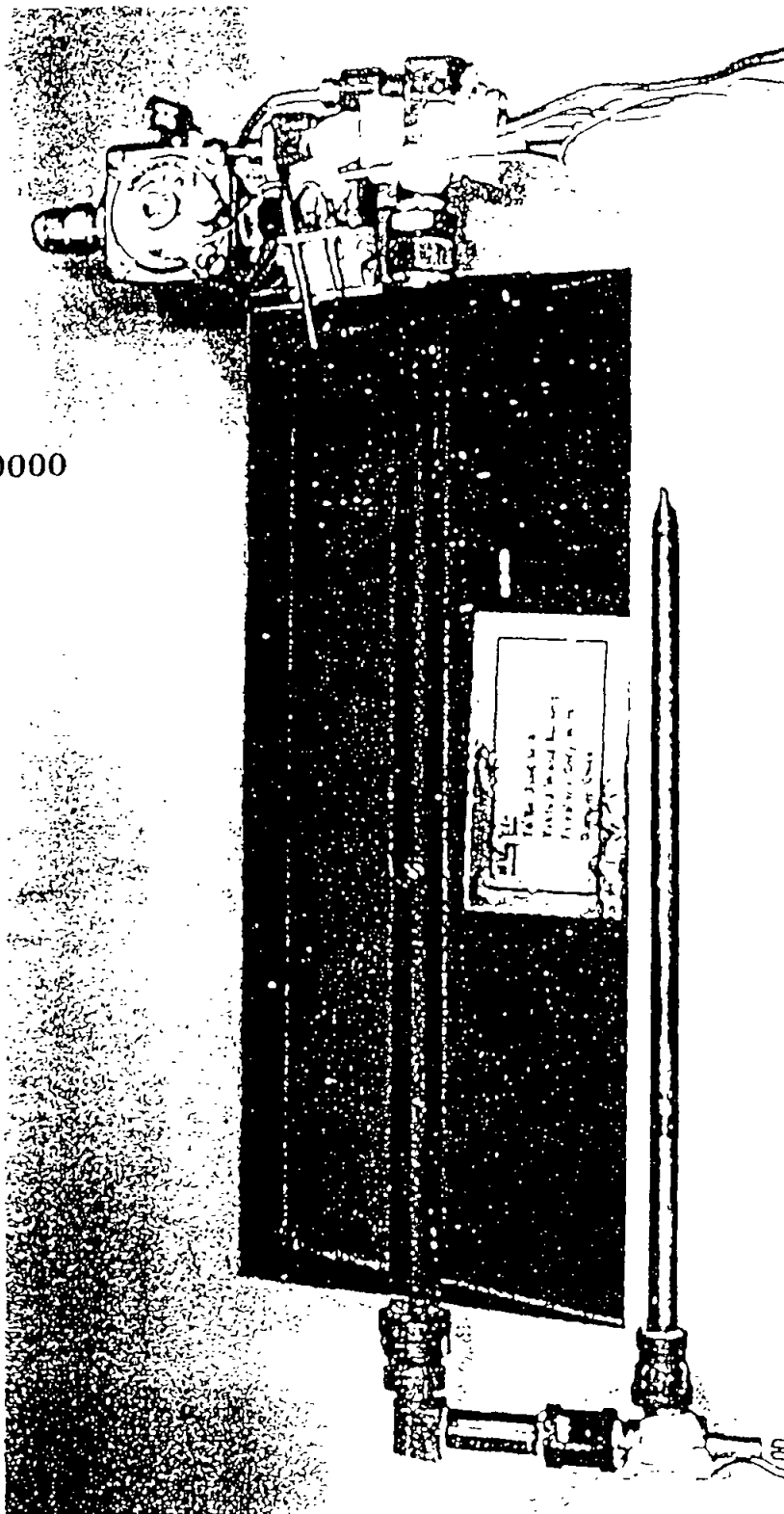


SELECT SAND



VERMICULITE
GRANULES

000017



Knob Assembly is Removable

EXHIBIT
D-35

Installer: please leave these instructions with consumer.

Consumer: please retain for future reference.

TO BE USED WITH THE REAL-FYRE G4 SERIES BURNER SYSTEMS.

AVAILABLE FOR USE ON THE FOLLOWING LOG SETS:

18"

24"

30"

FOR NATURAL GAS ONLY.

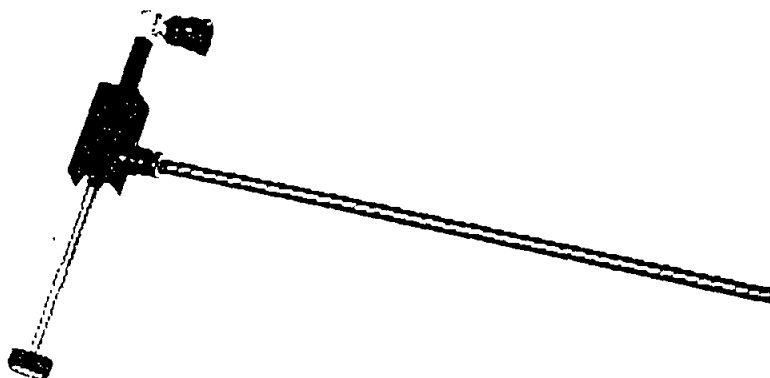
ROBERT H. PETERSON CO.

Real-Fyre®

EMB SERIES

"EMBER FLAME BOOSTER"

INSTALLATION AND OPERATING INSTRUCTIONS



EMB-24 Ember Flame Booster for 24" Log Set shown

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Open a window.
- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone and follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

IMPORTANT: READ THESE INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION OF YOUR LOG SET

Your Peterson Real-Fyre Ember Flame Booster is to be installed only with a Peterson Real-Fyre G4 Series Log Set in a solid-fuel burning fireplace with a working flue constructed of noncombustible material. Solid fuels shall not be burned in a fireplace where a gas log set is installed. The minimum permanent vent opening provided by the fireplace chimney or chimney damper to vent the flue products is listed in your G4 Series Owner's Manual. The chimney damper must be fixed in a manner to maintain the minimum permanent vent opening. A Damper Stop Clamp is provided as a means to maintain the minimum permanent vent opening and to prevent full closure of the damper blade (See Damper Stop Clamp Instructions in your G4 Series Owner's Manual). The installation, including provisions for combustion and ventilation air, must conform with the American National Standard Fuel Gas Code Z223.1 and applicable local building codes.

8437 022400

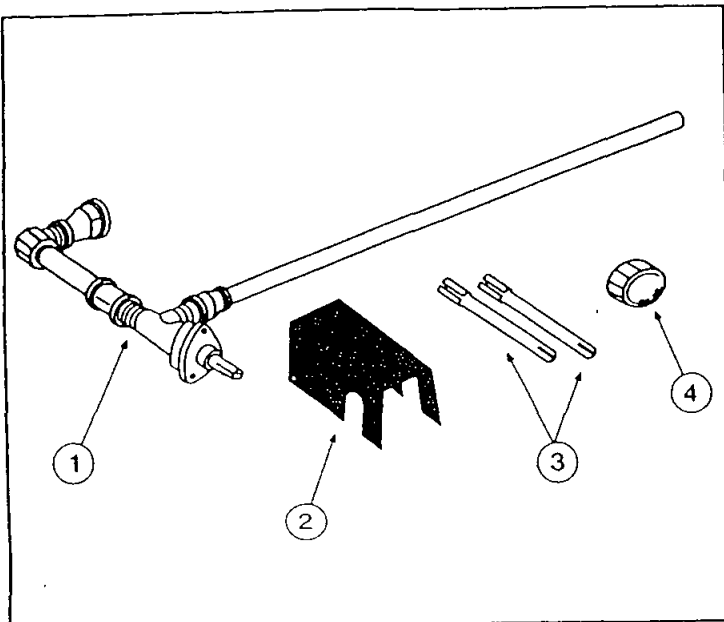
ROBERT H. PETERSON CO. 14724 East Proctor Ave., City of Industry

EXHIBIT

SA 81748
D-34

PARTS LIST FOR PETERSON REAL-FYRE EMBER FLAME BOOSTER (EMB SERIES)

NOTE: The parts for the EMB-24 Ember Flame Booster 24" Accessory Set are illustrated and listed. Part numbers and sizes will vary depending upon the size of the EMB ordered. When ordering replacement parts, be sure to indicate your EMB size.



Item No.	Part No.	Description
1.	EMB-24-01	Ember Flame Booster Assembly
2.	HS-29-00	Heatshield
3.	EH-1	Handle Extension (2)
4.	Knobs	EMB Control Knob

IMPORTANT INFORMATION

Do not use this accessory if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

The appliance and its individual shutoff valve must be disconnected from the gas supply piping system when testing the system at test pressures in excess of ½" psig. This is accomplished by closing the gas supply line valve, which is required by NFPA54, section 5.54.

The minimum inlet gas supply pressure for the purpose of input adjustment is 5" for Natural Gas.

The maximum inlet gas supply pressure for this burner is 14" for Natural Gas.

A fireplace screen must be in place when the log set is burning. Provisions for adequate combustion air must be maintained. Combustion air is adequate when all flames curl into the fireplace and away from the screen.

When glass fireplace doors are used, operate the gas log set with the doors open.

Real-Fyre EMB Series Technical Data Table				
Log Set Size	* Log Set Dimensions w/ EMB			BTU Rating
	Front	Depth	Back	Nat.
18"	19.5"	14"	15"	Refer to the Owner's Manual of your Real-Fyre G4 Series Burner System.
24"	25.5"	14"	20"	
30"	31.5"	14"	24"	
				The EMB Series Accessory does not effect BTU rating.

* Dimensions of G4 Series Log Sets with EMB accessory installed. If the log set is centered properly, your G4 Series log set with EMB can be installed in accordance with the Front Width of Fire Box Opening as listed in your G4 Series Owner's Manual.

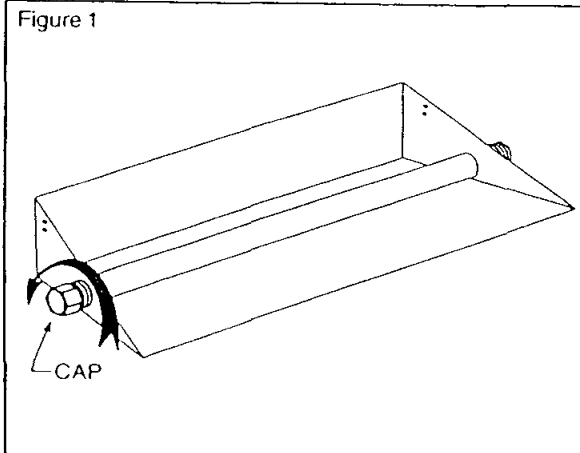
INSTALLING THE PETERSON REAL-FYRE EMBER FLAME BOOSTER (EMB SERIES)

INSTALLING THE EMB SERIES TO YOUR G4 SERIES BURNER

Refer to the Parts List on page 2 when installing your Real-Fyre Ember Flame Booster

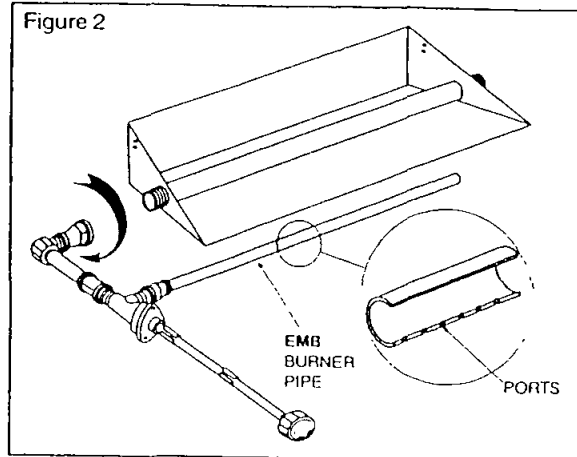
1. Carefully unpack your Bumer System and Ember Flame Booster. Check the parts list of both instruction manuals to be sure all parts are included.
2. Be sure the gas supply to the fireplace is turned off.
3. When installing your Ember Flame Booster and Log Set, use **Teflon Tape or pipe compound, resistant to the action of Propane Gas, on all threaded male connections except brass to brass connections.** The Burner Fuel Injector, although brass in color is not brass and Teflon Tape or pipe compound must be used.
4. If installing to an existing G4 Series Burner System, continue with step 5. If installing to a new G4 Series Burner System, continue with step 9.
5. Remove the logs and grate from the fireplace.
6. Disconnect your burner system from the main gas supply.
7. Remove any sand, embers and/or lava granules from the burner and floor of the fireplace.
8. Clean the floor of the fireplace of any dirt or ashes.
9. Remove the cap from the left side of the burner system, turning counterclockwise (Figure 1).

Figure 1



10. Attach the 1/2" female pipe fitting of the Ember Flame Booster to the left stub of your burner system. Rotate the Ember Flame Booster around your burner system clockwise. Use Teflon Tape or pipe compound. Tighten securely so the Ember Flame Booster valve faces forward and flush with the burner pan. The Ember Flame Booster burner ports should face downward (Figure 2).

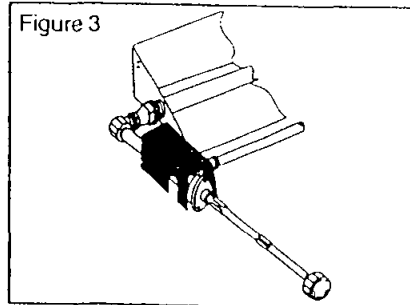
Figure 2



Note: For right sided installation mirror the installation instructions and, with a pipe wrench, rotate the EMB burner so the ports face downwards.

11. Attach the handle extensions and knob to the control valve.
12. Place the heat shield over the control valve as shown (Figure 3).

Figure 3



12. Follow the installation instructions supplied with your burner system to complete the installation of your gas log set. When placing the sand and Ember Glow in the burner pan, be sure to completely cover the Ember Flame Booster burner pipe.

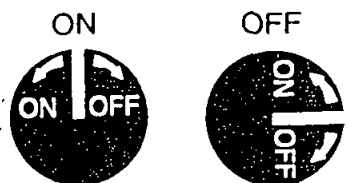
Test for leaks at all connections with a soapy water solution. **Never use an open flame to check for leaks.**

REAL-FYRE EMBER FLAME BOOSTER OPERATING INSTRUCTIONS

The Ember Flame Booster provides enhanced front flame and glowing embers with a boost of heat from an independent variable control valve. The EMB Series is easily operated with a turn of the EMB control knob for added front flame and heat to regular operation of your burner system.

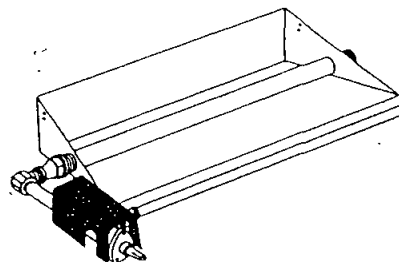
1. Follow the lighting instructions supplied with your G4 Series Burner System to light the log set.
2. For added Front Ember Flame and a Heat Boost, turn the EMB Control Knob counterclockwise to the **desired setting**.
3. To lower or extinguish the Ember Flame Booster, turn the EMB Control Knob clockwise (all the way clockwise to extinguish).
4. To extinguish your Log Set, follow the instructions supplied with your G4 Series Burner System.

Figure 4



Caution: The EMB Control Knob and the Handle Extensions may become 'HOT' by the radiant heat of your log set.

The Control Knob and Handle Extensions can be removed after the **desired setting** is achieved.



Note: The Ember Flame Booster can be left at the desired setting, when extinguishing your Log Set.

PETERSON REAL-FYRE GAS LOG SET ACCESSORIES

CERAMIC PINE CONES
Hand colored.
Model # PC-4,
PCD-4 or PCW-4



WOOD CHIPS
Realistic accents.
Model # WC-6.
Also available for
White Birch
Style WCB-6



DECORATIVE OAK BRANCHES
Ideal for
decorating fireplace.
BR Series, sizes 9", 17"
& 21".



BONUS LOGS
Customize your
fireplace and
log set.
Models #
SD Bonus &
SS Bonus.



SD BONUS

SS BONUS



LAVA-FYRE GRANULES
or
LAVA-FYRE COALS
For covering bottom of
fireplace. LF 5, LF 10
or LFC 10.



GLOWING COALS
Creates appearance
of red hot coals.
Model # EM-1.



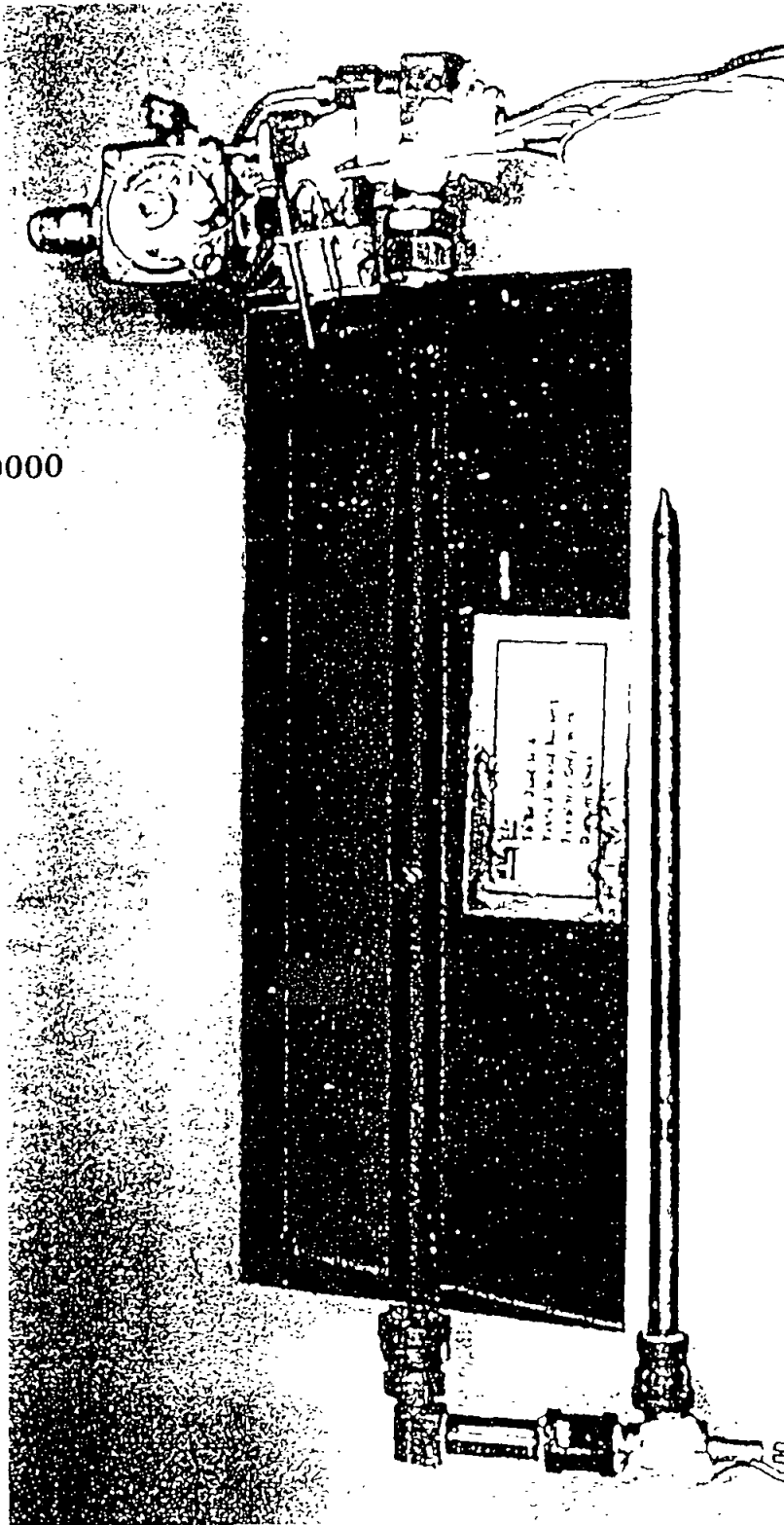
SELECT SAND

GRANULES



VERMICULITE
GRANULES

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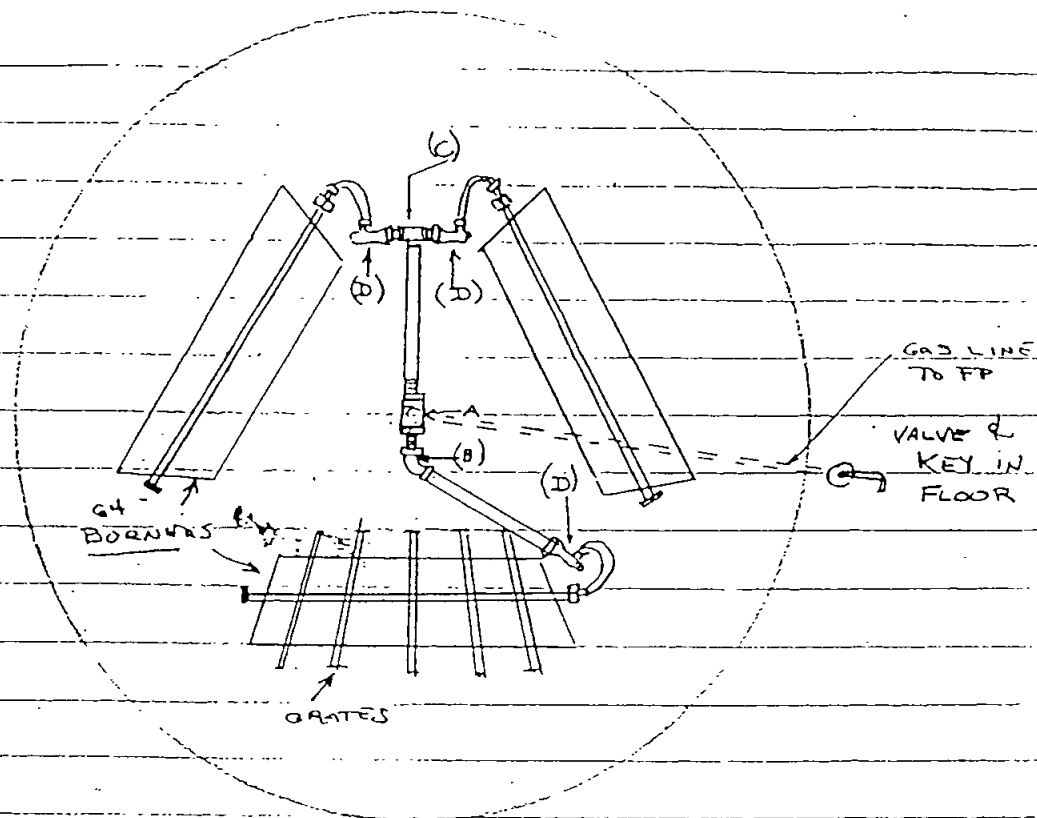


Knob Assembly is Removable

EXHIBIT

D-35

JT-APP 2316



HOOK UP FOR CIRCULAR G4 BURNERS

A - $\frac{1}{2}$ " T

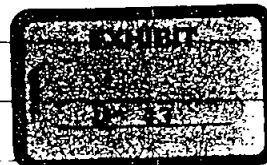
B - $\frac{1}{2}$ "-45° ELBOW

C - $\frac{1}{2}$ " T

D - ADJUSTABLE HEARTH ELBOWS

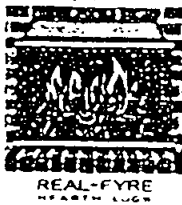
FLAME CONTROL TO EACH BURNER CAN BE ADJUSTED BY (D) HEARTH ELBOWS.

REMOVE CAP SCREW IN TOP OF ELBOW & ADJUSTMENT SCREW IN ELBOW CAN BE ADJUSTED W/ SCREW DRIVER. THEN REPLACE & TIGHTEN CAP SCREW BACK ON ELBOW.



000029

VS



ROBERT H.

Peterson co.

AREA 213
793-3118
681-9784

2835 SIERRA GRANDE ST.
PASADENA CALIF 91107

A DIVISION OF INTERNATIONAL PRODUCTS INC

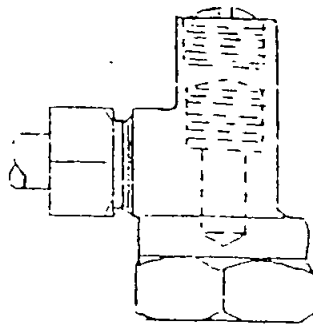
QUIET BURNER OPERATION —

A partially opened gas valve, unlike one turned on full, creates a loud hissing noise, appearing to come from burner itself.

The SILENT-FLO feature within the REAL-FYRE hearth elbow, provides means for permanently regulating the flow of gas, so burner may always be operated with valve in "wide open" position, where it is silent.

Proper procedure for this adjustment is as follows:

1. Light burner and make sure valve is turned on full.



2. Remove this seal plug screw.

3. Adjust size of flame with this inner screw. Start with large roaring flames, then throttle them down until flame characteristics are as you desire them.

4. BE SURE TO REPLACE SEAL PLUG SCREW IN TIP.

5. After this adjustment, always operate burner by turning valve to wide open position. Notice the loud "hiss" when opening the valve, which disappears when valve is wide open.

6. If burner noises are still apparent, then insert a small piece of steel wool into the 3/8" aluminum tubing between the valve and the air mixer. This should quiet down burner noise.

This bulletin enlarges information contained in paragraph "ADJUSTING FLAME SIZE" on instruction sheet packed with each REAL-FYRE log set.

210-10M PRINTED 4-7-5 A



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JT-APP 2318

REAL-FYRE HEARTH LOGS with FRONT-FLAME BURNER.

FOR CONVENTIONAL LOG SET SIZES 16" THRU 60"
SEE THRU AND CIRCULAR LOG SETS—SIZES 18" THRU 48"

IMPORTANT

HEARTH LOG IS TO BE OPERATED ONLY IN VENTED FIREPLACE WITH CHIMNEY FREE OF ANY OBSTRUCTIONS, USING NATURAL OR LP GASES. Like the burning of real fireplace wood, operation of the gas burner will result in fumes and smoke coming into the room unless exhausted up the chimney. Flame from the Real-Fyre burner will appear the same as from a "natural" fire, blackening the inner walls of the fireplace with the same carbon or soot deposits.

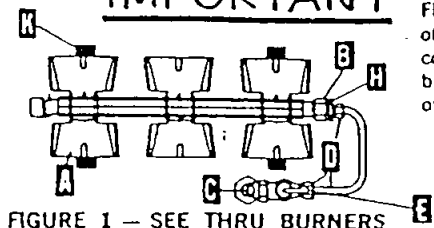


FIGURE 1 — SEE THRU BURNERS

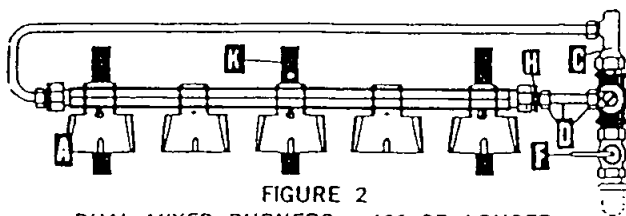


FIGURE 2
DUAL MIXER BURNERS — 42" OR LONGER
CONVENTIONAL OR SEE THRU

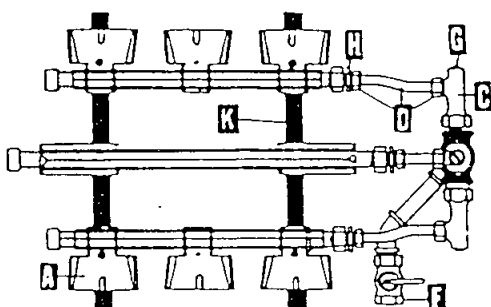


FIGURE 3 — CIRCULAR SET BURNERS

If fumes from the burner emerge into the room leaving a smell like a smoldering oil lamp, it indicates that the fireplace draft is defective and NOT THE BURNER. Check chimney for obstructions and be certain the damper is fully open. Do not operate logs until fireplace draft is corrected.

1. **BURNER PLACEMENT.** Remove burner from shipping box and set on any available grate or attach to log rests "K" which may be used in place of grate. Always face flame chutes "A" toward room. Fuel injector "B" may be mounted on opposite end of burner if desired.

2. **BURNER CONNECTION.** Separate connections are made to EACH (Fig. 1, 2 and 3), using hearth elbows "C" and tubing with compression fittings "D". Auxiliary valves, "E" or "F", are used only when fireplace has no built-in valve, and must be ordered separately.

3. **ADJUSTING FLAME SIZE.** Open gas valve "E," "F" or your built-in gas shut off valve wide and light burner. Using a screwdriver remove plug in top of hearth elbow "C". Beneath this is a regulating screw which can be adjusted by turning to control the amount of gas through the burner. Adjust control for desired flame height. Adjusting screw is not to be removed from hearth elbow "C". Be certain plug is replaced after any adjustment.

4. **ADJUSTING FLAME CHARACTERISTICS.** Air shutter "H", controlling air flow into the burner, is used to adjust flame characteristics. Turned counterclockwise (↺) air flow is increased. Flame then becomes bluish and burner emits maximum heat. As logs are heated flame then turns yellow. Turning shutter clockwise (↻) shuts off air flow. Flame becomes larger, brighter, and "natural," disappearing from flame pans beneath logs. Adjust shutter until desired flame characteristic is obtained.

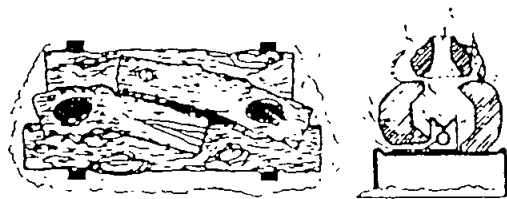
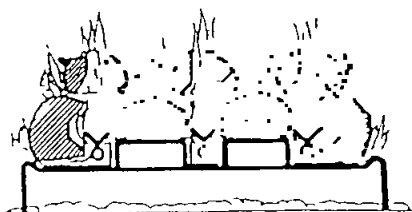


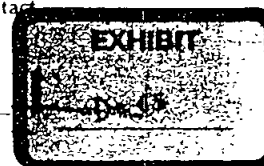
FIGURE 4 — TOP VIEW
CONVENTIONAL OR SEE THRU ARRANGEMENT

5. **LOG PLACEMENT.** Place bottom logs with cavities towards burner. With top logs lay cavity downwards with open knotholes centered over outer ends of burner (Fig. 4). Top logs must not "choke-off" flames which must be free to cascade up and around logs. "Wiggling" or re-positioning logs slightly will yield the desired flame patterns.

To add to the natural appearance of your hearth log installation, place real wood ashes and charred twigs on hearth below logs.

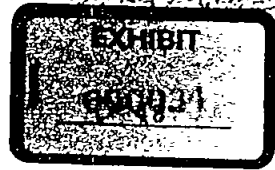
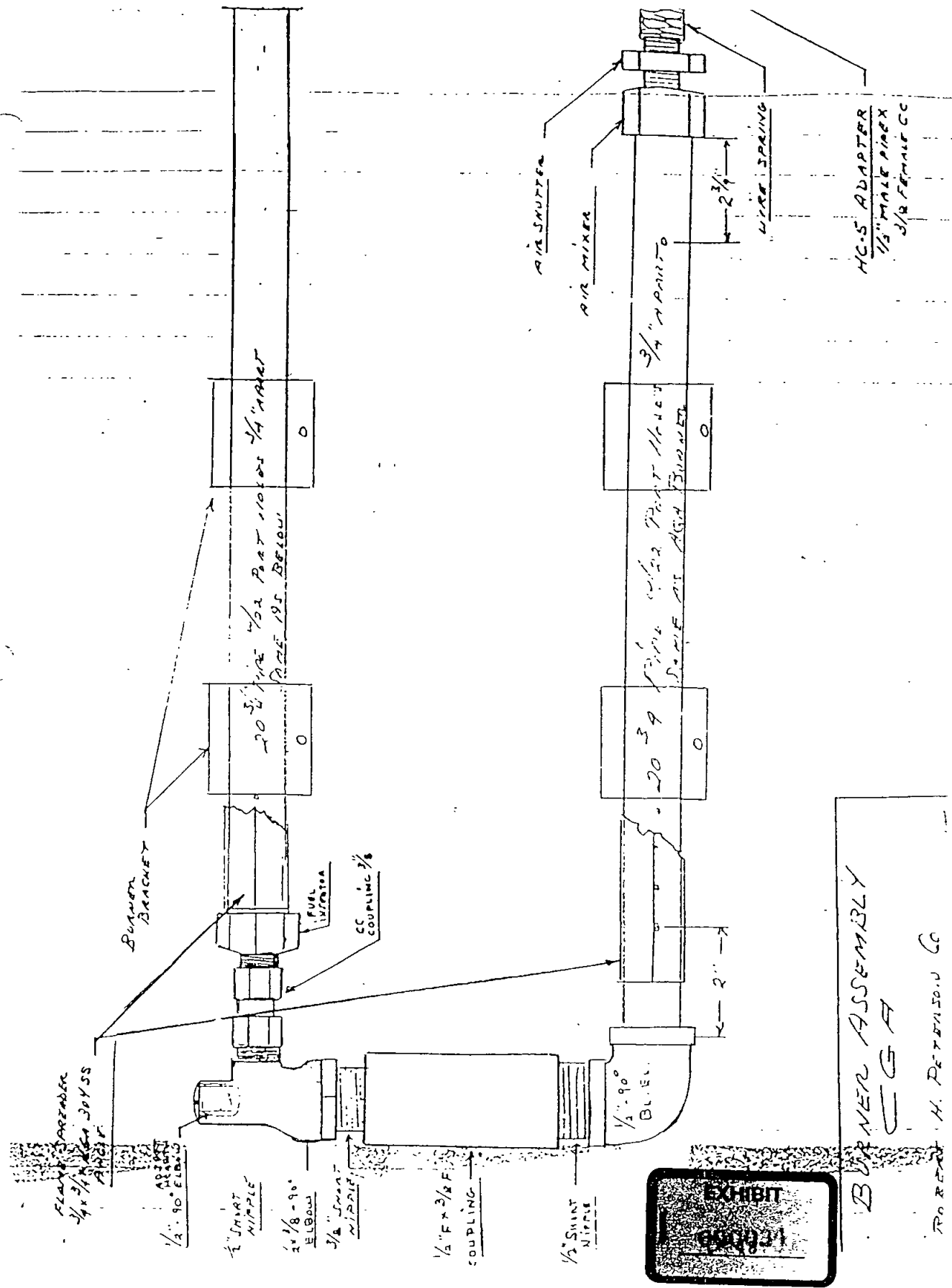


Real-Fyre hearth logs are carefully inspected before shipment and are free from defects in material and workmanship. If a hairline crack appears in a log after use it is due to "heat shock" and is not a concern since logs are reinforced with iron rods and will remain intact.



000031

(1)



BURNER ASSEMBLY
CGA
FOR H. DETENTION CC

Prices subject to change without notice. All prices F.O.B. Pasadena, California. TERMS: 2% 10 Net 30

PETERSON
REAL-FYRE®
GAS FIREPLACE LOG SETS
& ACCESSORIES

LIST PRICE SHEET
Effective March 1, 1977
Supersedes all other price sheets

HOW TO USE THIS PRICE LIST

SELECT BURNER SYSTEM

1. Glowing Ember (See Block I)
2. Front-Flame (See Block II)
3. Flame Pan (See Block III)
4. AGA/CGA Design Certified (See Block IV)

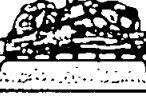
SELECT LOG STYLE

1. Oak, Pine and Birch (See Blocks I to IV)
2. Royal English Oak (See Block I)
3. Manzanita (See Block III)

I. "G4" SERIES Log Sets with Glowing Ember Burner

Includes: 1. Logs 2. Ember Burner 3. Custom Grate 4. Connector Kit 5. Ember Kit

Note: Shipped for use w/Natural Gas — specify if for L.P. Gas.

STYLE	Fireplace	No.	PRICE weight no. ctns. part no.	16"	18"	24"	30"	36"	42"	48"	54"	60"
 MOUNTAIN OAK	Standard	KG4	PRICE weight no. ctns. part no.		76.50 85# 2 176318	88.00 74# 2 176324	107.50 99# 2 176330	139.00 154# 3 176336				
	See-thru	KG4-2	PRICE weight no. ctns. part no.		109.00 78# 2 176618	124.00 89# 2 176624	153.50 128# 2 176630	186.50 202# 4 176636				
 GOLDEN OAK	Standard	RG4	PRICE weight no. ctns. part no.	64.50 40# 2 171318	77.00 59# 2 171318	87.50 71# 2 171324	108.50 95# 2 171330	139.50 147# 3 171336	191.00 214# 4 171342	222.50 244# 5 171348	252.00 299# 6 171354	272.00 327# 6 171360
	See-thru	RG4-2	PRICE weight no. ctns. part no.	98.50 54# 1 171616	110.50 71# 2 171618	125.00 86# 2 171624	151.00 121# 2 171630	184.00 199# 3 171636	242.00 265# 5 171642	281.50 339# 5 171648	339.50 375# 5 171654	343.50 394# 5 171660
 TWISTED PINE	Standard	CG4	PRICE weight no. ctns. part no.		76.50 59# 2 172318	86.50 69# 2 172324	99.50 86# 2 172330	134.50 125# 3 172336				
	See-thru	CG4-2	PRICE weight no. ctns. part no.		107.00 71# 2 172618	122.00 85# 2 172624	143.00 111# 2 172630	178.50 161# 4 172636				
 WHITE BIRCH	Standard	WG4	PRICE weight no. ctns. part no.		81.00 65# 2 173318	88.00 69# 2 173324	110.00 96# 2 173330					
	See-thru	WG4-2	PRICE weight no. ctns. part no.		114.50 77# 2 173618	124.00 84# 2 173624	163.00 123# 2 173630					
 ROYAL ENGLISH OAK	Standard	BG4	PRICE weight no. ctns. part no.			133.50 122# 3 175324	157.00 157# 3 175330	177.50 200# 4 175336				
	See-thru	BG4-2	PRICE weight no. ctns. part no.			161.50 152# 3 175624	182.50 180# 3 175630	229.50 236# 4 175636				

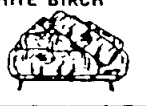
HOW TO ORDER

1. Give quantity and Stock Number.
2. Add length to Log Set Stock Number.
Example: Golden Oak, Glowing Ember 24" Burner Order Quantity and No. RG4-24

II. "F" SERIES Log Sets with Front-Flame Burner

Includes: 1. Logs 2. Gas burner(s) 3. Custom grate 4. Connector kit(s)

Note: Shipped for use w/Natural Gas — specify if for L.P. Gas.

STYLE	Fireplace	No.	PRICE weight no. ctns. part no.	16"	18"	24"	30"	36"	42"	48"	54"	60"
 MOUNTAIN OAK	Standard	KF	PRICE weight no. ctns. part no.		59.00 47# 2 176118	70.00 58# 2 176124	91.50 79# 2 176130	127.00 127# 3 176136				
	See-thru	KF2	PRICE weight no. ctns. part no.		70.00 48# 2 176418	74.50 81# 2 176424	99.00 90# 2 176430	140.50 152# 4 176436				
 GOLDEN OAK	Standard	RF	PRICE weight no. ctns. part no.	53.00 28# 1 171118	64.00 41# 2 171118	74.00 55# 2 171124	96.50 75# 2 171130	130.00 120# 3 171136	181.50 181# 4 171142	208.50 244# 4 171148	232.50 298# 4 171154	255.50 298# 4 171160
	See-thru	RF2	PRICE weight no. ctns. part no.	60.00 31# 1 171416	67.00 42# 2 171418	80.50 60# 2 171424	115.00 83# 2 171430	151.50 149# 4 171436	191.00 199# 4 171442	221.50 231# 4 171448	253.00 289# 4 171454	269.50 309# 4 171460
	Circular	RF3	PRICE weight no. ctns. part no.			110.00 86# 2 171824	175.00 155# 3 171830	257.00 250# 5 171836				
 TWISTED PINE	Standard	CF	PRICE weight no. ctns. part no.		55.50 41# 2 172118	65.00 53# 2 172124	79.50 66# 2 172130	114.50 98# 3 172136				
	See-thru	CF2	PRICE weight no. ctns. part no.		59.00 42# 2 172418	68.50 57# 2 172424	87.00 73# 2 172430	126.00 111# 4 172436				
 WHITE BIRCH	Standard	WF	PRICE weight no. ctns. part no.		66.00 47# 2 173118	78.00 53# 2 173124	88.00 76# 2 173130					
	See-thru	WF2	PRICE weight no. ctns. part no.		63.00 48# 2 173418	70.50 56# 2 173424	111.00 85# 2 173430					

CODE FOR GAS LOG SETS

LOG STYLE

- K. Mountain Oak
- R. Golden Oak
- C. Twisted Pine
- W. White Birch
- B. Royal English Oak
- M. Manzanita

BURNER STYLE

- G4. Glowing Ember
- F. Front-Flame
- P. Flame Pan
- A. AGA and CGA
- E. Electric Log Set
- 2. 2" High Burner
- 3. 3" High Burner

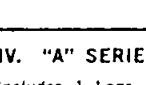
EXHIBIT

JT-APP 2323

III. "P" SERIES Log Sets with Flame Pan Burner & Detachable Legs

Includes: 1. Logs 2. Burner 3. Grate & Log Braces 4. Connector Kit 5. Ember Kit

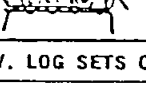
Note: Shipped for use w/Natural Gas — specify if for L.P. Gas.

STYLE	Fireplace	No.	PRICE	16"	18"	24"	30"	36"	42"	48"	54"	60"
 MOUNTAIN OAK	Standard	KP	PRICE weight no. ctns. part no.		68.00 52# 2 176218	79.00 64# 2 176224	97.00 84# 3 176230	131.00 134# 3 176236				
	See-thru	KP2	PRICE weight no. ctns. part no.		71.00 52# 2 176518	81.00 66# 2 176524	105.50 94# 4 176530	139.00 157# 4 176536				
 GOLDEN OAK	Standard	RP	PRICE weight no. ctns. part no.	58.00 31# 1 171216	69.00 46# 2 171218	80.00 61# 2 171224	98.50 80# 3 171230	132.50 127# 3 171236	169.00 187# 4 171242			
	See-thru	RP2	PRICE weight no. ctns. part no.	61.50 33# 1 171516	72.00 46# 2 171518	82.00 65# 2 171524	104.00 87# 2 171530	140.50 154# 4 171536	175.50 202# 4 171542			
 TWISTED PINE	Standard	CP	PRICE weight no. ctns. part no.		68.00 46# 2 172218	78.00 59# 2 172224	88.50 71# 3 172230	120.50 105# 3 172236				
	See-thru	CP2	PRICE weight no. ctns. part no.		69.00 46# 2 172518	80.25 62# 2 172524	94.00 77# 2 172530	129.00 116# 4 172536				
 WHITE BIRCH	Standard	WP	PRICE weight no. ctns. part no.		72.00 52# 2 173218	82.00 59# 2 173224	99.50 81# 2 173230					
	See-thru	WP2	PRICE weight no. ctns. part no.		75.75 52# 2 173518	88.00 61# 2 173524	112.00 89# 2 173530					
 MANZANITA	Standard and/or See-thru	MP	PRICE weight no. ctns. part no.			81.50 63# 2 179224	89.00 70# 2 179230					

IV. "A" SERIES Log Sets with AGA/CGA DESIGN CERTIFIED

Includes: 1. Logs 2. Burner & Valve 3. Grate & Log Braces 4. Connector kit

Note: Shipped for use w/Natural Gas — specify if for L.P. Gas.

STYLE	Fireplace	No.	PRICE	16"	20"	24"	30"	36"	42"	48"	54"	60"
 GOLDEN OAK	Standard	RA	PRICE weight no. ctns. part no.		74.00 43# 2 171020	81.50 50# 2 171024	95.50 66# 2 171030					
 TWISTED PINE	Standard	CA	PRICE weight no. ctns. part no.		71.50 42# 2 172020	80.00 47# 2 172024	94.00 61# 2 172030					
 WHITE BIRCH	Standard	WA	PRICE weight no. ctns. part no.		76.00 48# 2 173020	77.50 52# 2 173024	95.00 65# 2 173030					

V. LOG SETS ONLY

STYLE	No.	PRICE	16"	18"	24"	30"	36"	42"	48"	54"	60"
MOUNTAIN OAK	K	PRICE weight no. ctns. part no.		43.50 40# 1 476018	53.50 49# 1 476024	73.00 67# 1 476030	118.00 108# 2 476036				
GOLDEN OAK	R	PRICE weight no. ctns. part no.	23.00 21# 1 471016	37.50 34# 1 471018	50.00 46# 1 471024	69.00 63# 1 471030	110.00 101# 2 471036	154.23 159# 3 471042	164.00 189# 3 471048	233.00 240# 3 471054	258.00 266# 3 471060
TWISTED PINE	C	PRICE weight no. ctns. part no.		37.50 34# 1 472018	48.00 44# 1 472024	59.00 54# 1 472030	86.00 79# 2 472036				
WHITE BIRCH	W	PRICE weight no. ctns. part no.		43.50 40# 1 473018	48.00 44# 1 473024	70.00 64# 1 473030					
ROYAL ENGLISH OAK	B	PRICE weight no. ctns. part no.			104.00 94# 1 475024	118.00 108# 2 475030	132.00 136# 3 475036				

NOTE:

Log Sets Only and Gas Log Burners Only include all components as shown in Blocks I to III.

INDIVIDUAL TOP LOGS FOR GAS LOG SETS

STYLE	No.	PRICE	8"l	12"l	15"l	18"l	20"l	24"l	30"l	36"l	42"l	48"l	54"l
MOUNTAIN OAK	KL	PRICE weight part no.				17.00 16# 476216		18.50 17# 476220	25.00 23# 476224	30.00 31# 476230			
GOLDEN OAK	RL	PRICE weight part no.	3.00 4# 471208	4.50 6# 471212	6.50 8# 471215		10.00 9# 471218	11.00 10# 471220	15.50 14# 471224	17.50 16# 471230			
TWISTED PINE	CL	PRICE weight part no.	3.00 4# 472208	4.50 6# 472212	6.50 8# 472215		8.00 7# 472218						
WHITE BIRCH	WL	PRICE weight part no.	3.00 4# 473208	4.50 6# 473212	5.50 8# 473215		10.00 9# 473218						
ROYAL ENGLISH OAK	BL	PRICE weight part no.	3.00 4# 475208	4.50 6# 475212	5.50 8# 475215		16.50 15# 475218						

INDIVIDUAL BOTTOM LOGS FOR GAS LOG SETS														
	No.	PRICE weight part no.	12"	16"	18"	20"	24"	30"	36"	36"	42"	48"	54"	60"
MOUNTAIN OAK	KL	PRICE weight part no.			13.00 12# 478118	16.50 15# 478120	18.50 17# 478124	28.50 27# 478130	40.00 30# 478136					
GOLDEN OAK	RL	PRICE weight part no.	5.50 3# 471112	7.50 4# 471118	11.00 10# 471118	13.00 12# 471120	17.50 14# 471124	25.00 20# 471130	30.00 24# 471136	53.00 46# 471142	64.00 50# 471148	78.00 68# 471154	85.00 106# 471160	
TWISTED PINE	CL	PRICE weight part no.			11.00 10# 472118	12.00 11# 472120	15.00 14# 472124	22.00 20# 472130	31.00 31# 472136					
WHITE BIRCH	WL	PRICE weight part no.			14.00 13# 473118	15.00 14# 473120	17.50 16# 473124	26.00 24# 473130						
ROYAL ENGLISH OAK	BL	PRICE weight part no.					30.50 28# 475124	32.00 32# 475130	39.00 43# 475136					
MANZANITA	ML	PRICE weight part no.					43.00 46# 479124	48.00 53# 479130						

DECORATIVE OAK TREE BRANCHES

OAK
OAK
OAK
GOLDEN OAK
GOLDEN OAK

Branches
Branches
Branches
Branches
Branches

BR-2
BR-4
BR-24
BR-17
BR-21

477005
477006
477007
477010
477009

Length 9" each
Length 9" each
Length 9" each
Length 17", 4# Packed in individual Poly Bag
Length 21", 10 1/4# Packed in individual Poly Bag

3#
5#
22#
4#
10 1/4#

2 in plastic bag
4 in plastic bag
24 in carton

4.00
6.50
33.00
5.00
7.50

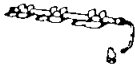


GAS LOG BURNERS AND COMPONENT PARTS													
"G4" SERIES Glowing Ember Burner Assembly													
Includes: 1. Gas Burner(s) 2. Custom Grate 3. Ember Kit(s) 4. Silica Sand 5. Connector Kit(s)													
Note: Shipped for use w/Natural Gas — specify if for L.P. Gas													
	Fireplace	No.	PRICE weight part no.	16"	18"	24"	30"	36"	42"	48"	54"	60"	
	Standard	G4	PRICE weight part no.	36.00 19.50 478316	41.00 25.50 478318	43.50 25.50 478324	48.00 32.50 478330	61.00 46.50 478336	62.50 55.50 478342	72.50 57.50 478348	80.50 58.50 478354	82.50 81.50 478360	
	See-thru Includes 2 Burners	G4-2	PRICE weight part no.	62.00 31.50 478618	73.00 37.50 478618	81.50 38.50 478624	89.00 51.50 478630	98.00 71.50 478636	108.50 91.50 478642	127.50 104.50 478648	139.00 117.50 478654	154.00 120.50 478660	
	Standard	GX4	PRICE weight part no.			68.00 38.50 478724	78.00 49.50 478730	91.50 64.50 478736					
	See-thru Includes 2 Burners	GX4-2	PRICE weight part no.			86.00 56.50 478924	118.00 73.50 478930	136.00 100.50 478936					
	Burner Only	GG	PRICE weight part no.	20.00 2.50 486916	28.00 3.50 486918	31.00 4.50 486924	33.50 5.50 486930	36.00 6.50 486936	38.00 7.50 486942	42.00 8.50 486948	45.50 9.50 486954	48.50 10.50 486960	

"F" SERIES Front-Flame Burner Only

Includes: 1. Gas Burner(s) 2. Custom Grate 3. Connector Kit

Note: Shipped for use w/Natural Gas — specify if for L.P. Gas.

	Fireplace	No.	PRICE weight part no.	16"	18"	24"	30"	36"	42"	48"	54"	60"
	Standard	F ST	PRICE weight part no.	30.50 5.50 478116	34.00 7.50 478118	37.00 9.50 478124	42.00 12.50 478130	56.50 19.50 478136	78.50 22.50 478142	86.00 27.50 478148	92.00 28.50 478154	98.00 32.50 478160
	See-thru	F2 ST	PRICE weight part no.	37.00 5.50 478416	39.00 8.50 478418	43.00 10.50 478424	52.00 13.50 478430	72.50 21.50 478436	86.00 25.50 478442	99.00 29.50 478448	105.00 31.50 478454	111.00 35.50 478460
	Circular	F3 ST	PRICE weight part no.			62.00 10.50 486824	72.50 19.50 486830	82.00 22.50 486836				

Log Rests for Above "F" Series Front-Flame Burners:

LR-1 479505 1 1/2" Deep Use 2 for 18", 24" or 30" Sets each \$2.50

LR-2 479506 1 1/2" 10" Deep Use 2 for 36" and 3 for 42" to 60" Sets each \$3.00

LR-3 479507 2 1/4" 15" Custom-Made Use 2 for 24" Circular Sets each \$9.00

LR-4 479508 3 1/4" 23" Custom-Made Use 2 for 30" and 36" Circular Sets each \$13.00

"P" SERIES Flame Pan Burner including Glowing Embers													
Includes: 1. Pan Burner Assembly 2. Vermiculite 3. Connector Kit 4. Ember Kit													
Note: Shipped for use with Natural Gas — specify if for L.P. Gas													
	Fireplace	No.	PRICE weight part no.	16"	18"	24"	30"	36"	42"	48"	54"	60"	
	Standard or See-thru	P	PRICE weight part no.	33.00 10.50 478216	36.00 12.50 478218	39.50 15.50 478224	43.50 17.50 478230	50.00 26.50 478236	65.00 28.50 478242				
		P2	PRICE weight part no.										

GAS LOG LIGHTERS With Two Supporting Logs and Grates

STYLE

Fireplace

No.

PRICE weight part no.

20"

24"

30"

GOLDEN OAK with Log Lighter	Standard	RE	PRICE weight part no.	44.50 5.50 471820	52.50 8.50 471824	65.50 11.50 471830	

Includes 1. Log Lighter w/Grate 2. Adapter for Rigid Pipe Installation Two Oak Bottom Logs Shipped for use w/Natural Gas — Specify if for L.P. Gas

WITHOUT LOGS AND GRATE

No. LG-1 476783 Rigid Log Lighter Single Price \$8.00 Wt 1.5#.

No. LG-12 476793 Case of 12 Price \$88.00 Wt 13.5#.

No. LL-1 476784 Gasaver Log Lighter. Single Price \$10.00 Wt 1.5#.

No. LL-12 476792 Case of 12 Price \$110.00 Wt 14.5#

20" Lighter in poly bag includes elbow installs to 1/2" gas line Air Mixer not included.

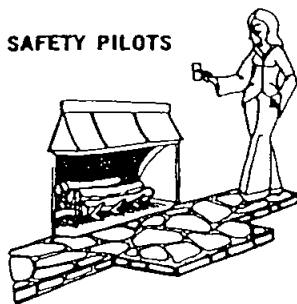
19 1/4" Lighter in poly bag, includes Air Mixer, Forged Venturi Chamber and Standard 1/2" elbow.

FIREPLACE GRATES (For Wood or Gas Logs)													
	No.	Fireplace	PRICE weight part no.	16"	18"	24"	30"	36"	42"	48"	54"	60"	
Steel Diamond 1/2" x 1/2"	Standard	ST	PRICE weight part no.	10.00 5.50 478616	10.50 6.50 478618	12.50 8.50 478624	15.00 11.50 478630	18.50 12.50 478636	36.75 13.50 478642	38.50 17.50 478648	39.50 18.50 478654	41.50 21.50 478660	
	See-thru	ST2	PRICE weight part no.	11.50 5.50 476718	13.00 6.50 476718	15.50 9.50 476724	17.50 11.50 476730	20.50 12.50 476736	36.75 15.50 476742	40.00 17.50 476748	41.50 18.50 476754	50.50 21.50 476760	
Heavy-Duty Steel Square 1/2" x 1/2"	Standard	SX	PRICE weight part no.			30.50 22.50 477824	36.50 25.50 477830	40.00 27.50 477836					
	See-thru	SX2	PRICE weight part no.			33.50 22.50 479924	39.00 25.50 479930	44.00 30.50 479936					

SAFETY PILOT AND PUSH BUTTON CONTROL KITS

(Automatic Lighting — No Match — Approved Safety Cut-Off)

SAFETY PILOTS



Note: Pilot Kits shipped for use with Natural Gas — specify if for L.P. Gas

*SPK-1	478400	For Front-Flame Burner w/10" Handle, Nat. Gas	\$41.50
SPK-1LP	478401	For Front-Flame Burner w/10" Handle, LP Gas	\$41.50
SPK-2	478100	For Front-Flame Burner, Knob Handle, Nat. Gas	\$41.50
SPK-2LP	478101	For Front-Flame Burner, Knob Handle, LP Gas	\$41.50
SPK-3	478000	For AGA or CGA Burner, Nat. Gas	\$41.50
SPK-3LP	478001	For AGA or CGA Burner, LP Gas	\$41.50
SPK-5	478200	For Flame Pan Burner w/10" Handle, Nat. Gas	\$41.50
SPK-5LP	478201	For Flame Pan Burner w/10" Handle, LP Gas	\$41.50
SPK-6	478304	For Glowing Ember Burner w/10" Handle, Nat. Gas	\$41.50
SPK-6LP	478305	For Glowing Ember Burner w/10" Handle, LP Gas	\$41.50
SPK-7	478302	For Glowing Ember Burner See-Thru Set, Nat. Gas	\$41.50
SPK-7LP	478303	For Glowing Ember Burner See-Thru Set, LP Gas	\$41.50
SPK-8	478300	For Glowing Ember Burner, Knob Handle, Nat. Gas	\$41.50
SPK-8LP	478301	For Glowing Ember Burner, Knob Handle, LP Gas	\$41.50
APK-1	478774	Push-Button Ignition w/Wall Tap Switch, 3#. Nat. Gas	\$78.00
APK-1	478773	Push-Button Ignition w/Wall Tap Switch, 3#. LP Gas	\$78.00
PBO-10	478775	Pilot Burner Orifice, LP Gas	\$ 2.50
PBO-18	478776	Pilot Burner Orifice, Nat. Gas	\$ 2.50

*RF Standard Log Sets Over 36" Require 2 SPK-1 Kits PBO-18 for Natural Gas
 *RF-2 See Thru Log Sets Over 36" Require 2 SPK-1 Kits Shipped with Safety Pilot
 *RF-3-24" Circular Log Set Requires 2 SPK-1 Kits Unless PBO-10 for LP Gas is specified
 *RF-3-30" and 36" Circular Log Set Requires 3 SPK-1 Kits

VALVES AND HARDWARE

CONNECTOR KITS

CK-1	478910	For burners 36" or less	2.50
CK-2	478911	For burners 42" or more	2.50
CK-3	478900	For AGA & CGA series burners	4.50

AUXILIARY ON/OFF VALVE

AV-1	479048	Attaches to output end of hearth elbow with 18" to 36" sets	5.00
AV-2	479502	Installs in 1/2" gas line to control multiple air mixers	5.50
AV-3	479050	Consists of V-3 valve VA-2 adapter and extension handle for mounting on burner	5.50
AV-3-12	479066	Case of 12	60.50
AV-4	479504	For CGA Flame Cushion burner	5.50
AV-4-12	479518	Case of 12	60.50
AV-5	479060	T Shaped Straight Recessed Valve	13.50
AV-5-12	479061	Case of 12	145.50
AV-6	479062	L Shaped Angle Recessed Valve	13.50
AV-6-12	479063	Case of 12	145.50

BURNER PARTS

AM-1	479103	Air Mixer - blank or drilled (specify burner size and type of gas)	3.00
HE-1	479051	Hearth Elbow with adjustable Silent Flo regulator	4.25
HE-2	479402	Hearth Elbow	2.50
CS-1	479038	Compression Sleeve for 3/4" tubing	.25 Net
CN-1	479040	Compression Nut for 3/4" tubing	.25 Net
PA-1	479205	Pipe Adapter - Permits using 1/2" pipe for installation	1.00 Net
TA-1	479506	Aluminum Tubing - per lineal foot (designate desired length - 3/4")	.50 Net
TA-2	479015	1/4" Aluminum Tubing (14" long)	.50 Net
TA-3	479043	3/4" Aluminum Tubing (14" long)	.50 Net
TH-1	479013	Thermocouple for SPK-1-2-3-5-6-7-9	4.50
PB-1	479503	Pilot burner for SPK-1 & 2	3.50
PB-2	479509	Pilot burner for SPK-3	3.50
PB-3	478500	Pilot burner for SPK-5	3.50
PB-4	479510	Pilot burner for SPK-6 & 7	3.50
PB-5	479511	Pilot burner for SPK-9	4.50

WOOD-FIRE LOG LIGHTERS - FUEL - AND EMBER-GLOW

NATURAL WOOD DESIGN

LK-1	476785	Single Price \$11.00, Wt. 8#.
LK-12	476797	Case of 12 Price \$121.00, Wt. 72#.

GIFT PACK

GW-1	476789	Single Price Log Design \$12.50, Wt. 8#.
GW-12	476795	Case of 12 Price \$137.50, Wt. 100#.

SCROLL DESIGN

SK-1	476801	Single Price \$11.00, Wt. 8#.
SK-12	476809	Case of 12 Price \$121.00, Wt. 72#.

GIFT PACK

GS-1	476709	Single Price Scroll Design \$12.50, Wt. 8#.
GS-12	476710	Case of 12 Price \$137.50, Wt. 100#.

HICKORY-SCENTED LIGHTER FUEL

CK-1	479534	Ceram-Wik Single \$2.00 Lot, Wt. 1/4#
CK-12	479535	Ceram-Wik Case of 12 Price \$22.00, Wt. 6 1/4#.
HS-1	476781	Single Price \$2.00, Wt. 1 1/4#
HS-12	476780	Case of 12 Price \$24.00, Wt. 28#

FIREPLACE CRYSTALS

CR-1	476788	Fireplace Crystals \$4.00, Wt. 1#
CR-12	476798	Case of 12 Price \$44.00, Wt. 14#

EMBER GLOW

EM-1	479209	Single Pack \$3.50, Wt. 3 oz.
EM-12	479519	Case of 12 \$38.00, Wt. 3#

EMBERIZING KIT

GP-1	479441	Single Kit \$7.50, Wt. 2#.
GP-12	479412	Case of 12 \$82.50, Wt. 25#
GL-1	476782	Adhesive \$2.00, Wt. 4 oz.
GL-12	476791	Case of 12 \$22.00, Wt. 3#

MINIMUM ORDER ONE CASE

VOLCANIC GRANULES AND STONE

LAVA-FYRE

LF-5	479203	Lava-Fyre Granules, Wt. 5#.	3.00
LF-10	479204	Lava-Fyre Granules, Wt. 10#	4.50

VERMICULITE GRANULES

LF-15	479512	Vermiculite Granules Wt. 1 1/4#	4.50
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PUMICE

PG-5	479305	Pumice (Rare Earth) Wt. 5#	4.50
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WHITE BEACH SAND

CS-10	479304	White Beach Sand, Wt. 10#.	4.50
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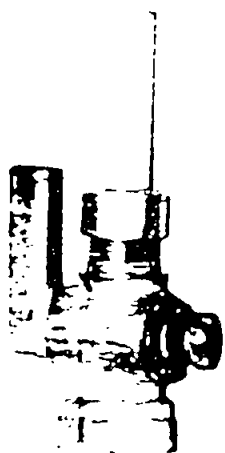
VOLCANIC STONE

VS-3	478403	3 pcs Lava-Fyre Volcanic Stone in Poly Bag, Wt. 3#	2.50
VS-4	478506	12 Poly Bags of VS-3 in box, Wt. 30#	27.50
VS-12	479523	12 Lbs. Assorted Stones in box, Wt. 12#.	10.50
VS-25	479523	25 Lbs. Assorted Stones in box, Wt. 25#.	19.50

ROBERT H. PETERSON 2835 Sierra Grande Street, Pasadena, Calif. 91107 • (213) 793-3118

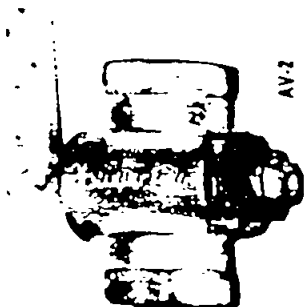
a division of Bearrice Foods Co. © 1977

REAL-FYRE AUXILIARY VALVES AND BURNER PARTS



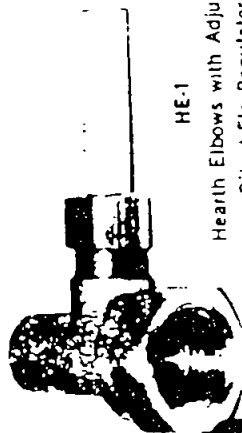
AV-1

Attaches to output end of hearth elbow. Used with 18" to 36" conventional or see-thru sets

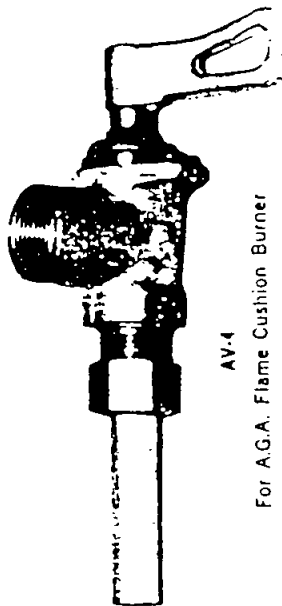


AV-2

Installs in 1/2" gas line to control multiple air mixers on 42" to 60" sets as well as all circular sets.

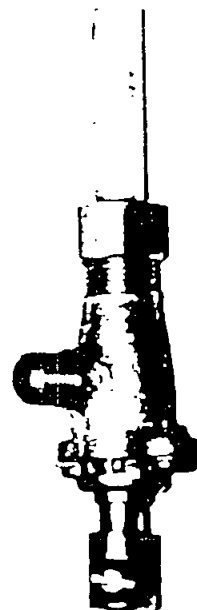


HE-1
Hearth Elbows with Adjustable
Silent-Flo Regulator



AV-4

For A.G.A. Flame Cushion Burner



AV-3 Consists of V-3 valve, VA-2 adapter and extension handle for mounting on burner.



000036

Real-Fyre F3 SERIES CIRCULAR BURNER

Model F3-30 Series Circular 30" Burner with Type "B" Installation
Kiln Attach to Model LR-4 Log Rests which are included with the
price of Log Set Shipping wt. 19 lbs

Available in 24", 30" and 36" sizes in "R" Series
Golden Oak Gas Fireplace Log Sets only.

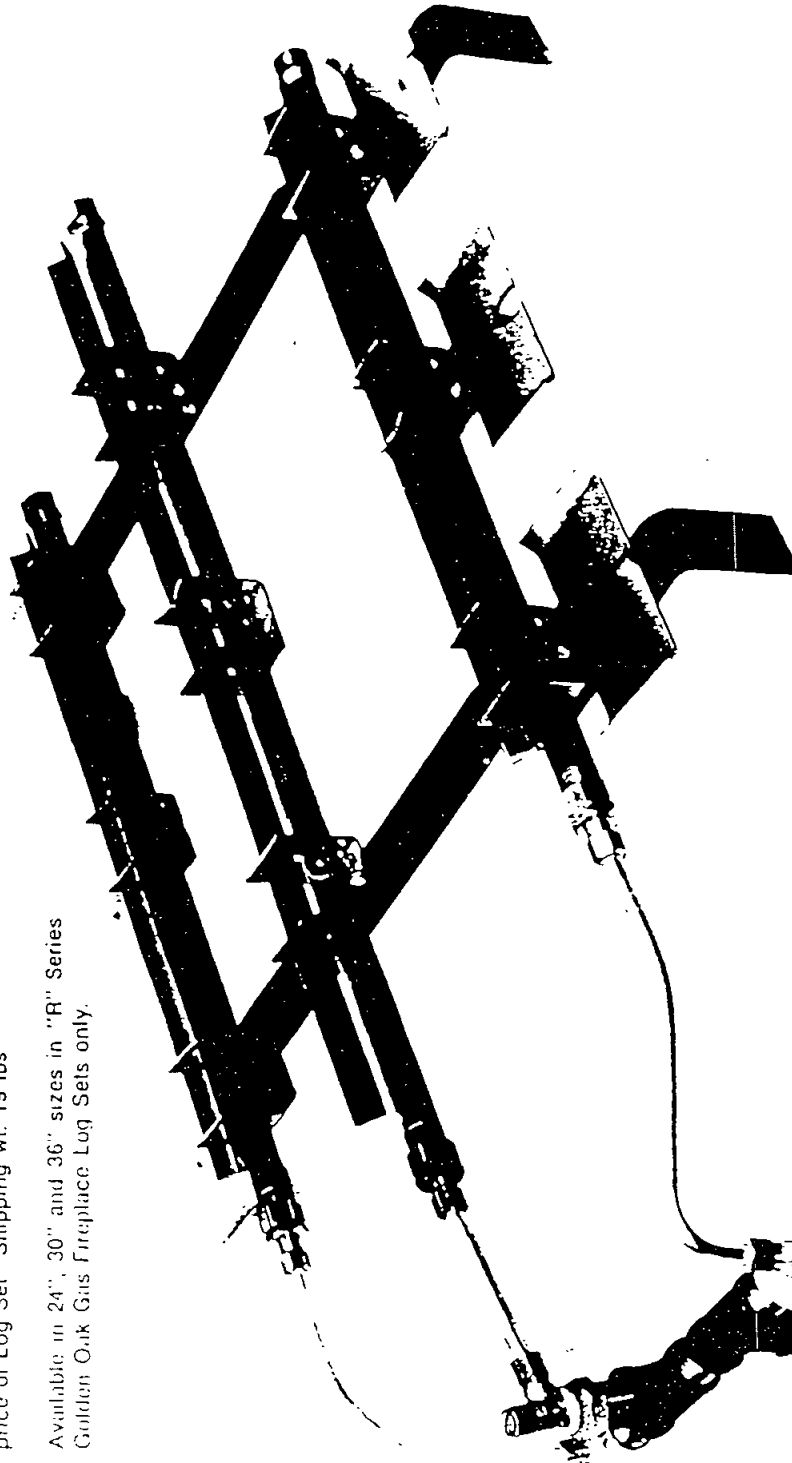
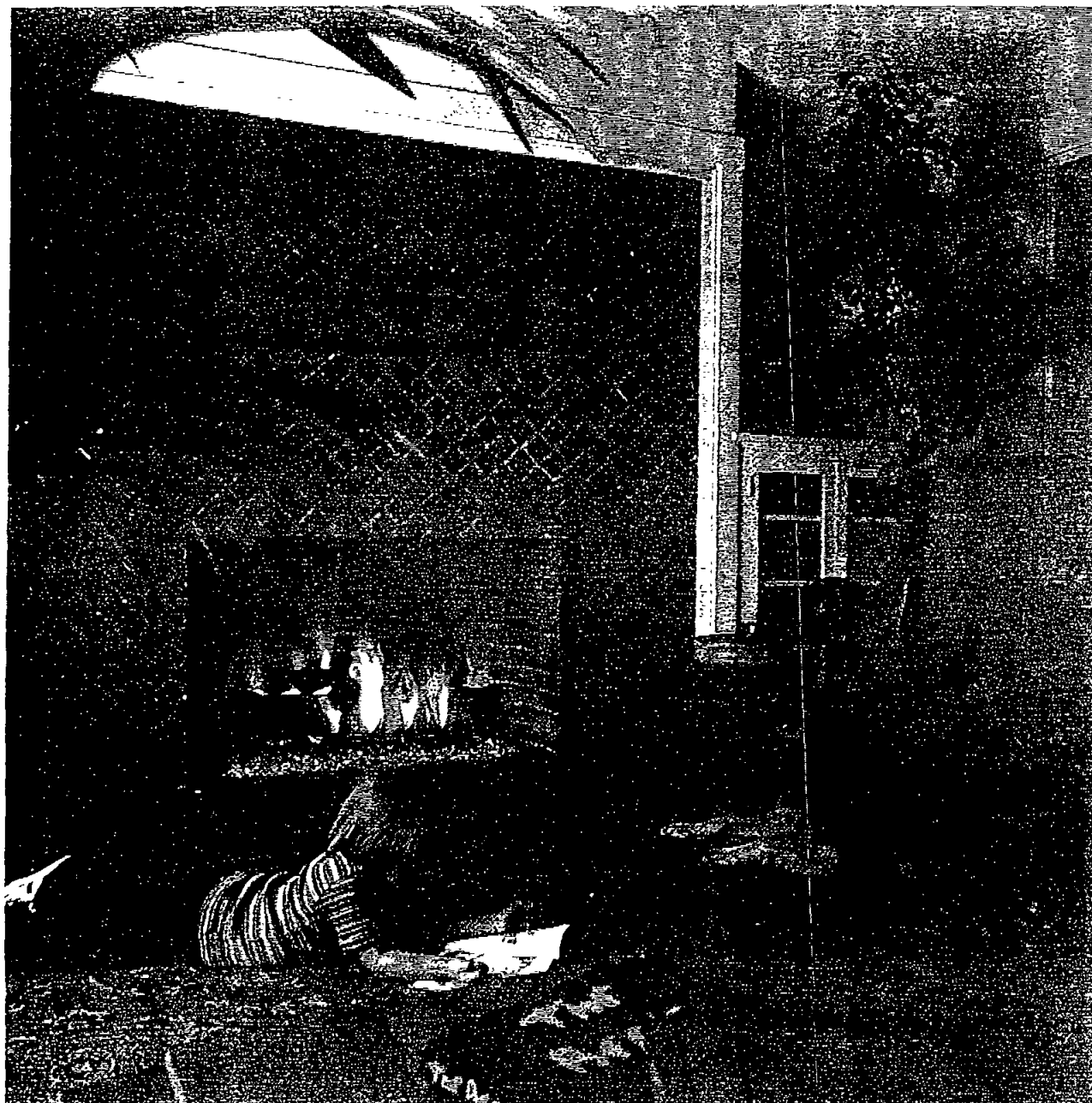


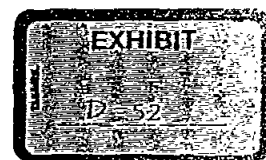
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JT-APP 2328

H. Peterson Company 2835 Sierra Grande St., Pasadena, Calif. 91107 • (213) 793 3118 • 681-9784
Division of Reatrice Foods Co



Gas log warmth
from Peterson Real-Fyre®



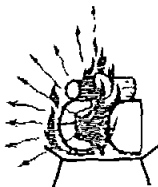
JT-APP 2329

The R.H. Peterson Story

In 1944 R.H. Peterson envisioned the value of having a gas appliance which would provide the warmth and comfort of a wood-burning log fire without the expense. After considerable experimentation, Mr. Peterson molded a set of Real-Fyre Gas Logs from heat-resistant materials and developed burners which allowed flames to engulf the logs and radiate heat. The total effect was impressive. This led to the establishment of the Peterson Co. which today is the leading manufacturer of gas logs and related accessories designed to give you the most realistic of fireplace settings.

Real-Fyre® features

These authentic hand-molded log sets are made for installation in any vented, wood-burning fireplace. The special refractory materials, together with the scientifically designed Real-Fyre heat chamber within the logs, have proven to be an excellent source of secondary warmth and comfort. The illustration shows how the heat chamber intensifies and radiates heat more efficiently from the fireplace.



2 David W. and Ruth Peterson, the two men who
 their company, the Peterson Co., began in 1944.



Circular Fireplace with Twisted Cypress CD-24



Franklin stove with Golden Oak RQ4-24

BASIC COMPONENTS OF REAL-FYRE GAS LOG SETS

FIREPLACE LOGS - 100% refractory material
 PATENTED BURNERS - 75% copper, 25% steel
 GRATES OR LOG RESTS - 100% refractory material

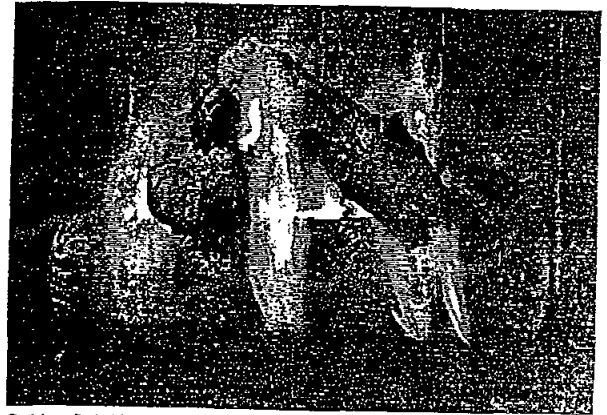
OPTIONAL FEATURES

SAFETY PILOT KITS - 100% refractory material
 PUSH BUTTON IGNITION KIT - 100% refractory material

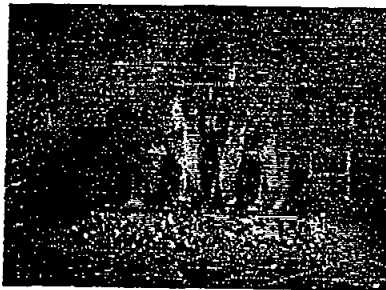
Available Natural Wood Styles



Royal English Oak No. BG-36



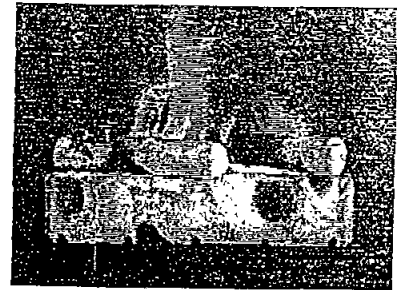
Golden Oak No. RF-24



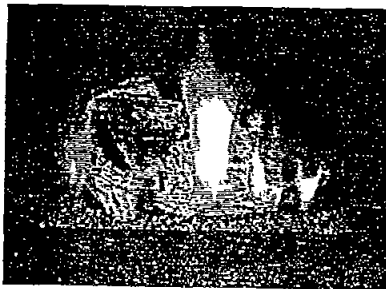
Twisted Cypress No. CG-24



Mountain Oak No. KF-24



White Birch No. WA-A-24



Manzanita No. MP-24



Driftwood No. DP-30

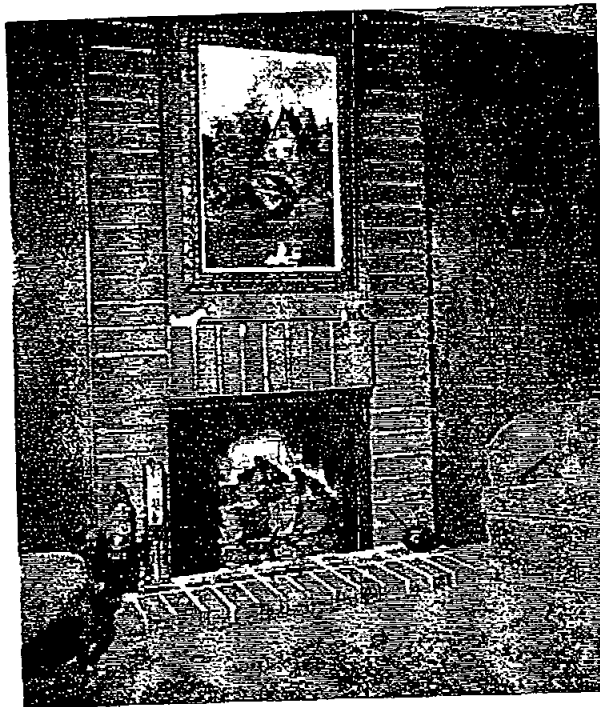


Volcanic Stone No. SJ-24

For a complete listing of all the enchanting styles available, visit our store or contact us at 1-800-850-8500. All styles are manufactured from special select natural wood, and are used in the United States space program. Each piece is made to order, and is available in a variety of sizes. Each piece is made to order, and is available in a variety of sizes. Each piece is made to order, and is available in a variety of sizes.

see thru sets are the same length. Your choice of sets consisting of 1-2 or more sets with knobs are described in the Real Fire Once List and Specification Sheet. The Manzanita and Driftwood models are one massive log stump. They may be used only on Flame Free Series Burner with Lava-Free Glass Jet or Lava-Sand. **Important:** All Real Fire Gas Logs are made of high quality wood-burning products with no lumber left.

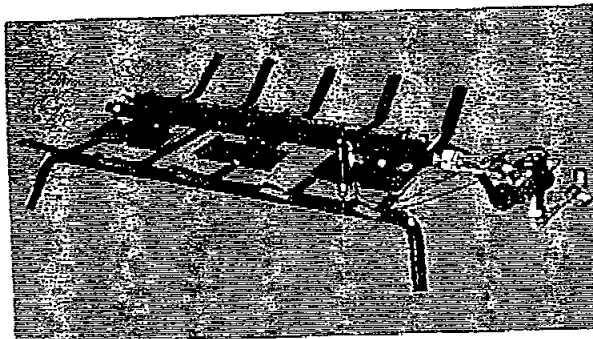
Real-Fyre F Series Front-Flame Gas Log Sets



Golden Oak No. RF-24



Circular Golden Oak No. RF3-30



Front-Flame Burner with Safety Pilot Kit No. 2

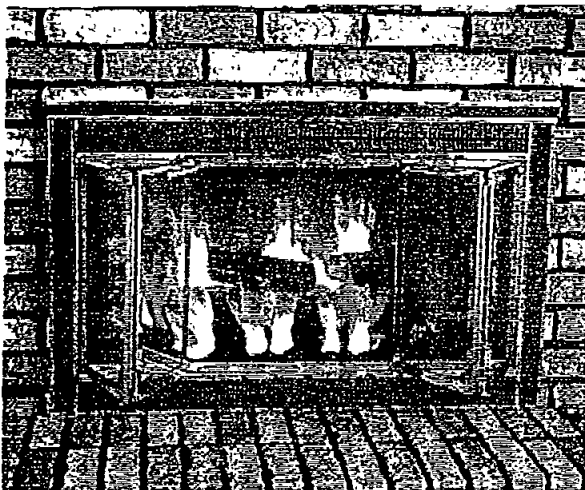


See-thru Fireplace

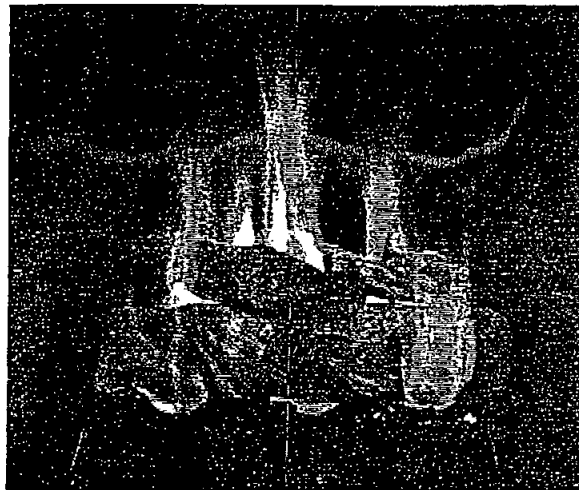
This patented Real-Fyre burner is designed to be placed on top of or inside a fireplace (not included with set). It duplicates the look of a real fire, to provide the same romantic, non-polluting, smokeless, odorless heat. An air mixer permits flame adjustment from a flickering yellow to a mellow blue for maximum heat. A Safety Pilot Kit No. 2 is included with the set for safety to assure quiet burner operation. Natural or city gas, as indicated with the log set, may be used. The set is available in the following models: Golden Oak No. RF-24 Log Set, Front-Flame Burner with Safety Pilot Kit No. 2; Circular Golden Oak No. RF3-30 Log Set, Front-Flame Burner with Safety Pilot Kit No. 2.

highly versatile system. It can be used in a standard, see-thru or circular fireplace as illustrated above. Illustration shows how it may also be installed in a see-thru or two-sided fireplace, affording the ultimate visual enjoyment of your chosen log set. Optional Safety Pilot Kit No. 2 (SPK-2) illustrated above features automatic shut-off if a pilot is accidentally extinguished and 100% safety for a flameless protection. All Real-Fyre Front-Flame Burners are designed for use with natural gas. Special instructions are available upon request. The attractive Golden Oak Series set is available in a limited number of sizes in "wood" or "metal" finish. It is supplied with

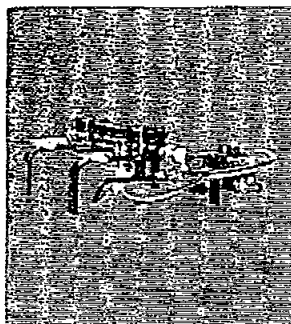
Additional Front-Flame Gas Log Sets



Golden Oak No. RF-24



Twisted Cypress No. CF-24



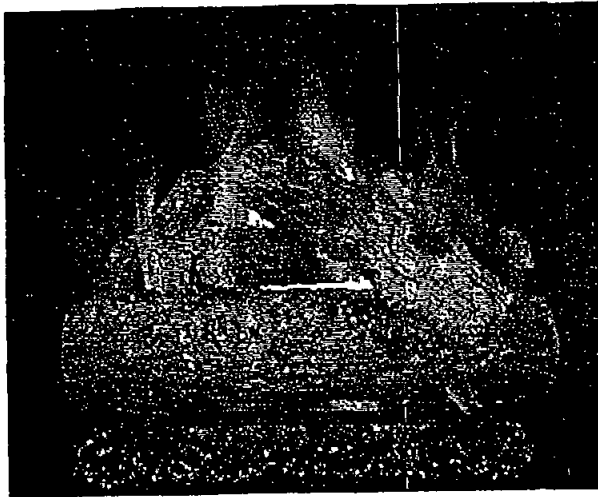
Front-Flame Burner
with Safety Pilot Kit No. 1

CHART SHOWS SIZES AND NUMBER OF LOGS IN EACH SET										
STYLE	NO.	16"	18"	24"	30"	36"	42"	48"	54"	60"
MOUNTAIN OAK	KE	3	3	3	3	3	3	3	3	3
	KFZ	3	3	3	3	3	3	3	3	3
GOLDEN OAK	ED	6	6	6	6	6	6	6	6	6
	RF1	6	6	6	6	6	6	6	6	6
	RF3	10	13	15	17	19	21	23	25	27
TWISTED CYPRESS	CF	6	6	6	6	6	6	6	6	6
	CF2	6	6	6	6	6	6	6	6	6
WHITE BIRCH	WE	6	6	6	6	6	6	6	6	6
	WT	6	6	6	6	6	6	6	6	6

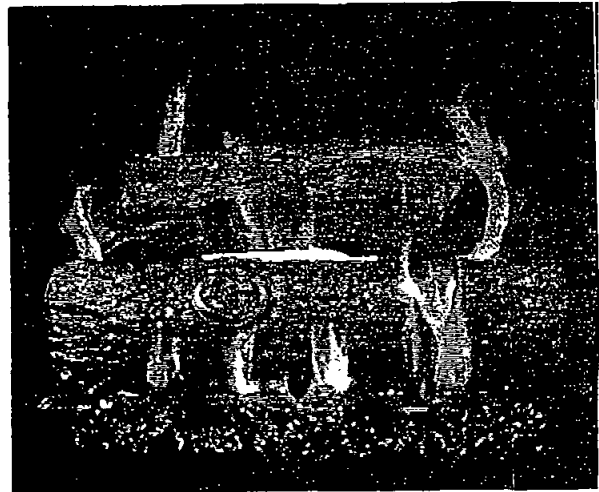
For standard fireplaces (F series)
see thru fireplaces (F2 series)
circular fireplaces (C series)
set includes logs, burner (if applicable) and kit
Grate and the Rest not included

Log Sets will be shipped on either left or right side of the burner. Standard front-flame for Pilot Kit No. 1. The special design new front-flame log sets are from (F2 series) and circular (F3 series) Log set. The Twisted Cypress which is offered in sizes 18" to 60" is the classic, warm look of the colonial trees of the Deep South as well as on the Mountain Peaks and in the cold mountain air. Unlike the Front-Flame Burner set, this is the front-flame set.

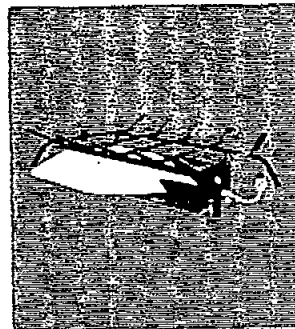
Real-Fyre G4 Series Glowing Ember Gas Log Sets



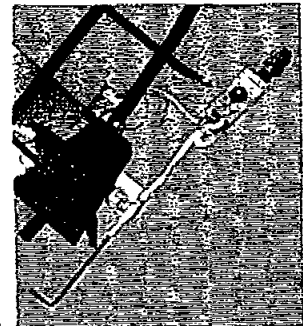
Golden Oak No. RG4-24



Mountain Oak No. KG4-24



Glowing Ember Burner

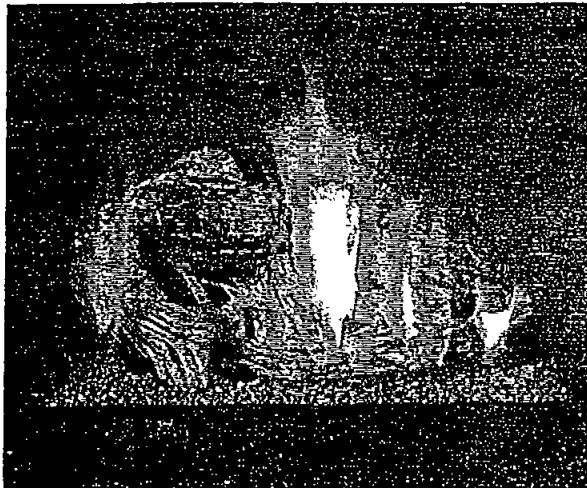


Glowing Ember Burner
with Safety Pilot Kit No. 6

This burner system, for use with natural gas, includes everything needed to create the appearance of glowing embers on the hearth. As the flame gets hotter, the embers take on an orange glow, creating the illusion of red-hot coals under the logs. After allowing the embers to glow, the flame may be turned down to conserve fuel without destroying the mellow ember effect. The Golden Oak Log Set engulfed in flames of reality simulates the look of the hard-baked, hot-burning hearth of old masters of America. The set is intended to be 16" x 24". See chart on page 5.

Sizes and number of logs are same as F Series burner. The dark, turrowed bark of the attractive Mountain Oak Set gives the effect of real seasoned firewood. In addition to the two log sets illustrated above, the Real-Fyre Glowing Ember Burner System is available for use with all sizes of Twisted Cypress and White Birch Log Sets. Set includes logs, burner, grate, ember kit, pilot, sand, and connector kit. Specify optional Safety Pilot Kit No. 6 for G4 Burner and SPK No. 7 for G4-2 Seerth burner. Not recommended for use with LP Gas.

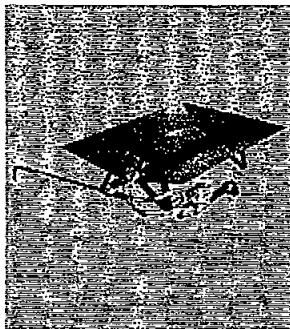
Real-Fyre P Series Flame Pan Gas Log Sets



Manzanita No. MP-24



Golden Oak No. RP-24



Flame Pan Burner
with Safety Pilot Kit No. 5

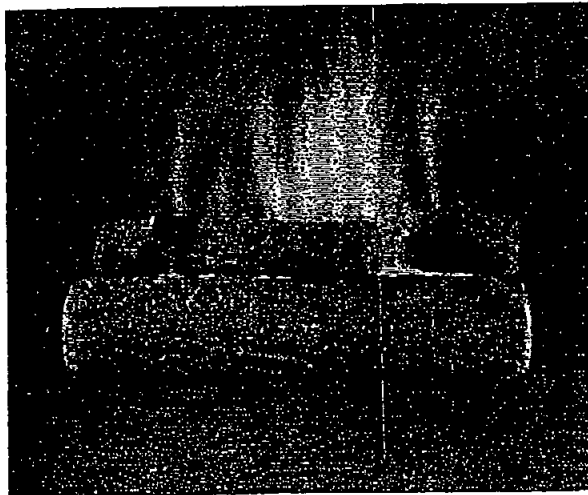
CHART SHOWS SIZES AND NUMBER OF LOGS IN EACH SET										
STYLE	NO.	16"	18"	24"	30"	36"	42"	48"	54"	60"
MOUNTAIN OAK	KP	1	1	1	1	1	1	1	1	1
	KP2	1	1	1	1	1	1	1	1	1
GOLDEN OAK	RP	6	6	6	6	6	6	6	6	6
	RP2	6	6	6	6	6	6	6	6	6
TWISTED CYPRESS	CP	6	6	6	6	6	6	6	6	6
	CP2	6	6	6	6	6	6	6	6	6
WHITE BIRCH	WB	6	6	6	6	6	6	6	6	6
	WB2	6	6	6	6	6	6	6	6	6
MANZANITAS	MP	6	6	6	6	6	6	6	6	6
DRIEFTWOOD	DF	6	6	6	6	6	6	6	6	6
VOLCANIC STONE	SP	6	6	6	6	6	6	6	6	6

* Stone Set available in three sizes for standard fireplaces (P series) or extra large fireplaces (P2 series).
 * Set of 4 logs available for fireplace fireplaces with DAMPER OPEN.

The Flame Pan Burner is a unique system designed for a complete fireplace conversion. The burner is constructed of heavy welded steel, 1/4" deep and 3" high with legs. As matched to the burner, the logs are made of iron, 1/2" to 1 1/2" in diameter and 18" to 42" in length. No gas is required. Concealed outlets over the burner cause the flames to erupt over the entire surface of the logs, which are made of Real-Fyre Granite and Quartz. Flame is controlled by the Flame Pan Burner and Log Set.

The most commonly used with the Flame Pan Burner is the set, like the pictured Golden Oak, create a striking effect in any fireplace. Safety Pilot Kit No. 5 shown makes a convenient means of turning the burner with just a twist of the extension handle. If the gas is accidentally extinguished, the gas automatically shuts off. The kit must be ordered separately. Not recommended for use with LP Gas.

Real-Fyre A Series A.G.A. Design Certified Gas Log Sets

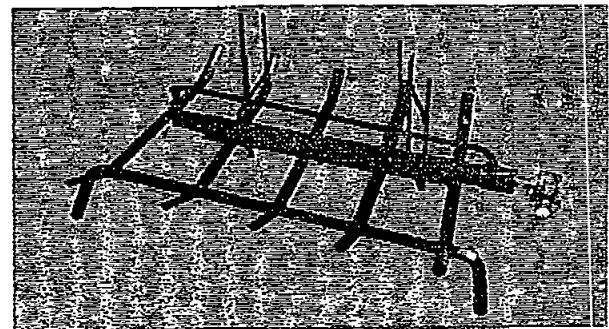


Golden Oak No. RAA-24

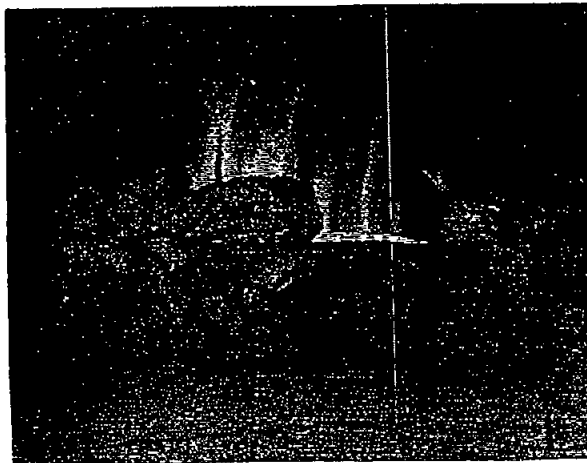


Lanced Tube Burner with Safety Pilot Kit No. 8

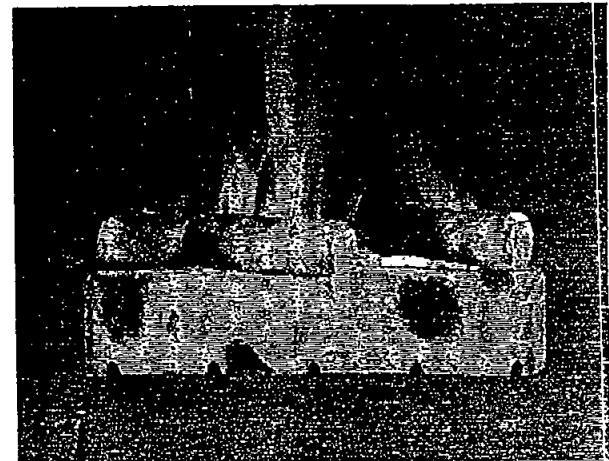
This A.G.A. Design Certified lanced port tube burner features flame control which regulates the air mix for maximum heat and a fuel injector for economical and noiseless operation. Where automatic ignition is desired the Safety Pilot Kit No. 8 should be ordered.



Lanced Tube Burner No. AA-24 N



Twisted Cypress No. CAA-24



White Birch No. WAA-24

All the sets on this page carry an American Gas Association Certification of Design. They comply with building and safety requirements and can be installed throughout the United States. Loose log design permits adjusting the flame pattern for a natural wood effect. Each set includes four individual

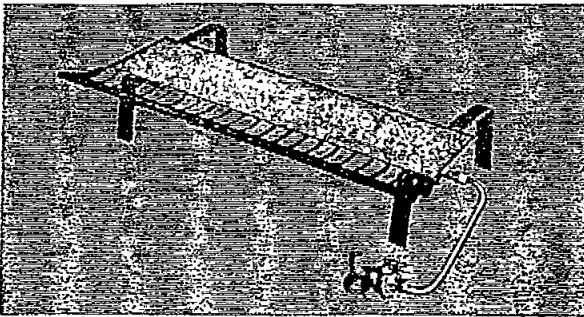
logs, burner, steel grate, Pressure Regulator Valve and gas control follow instructions. Available in 20", 24" and 30" sizes. This set should only be installed in an acceptance vented masonry or metal wood-burning fireplace with the damper open.

Real-Fyre G Series Fyre-Bed Grate Gas Log Sets

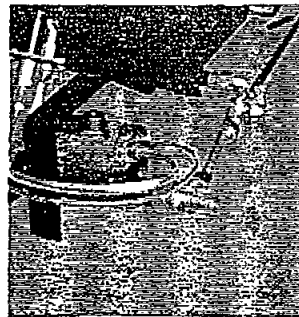


Golden Oak No. RG-24

This compact unit is equipped with log rests, hidden burner, granules and connector kit, which may be right or left hand mounted. Lava-Fyre Granules fill the burner and filter the gas as it rises to the surface. No grate is required with this burner which accommodates most of the wood styles in the Peterson line. This burner system is available in sizes 16" to 60" and provides maximum flame effect and whisper-quiet operation. Safety Pilot Kit No. 4 may be added to insure automatic gas shut-off and convenient ignition. Not recommended for LP (Propane) gas. See chart on page 5. Sizes and number of logs are same as "F" Series burner.



Fyre-Bed Grate Burner

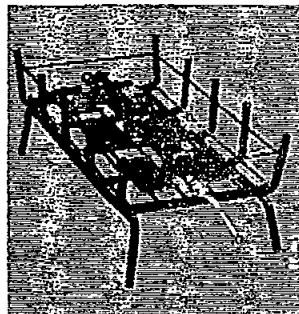


Fyre-Bed Grate Burner
with Safety Pilot Kit No. 4

Volcanic Stone Sets



Volcanic Stone with Flame Pan Burner No. SP-24



Volcanic Stone Burner

This lightweight stone was formed during one of the earth's violent upheavals. Due to its cellular structure, it resists erosion from heat but radiates the glow of red hot coals immediately upon contact with flame. Volcanic Stone may be used with Basket-Grate (J Series) with optional Safety Pilot Kit No. 1, or Flame Pan (P Series) with optional Safety Pilot Kit No. 5. Please note that Front-Flame (F Series) Burner is used with Basket-Grate. Available in 24" or 30" sizes and may be used with natural or LP gas.

Real-Fyre Burners



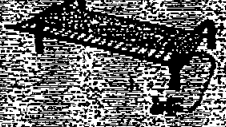
Real-Fyre Burner (F Series)
This popular patented burner is shown with optional SPK-2 Safety Backfire Protection which allows use with natural or LP gas. Available in sizes 16" to 60" for standard, 1/2" and circular fireplaces.



Glowing Ember Burner (G Series)
This glowing ember burner creates the appearance of glowing embers and is available in sizes 16" to 60" for standard fireplaces. Burner must be used ONLY with natural gas.

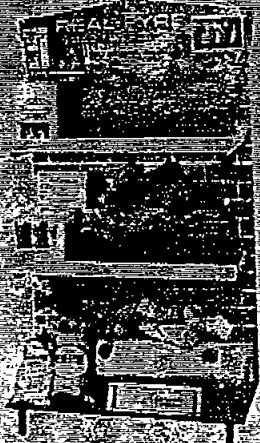


Flame Pan (P Series)
This burner system has special baffles to cause torch-like flames to erupt over the entire surface of the pan containing granules and glowing embers. NOT recommended for LP gas.

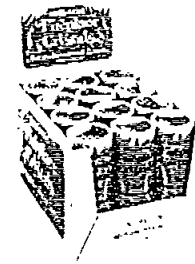


Pyro-Red Grate (G Series)
A compact unit to provide maximum flame effect and whisper-quiet operation. Sizes 16" to 60" for standard fireplaces only. NOT recommended for LP gas.

MERCHANDISING AIDS
Dealer Floor Display Merchandiser DM-568
Use this self liquidating award-winning display. Size: 36" wide, 18" deep, 60" high. Shipping weight 50 pounds.



Real-Fyre Accessories



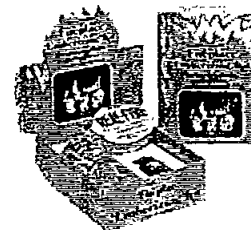
Long-Lasting Fireplace Crystals CR-12.

A colorful eye-catching display pack containing one dozen 16 ounce Fireplace Crystals shakers that retard soot and which produce multi-colored flames and a fresh pine aroma when sprinkled over an open fire.



Volcanic Stones VS-3

A package of three volcanic stones for use as a change in décor with the Gas Log Set. Also available in 12 and 25 lb. cartons.



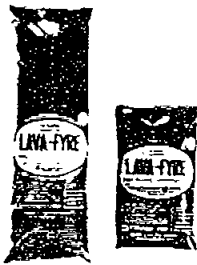
Fireplace Emberizing Kit GP-1

A fireplace owner's "gift pack." It includes Fireplace Crystals No. CR-1, a package of Glowing Embers EM-1 and a bottle of fireproof glue GL-1 to create a unique fireplace setting.

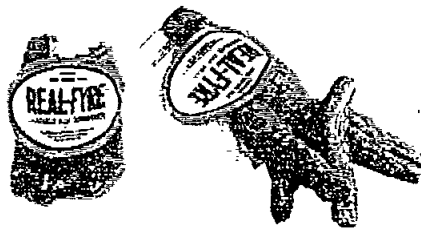


White Silica Sand CS-10

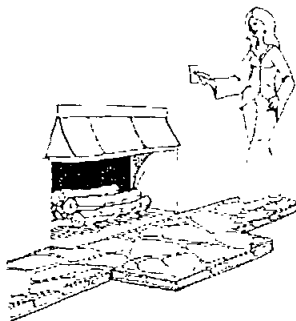
Carefully refined white beach sand for use with Glowing Ember Burners, Flame Pans, Pyro-Red Grates, Barbecue Grills and general patio use.



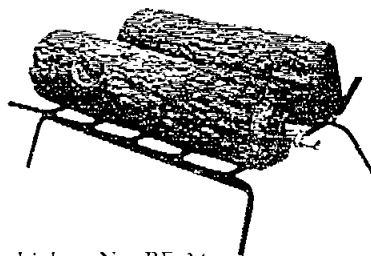
Volcanic Granules LF-10 and LF-5
Ten and five pound packages of volcanic granules for use with Fire-Bed Grate, Flame Pan or to cover the floor of a discolored hearth



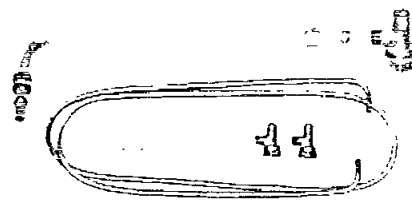
Charred Oak Branches BR-4
Reproductions of Oak tree branches to be used as decorative accents with Peterson Log Sets. Packed 4 in a poly bag



Automatic Pilot Kit APK-1
All the same features as our Safety Pilot Kits, but with remote push-button ignition which may be installed in any convenient wall location

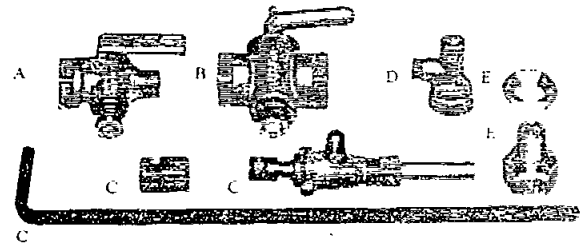


Log Lighter No. RE-24
For use in combination with burning real wood logs. Available with (PE Series) or (VH Series) bottom log in sizes 22", 24" and 30"



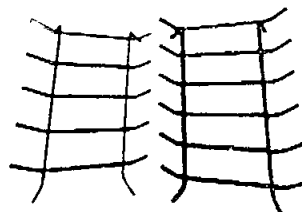
Connector Kits

Every Real-Fire Log Set comes with one of these two Connector Kits: CK-1 Kit for 36" sets and smaller CK-2 Kit for 42" sets and larger

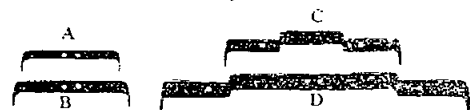


Custom Manufactured Valves

- A. AV-1 On/Off Valve attaches to Hearth Elbow used with 18" to 36" sets
- B. AV-2 On/Off Valve double 1/2" connections for 42" to 60" sets as well as all circular sets
- C. AV-3 On/Off Valve with extension handle. Mounts to burner
- D. HE-1 Hearth Elbow with adjustable Silent-Flow regulator.
- E. AM-1 Air Mixer consists of air-mixing orifice and air shutter



Steel Fireplace Grates SX and ST Series
Medium and heavy weight grates to support the Log Set. Available in sizes 18" through 60"



Fireplace Log Rests

- A. LR-1 9" deep. Use 2 for 18", 24" and 30" sets
- B. LR-2 10" deep. Use 2 for 36" sets. Use 3 for 42" sets
- C. LR-3 15" Custom-Made. Use 2 for 24" Circular Sets
- D. LR-4 23" Custom-Made. Use 2 for 36" and 36" Circular Sets

To conserve natural gas you don't have to be uncomfortable!

With Peterson Real-Fyre Gas Logs installed in your fireplace you can quickly remove the chill from a room with a minimum of fuel consumption. Here's how —

1. *Avoid interior heat loss* — draw drapes in front of windows, check weather stripping to eliminate drafts, close up unused rooms, and don't forget to turn off your Gas Log Set when not in use.
2. Log Sets may be used to maintain a comfortable temperature in the living area *without wasting* gas energy to heat the entire house.
3. These sets feature the exclusive *Heat Chamber* which acts like a small furnace to intensify the heat, thereby providing the most efficient use of our precious fuel.
4. The special design of our patented burners with built-in flame adjustment *requires less* natural gas to provide the desired heat and appearance at a lower cost.
5. May be used as an auxiliary source of heat and warmth when furnace is out due to shut off of electricity during brownout.

Real-Fyre fireplace logs

have the following guarantees, recommendations, approvals, or listings when installed in a vented, wood-burning fireplace with damper open. In addition to the approvals listed, Real-Fyre fireplace logs are accepted by leading national and local building codes and authorities.

INTERNATIONAL
CONFERENCE
OF BUILDING
OFFICIALS
REPORT NO. 2399



No. 7160
"Southern Building
Code Congress"



1971
Building Officials
Conference of
America, Inc.



Certified by
UL Apparatus
Laboratory



Guarantee: All Real-Fyre Log Sets are carefully inspected before shipment and are guaranteed free from defects in material and workmanship for one year in the home.

This company reserves the right to change previous price lists and specifications without notice. All Real-Fyre products are protected by United States Patents or copyrights.

Robert H. Peterson Co.

A Division of Beatrice Foods Co.

2835 Sierra Grande St., Pasadena, California 91107 • (213) 793-3118

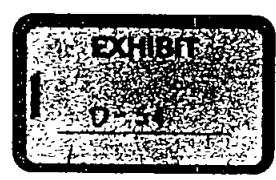
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JT-APP 2340

**The Appendix Material On
JT-APP 2341 – JT-APP 2343
Has Been Deleted Pursuant To A Protective Order
And Can Be Found In The Confidential Joint Appendix**

Item Number	Description	Qty/Assy	Trap	UM	Material Cost	Labor Costs	Burden Costs	Outplant Costs	Total Inv Costs Type	Scrap Prcd	Scrap Mass %	Shrink Prcd	Make Purch	Plant Code	Bin Code
0..... EMB-24	EMBR BSTR FLME TBE-24			EA	0.00000	1.09354	2.18708	0.00000	3.28062	FG					
1..... CC-33	CTN,EMBR BSTR,18/24/30	1.000		EA	0.84500	0.00000	0.00000	0.00000	0.84500	PP					
1..... EMB-24-01	EMBR BSTR-24 ASY L/CTN	1.000		EA	7.89963	0.53562	1.35843	0.31327	10.10695	SA					
1..... L-A2-053	LIT,EMBR FLME BSTR INST	1.000		EA	0.19500	0.00000	0.00000	0.00000	0.19500	PP					
	Total of Incremental and Component Cos				8.93963	1.62916	3.54551	0.31327	14.42757						
	Less Expensed Purchased Bin Items				0.19500	0.00000	0.00000	0.00000	0.19500						
	Net Incremental and Component Costs				8.74463	1.62916	3.54551	0.31327	14.23257						
	Cost according to Parent Item Record				8.74463	1.62916	3.54551	0.31327	14.23257						
	Last Cost Rollup for Acctg Value														
	Cost Summary by General Ledger Account				0.84500	0.00000	0.00000	0.00000	0.84500						
	01-1192-00 - PURCHASED PARTS				7.89963	0.53562	1.35843	0.31327	10.10695						
	01-1194-00 - SUB ASSEMBLIES				0.00000	1.09354	2.18708	0.00000	3.28062						
	01-1195-00 - FINISHED GOODS				8.74463	1.62916	3.54551	0.31327	14.23257						
	G/L Account Totals ..														



CONFIDENTIAL FOR ATTORNEY'S EYES ONLY

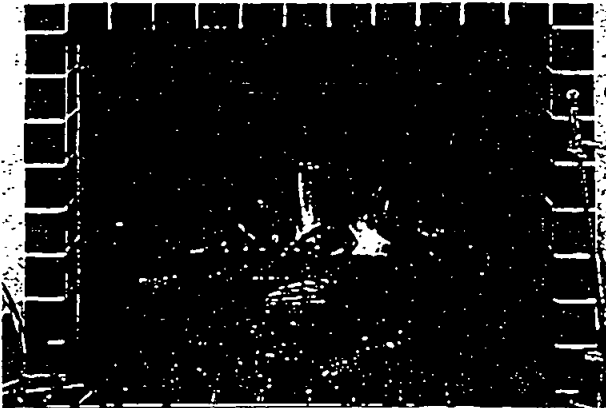
4.800000

Real-Fyre Gas Logs

FIREPLACE DECOR ACCESSORIES

Add More Beauty and Warmth to Your Fireplace with Real-Fyre Accessories

There is so much you can do to make your hearth even more inviting. These Real-Fyre Accessories will make your hearth more natural-looking. Each product or accessory enhances the enjoyment of your fireplace.



And, like all of Robert H. Peterson's products, these accessories are manufactured to exacting and high standards and are guaranteed against defects in materials or workmanship.

For the ultimate in convenience, ask about Peterson remote control options.



CRACKLING PINE CONE
Replicates the sounds of a wood burning fire.
Model # PCC-1.



CERAMIC PINE CONES
Hand colored. Available in Designer (Model # PC-4) and Wilderness (Model # PCW-4)



EMBER FLAME BOOSTER
Add dramatic front flames to your gas log set & magnify the beauty of your G4 or G5 Series burner. Available for Natural gas only for 18", 24", or 30" sizes. Model #s EMB-18, EMB-24 & EMB-30.



WOOD CHIPS
Realistic accents. Available for Designer (Model # WC-6), Charred (Model # WCH-6) and Birch (Model # WCB-6) Series log sets.



DECORATIVE OAK BRANCHES
Ideal for decorating fireplace.
BA Series, sizes 18", 17" & 21".



BONUS LOGS
Customize your fireplace and log set.
Models # SD Bonus & SS Bonus.
Sizes 13" and 14"



LAVA-FYRE GRANULES
For covering bottom of fireplace.
Model #s LF-5 or LF-10.



LAVA-FYRE COALS
Larger coals for covering bottom of fireplace.
Model # LFC-10



VERMICULITE GRANULES
For use with Flame Pan & Glowing Ember burners. LF-15.



SELECT SAND
For use with Glowing Ember burners.
Model # CS-10.



EMBER GLOW
Creates appearance of red hot coals.
Model # EM-1.



EMBER GLOW GLUE
Fireproof glue for applying Ember Glow to gas logs.
Model # GL-1.

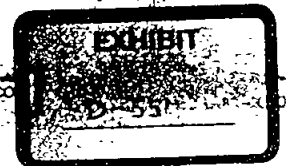
Real-Fyre Gas Logs ...

a Beautiful Tradition for over 50 years.



ROBERT H. PETERSON CO.

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IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

GOLDEN BLOUNT, INC.,	)	
	)	
Plaintiff	)	
	)	
v.	)	Civil Action No.: 3-01CV0127-R
	)	
ROBERT H. PETERSON CO.,	)	
	)	
Defendant.	)	

DECLARATION OF JOHN PALASKI

John Palaski declares as follows:

1. In 1970 I purchased a business known as Fyreside Shoppe, Inc., a New Jersey dealer/retailer of fireplace products including those of Robert H. Peterson Co.

2. In about 1974 I expanded the business of Fyreside Shoppe, Inc. to also operate as a wholesale distributor of fireplace products, including those of the Robert H. Peterson Co.

3. I was continuously involved in the business of fireplace products, including burners for gas log systems, from prior to the 1970's until I sold the business referred to in paragraphs 1 and 2 during the 1980's.

4. In working as a distributor of fireplace products prior to 1987, I frequently designed customized burner systems in coordination with the Robert H. Peterson Co. Among these was a dual burner system for a front opening fireplace.

5. One dual burner system I designed is illustrated in Exhibit A. This dual burner system consisted of first and second burners, B1 and B2, and first and second valves, V1 and V2. The first burner, B1, consisted of a G4 series ember burner in which a burner tube was covered with simulated embers. The first burner, B1, was mounted under a grate. The

EXHIBIT

D-56

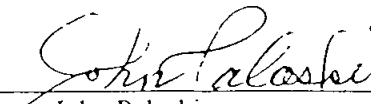
second burner, B2, originally consisted of a conventional burner tube and later was changed to a starter burner, mounted in front of the grate. A starter burner is a smaller burner typically used as a gas starter in wood burning fireplaces. The first valve, V1, was connected between a gas inlet connector and the first burner, B1. The conventional end cap for the G4 series burner was removed and an elbow, adapter and the second valve, V2, were connected between the first burner, B1, and the second burner, B2. Thus, the first valve, V1, controlled the amount of gas flowing into the first burner to B1. The second valve, V2, controlled the flow of gas from the first burner, B1, to the second burner, B2, to separately control the front flame.

6. The dual burner system illustrated in Exhibit A was on display in a show room for Fyreside Shoppe, Inc. throughout the late 1970's. This display was shown to dealers visiting the show room. During this time, parts to assemble such a dual burner system were also sold to dealers for display in the dealer show rooms and for sale to the dealer's customers.

7. Exhibit A illustrates an example of a typical dual burner system assembled and sold prior to 1987. Such a dual burner system was commonly used in the industry prior to 1987. This concept of connecting multiple burners in series, with a control valve at the inlet to each of the series connected burners, was also frequently used in circular fireplaces and see-through fireplaces prior to 1987.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 23, 2001.


John Palaski

JT-APP 2347

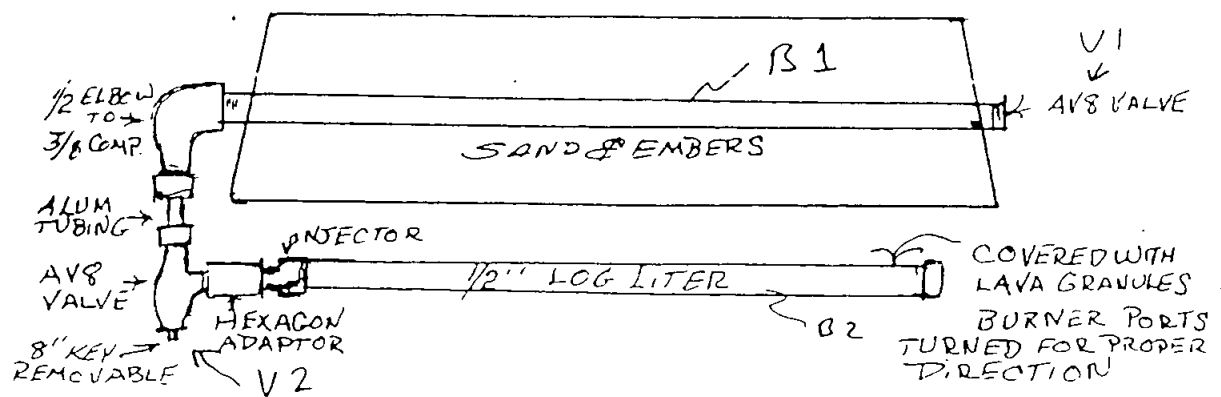


EXHIBIT A

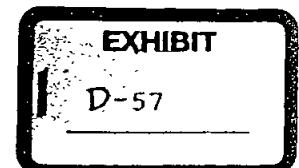
IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

GOLDEN BLOUNT, INC.	)	
	)	
Plaintiff	)	
	)	
v.	)	Civil Action No.: 3-01CV0127-R
	)	
ROBERT H. PETERSON CO.,	)	
	)	
Defendant.	)	

DECLARATION OF DARRYL R. DWORKIN

Darryl R. Dworkin declares as follows:

1. In 1980 I became owner of a business known as The Bright Acre, a New Jersey dealer/retailer of fireplace products including those of the Robert H. Peterson Co.
2. On June 1, 1987, I became owner of a business known as Fyreside Shoppe, a New Jersey wholesale distributor of fireplace products, including those of the Robert H. Peterson Co. The business is now known as Summit-Fyreside.
3. I have been continuously involved in the sale of fireplace products, including burners for gas log systems, from 1980 to the present.
4. In working as a distributor of fireplace products from 1987 and prior to July, 1993, I frequently engineered and sold customized burner systems for retailers in coordination with the Robert H. Peterson Co. Among these were triangular burner systems for free-standing circular fireplaces and dual burner systems for see-through fireplaces.
5. A schematic diagram for the triangular burner system referred to in paragraph



JT-APP 2349

4 is shown in Exhibit A. The system included three individual burners labeled B1, B2 and B-3 connected in a series in a triangular configuration. The system used three control valves labeled V1, V2 and V-3. The first valve, V1, was connected between a gas inlet connector and the first burner, B1. The second valve, V2, was connected between the first burner, B1, and the second burner, B2. The third valve, V-3, was connected between the second burner, B2, and the third burner, B-3. Thus, the first valve, V1, controlled the amount of gas flowing into the first burner to B1. The second valve, V2, controlled the flow of gas from the first burner, B1, to the second and third burners, B2 and B-3. The third valve, V-3, controlled the flow of gas from the second burner, B2, into the third burner, B-3. The three burners, B1, B2 and B-3, typically consisted of Robert H. Peterson Co. G4 series ember burners in which a burner tube was covered with simulated embers. The valves V1, V2 and V3 typically consisted of Robert H. Peterson Co. AV-8 series valves.

6. The dual burner system discussed in paragraph 4 is illustrated in Exhibit B. This dual burner system consisted of first and second burners, B1 and B2, and first and second valves, V1 and V2. The burners B1 and B2 typically consisted of G4 series ember burners, discussed above, mounted back to back. The first valve, V1, was connected between a gas inlet connector and the first burner, B1. The conventional end cap for the G4 series burner was removed and the second valve, V2, connected between the first burner, B1, and the second burner, B2. Thus, the first valve, V1, controlled the amount of gas flowing into the first burner, B1. The second valve, V2, controlled the flow of gas from the first burner, B1, to the second burner, B2.

7. Exhibits A and B illustrate examples of typical burner configurations assembled and sold between at least 1987 and 1993

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 23, 2001.



Darryl R. Dworkin

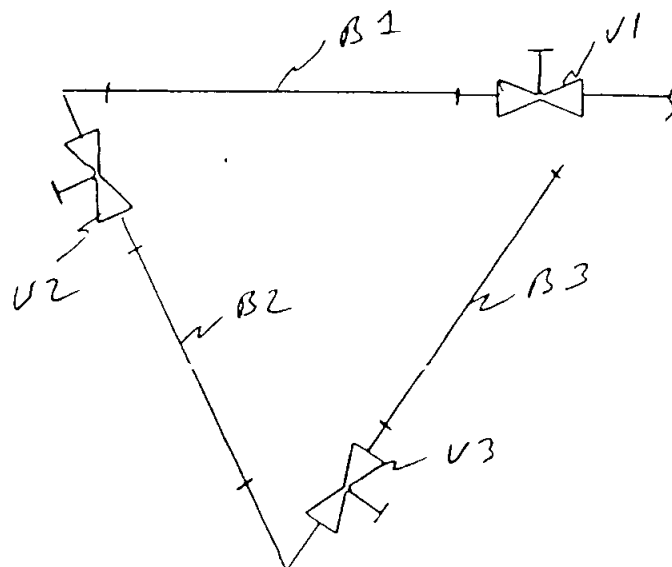


EXHIBIT A

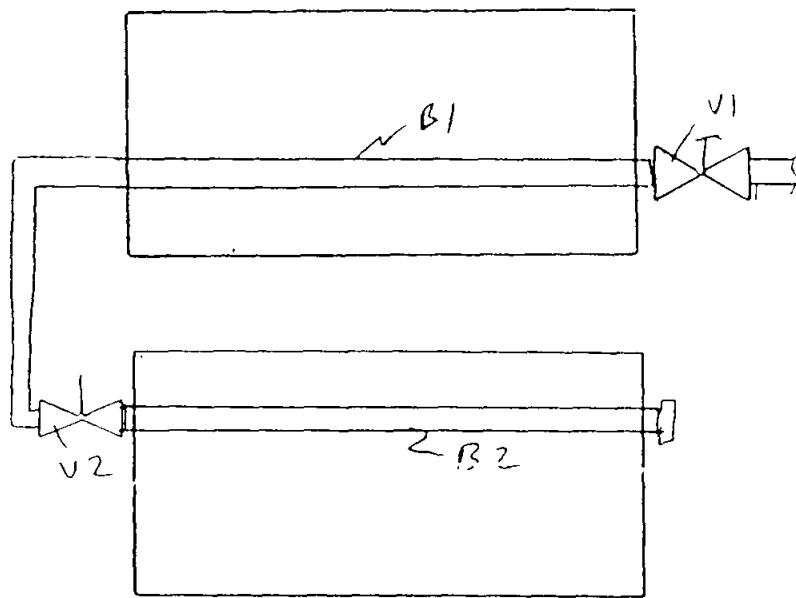
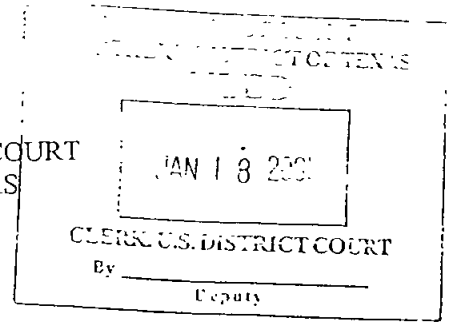


EXHIBIT B

7-673

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION



GOLDEN BLOUNT, INC.

Plaintiff,

v.

ROBERT H. PETERSON CO.

Defendant.

§
§
§
§
§
§
§
§

3-01070127-R
Civil Action No.

(JURY TRIAL DEMANDED)

COMPLAINT FOR PATENT INFRINGEMENT AND JURY DEMAND

TO THE HONORABLE UNITED STATES DISTRICT COURT:

Plaintiff, Golden Blount, Inc. ("Golden Blount"), by its attorneys complains against Defendant, Robert H. Peterson Co. ("Peterson"), as follows:

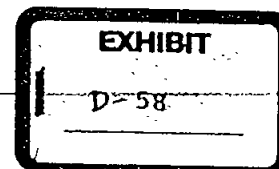
PARTIES, JURISDICTION AND VENUE

1. Plaintiff Golden Blount is a corporation organized and existing under the laws of the State of Texas, having a place of business at 5310 Harbor Town, Dallas, Texas 75287.

2. On information and belief, Defendant Peterson, is a corporation organized and existing under the laws of the State of California. On information and belief, Peterson has been, and is now, directly and through its agents and intermediaries, doing business continuously and systematically in this judicial district and elsewhere in Texas.

3 This Court has original and exclusive jurisdiction pursuant to Title 28 United States Code, Sections 1331 and 1338(a) because this action arises under the Patent Laws of the United States (Title 35 United States Code, Section 1 et seq.) for

COMPLAINT



PAGE 1

infringement of a United States Patent. Venue in this Judicial District is proper pursuant to Title 28 United States Code, Sections 1400(b) with 1391(c).

CLAIM FOR PATENT INFRINGEMENT

4. United States Patent No. 5,988,159 ("159 Patent"), entitled "GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY", was duly and legally issued on November 23, 1999 for an inventive gas fired artificial logs and coals-burner assembly. Golden Blount is the owner of the '159 Patent. A copy of the '159 Patent is attached hereto as Exhibit A.

5. The Defendant Peterson has, within the six years next preceding the filing of this Complaint, infringed the '159 Patent in violation of Title 35 United States Code, Section 271(a), through its making, using, offering to sell, and selling the "Ember Flame Booster" accessory (a picture of the device is attached hereto as Exhibit B), to the damage and injury of Golden Blount.

6. On information and belief, Peterson will continue its infringing conduct, and its conduct which induces or contributes to infringement, unless enjoined by this Court.

7. Peterson's infringing activities are being conducted without right, license or permission from Golden Blount.

PRAYER AND RELIEF

WHEREFORE, Golden Blount petitions this Court for a judgment:

A That the '159 Patent is valid and that the claims thereof have been infringed by Peterson;

B. Preliminarily and permanently enjoining Peterson, its directors, officers, employees, attorneys, agents and all other person in active concert or participation with any of the foregoing from further acts of infringement, contributory infringement or inducement infringement of the '159 Patent;

C. For an accounting and an award of damages adequate to compensate Golden Blount for infringement of the '159 Patent by Peterson, but in no event less than a reasonable royalty for the use made of the invention, together with interest thereon;

D. Awarding to Golden Blount its costs and attorney fees; and

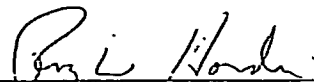
E. Awarding to Golden Blount such other and further relief as this Court deems proper and just.

JURY DEMAND

Plaintiff demands a trial by jury of all issues triable by a jury.

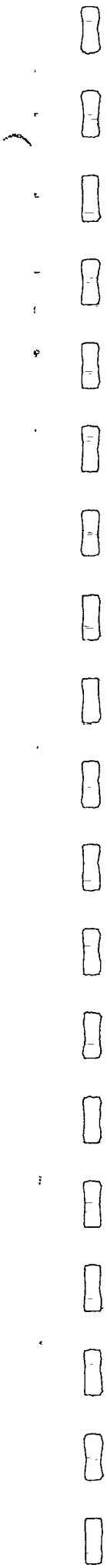
Dated: January 18, 2001

Respectfully submitted,



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Texas Bar No. 08968300
LOCKE LIDDELL & SAPP LLP
2200 Ross Avenue, Suite 2200
Dallas, Texas 75201-6776
Telephone: (214) 740-8000
Facsimile: (214) 740-8800

ATTORNEYS FOR PLAINTIFF



A

JT-APP 2357



United States Patent [19]

Blount

(11) Patent Number: 5,988,159

[45] Date of Patent: Nov. 23, 1999

- [54] GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY

- | | | | |
|-----------|---------|---------------|---------|
| 5,033,455 | 7/1991 | Eiklor et al. | 126512 |
| 5,052,370 | 10/1991 | Karabin | 126512 |
| 5,081,981 | 1/1992 | Beal | 12692 R |
| 5,263,852 | 11/1993 | Boek | 431/125 |

- [76] Inventor: Golden Blount, 5310 Harbor Town,
Dallas, Tex. 75287

- [21] Appl No.: 08/626,498

- [22] Filed: Apr. 2, 1996

Related U.S. Application Data

- [63] Continuation-in-part of application No. 08/276,894, Jul. 19, 1994, abandoned, which is a continuation-in-part of application No. 08/061,727, May 17, 1993, abandoned.

- [51] Int. CL
- ⁴
- _____ F23C 1/18

- [52] U.S. Cl. ----- 126/512; 126/500; 126/540;
431/125

- [58] Field of Search 431/125; 126/512,
126/500, 524, 540, 503

[56] References Cited

U.S. PATENT DOCUMENTS

- | | | | |
|-----------|--------|---------------|-----------|
| 3,042,109 | 7/1962 | Petersen | 126/512 |
| 3,871,355 | 3/1975 | Henry | 431/125 X |
| 5,000,162 | 3/1991 | Shurek et al. | 126/512 |

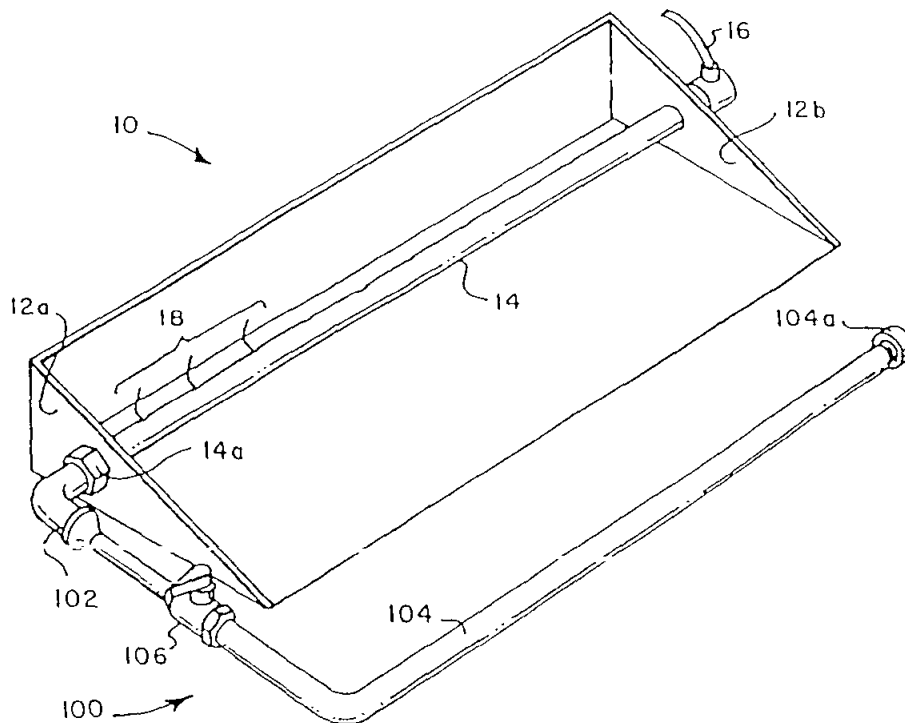
Primary Examiner—LARRY JONES

Attorney Agent, or Firm—L. Dan Tucker

[57] ABSTRACT

A gas-fired artificial logs and coals-burner assembly is provided for fireplace use in cooperation with decorative gas logs, and artificial coals and embers decorative items by placement forward of the gas logs in the fireplace arrangement, a secondary elongated coals- and embers-burner tube apparatus. The assembly provides gas-fired artificial logs, coals- and embers-burner apparatus for fireplaces wherein gas flow through primary burner tube is the source of gas flow to a secondary coals- and embers-burner tube positioned forward and below the primary burner tube with multiple discharge ports in the secondary tube directed away from the front of the fireplace, thus enhancing the natural burn in cooperation of the fireplace draft as well as the aesthetic beauty of the imitation burning logs, coals and embers.

19 Claims, 3 Drawing Sheets



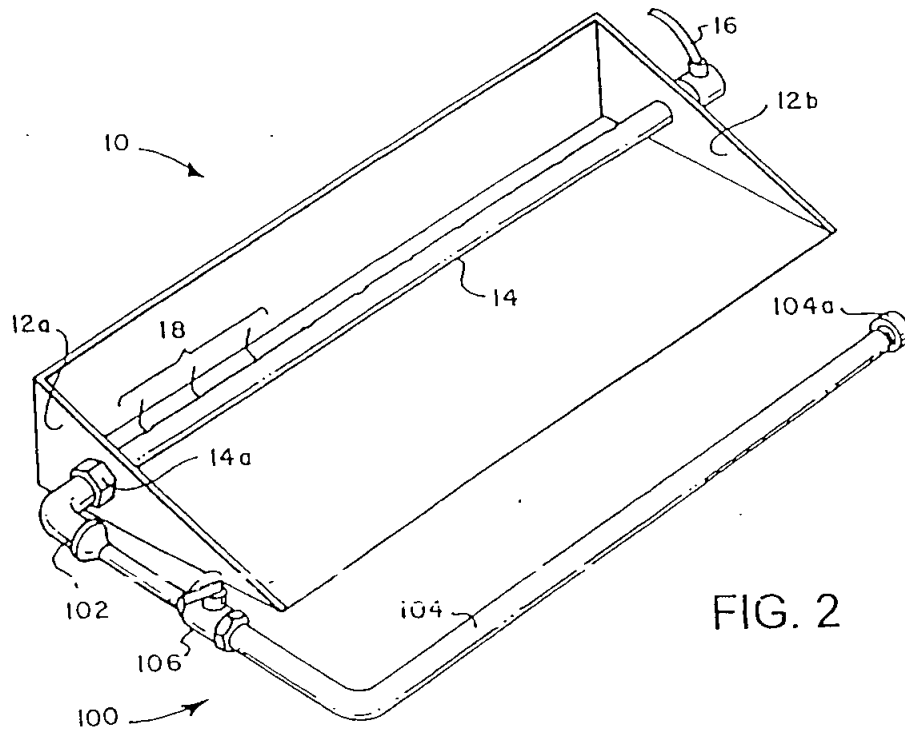
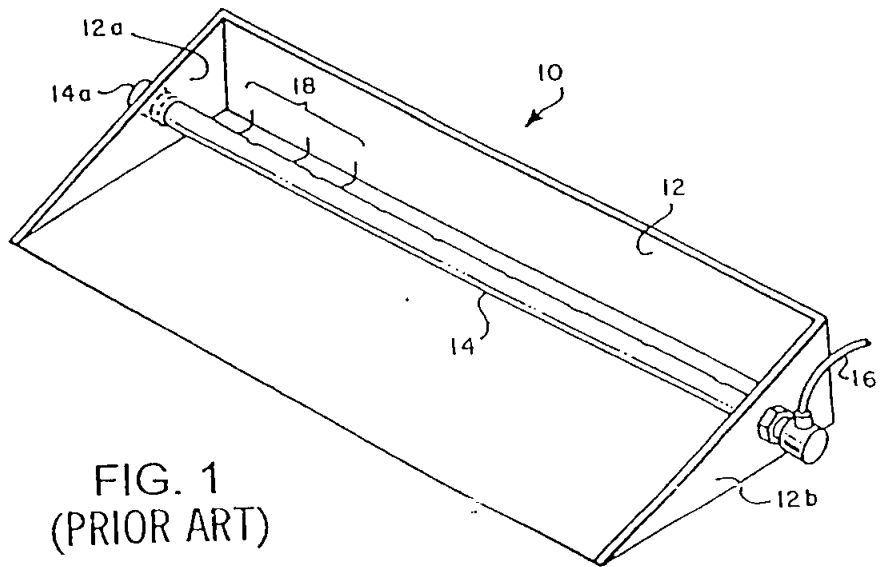


FIG. 3

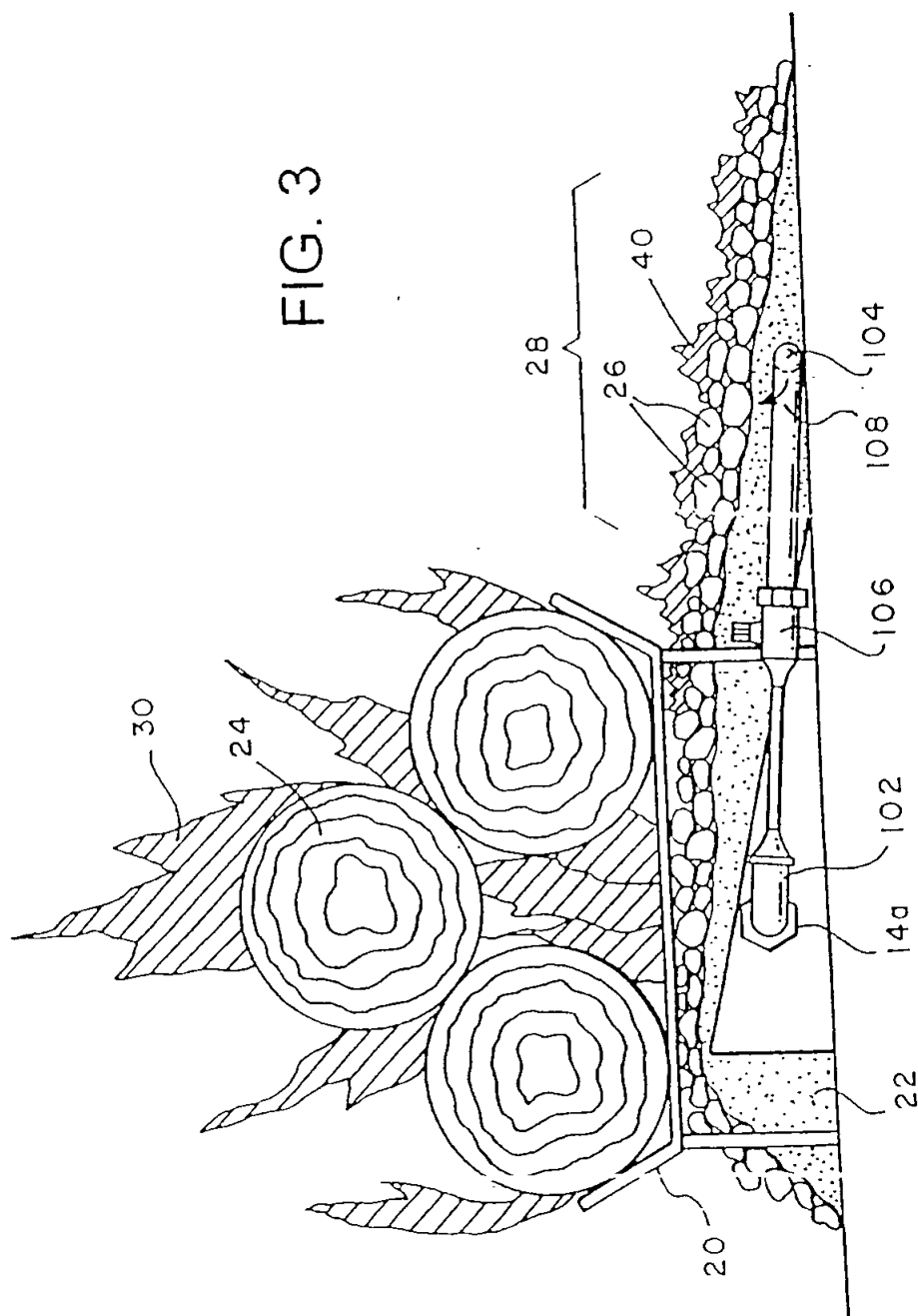
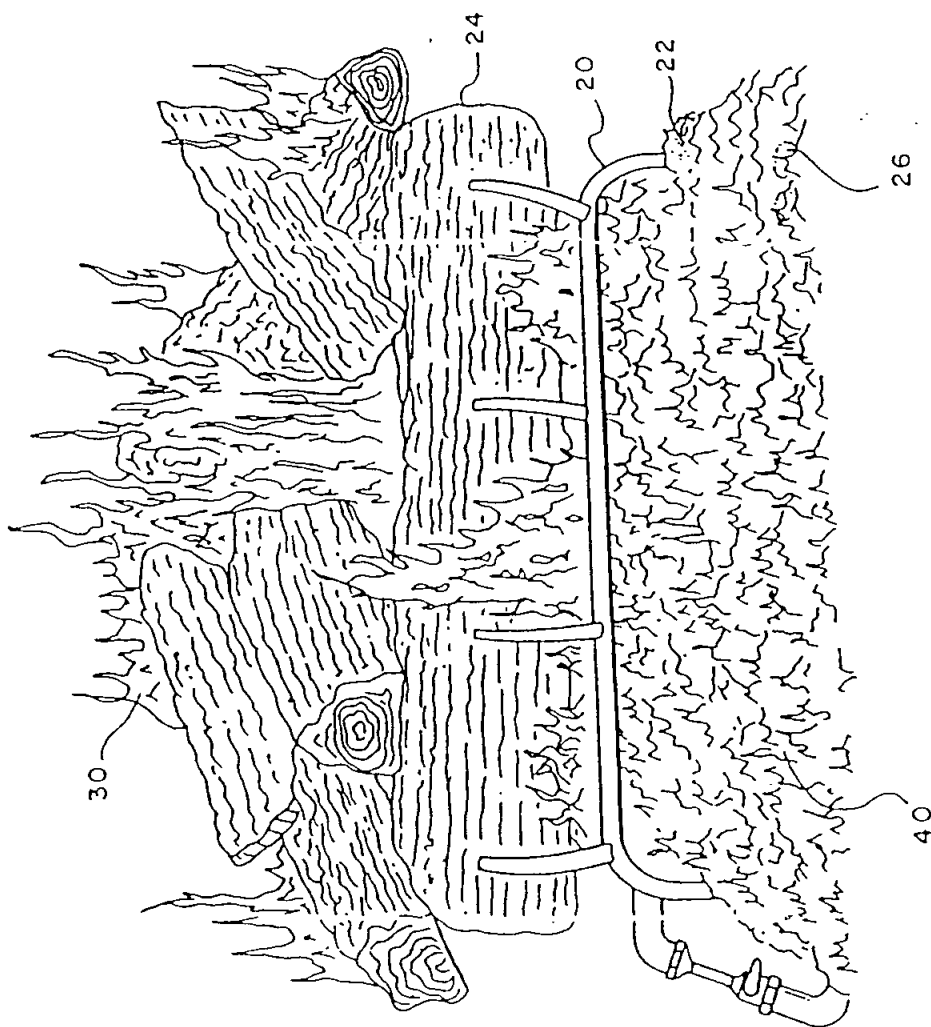


FIG. 4



GAS-FIRED ARTIFICIAL LOGS AND COALS-BURNER ASSEMBLY

The present application is a continuation-in-part application of U.S. patent application Ser. No. 08/276,894, filed Jul. 19, 1994, now abandoned, entitled "A Supplemental Burner for Retrofitting to an Existing Gas Log Burner Assembly" which is a continuation-in-part application of U.S. patent application Ser. No. 08/061,727, filed May 17, 1993, entitled "Controlled Ember Bed Burner" which is now abandoned.

TECHNICAL FIELD OF THE INVENTION

The present invention relates to a gas-fired artificial logs and coals-burner assembly for a fireplace to be used with decorative gas logs and coals or embers decorative items placed forward of the gas logs in the fireplace arrangement. In another aspect, the invention relates to coals- and embers-burner apparatus suitable for attaching to a terminal end of a gas-fired primary artificial burner, the coals- and embers-burner assembly utilizing a valve between the primary artificial logs burner and the coals- and embers-burner.

In yet another aspect, the invention relates to a gas-fired artificial logs, coals- and embers-burner assembly for fireplace wherein gas flow through a primary burner tube is the source for gas flow to a secondary coals burner tube positioned forward and below the primary burner tube with the multiple discharge ports in the secondary tube directed away from the front of the fireplace.

The present further relates to efficient gas burners for burning natural gas, manufactured gas and propane gaseous fuels within a fireplace environment. In addition, the invention provides an efficient burner system for burning gaseous fuels in a manner which provides decorative flames and decorative coals and embers which simulate wood burning.

Gas logs are usually made of a fire resistant ceramic material, however, when gas flames are directed against such ceramic materials, the gas flame is cooled by the artificial logs and many times produces a highly inefficient and dirty yellow flame. Such a flame further indicates incomplete burn of the gaseous materials due to a lack of sufficient burn temperature and oxygen supply thus creating excessive soot and carbon monoxide. Various attempts have been made in correcting these decorative fireplace gas log deficiencies.

Further it is known that gas burners or gas nozzles can be buried below a level of sand and vermiculite. These burner systems are referred to as sand pan burners which disburse the gasses through the fireproof material and permit the gas permeating through the porous material to ignite upon entering the atmosphere. Such systems allow disbursement of the flames over a large area or bed of material. Such disbursement of flames creates a more efficient burn which further simulates the action of burning wood, ashes and embers in a fireplace.

Present burner systems for artificial decorative logs, and sand pan type burners are incorporated in various prefabricated fireplaces or existing masonry fireplaces; however, such systems are required to meet the ANSI emission standards which have been adapted by the American Gas Institute. Accordingly, it is very desirable to provide a clean burning gas-fired artificial logs and coals-burner assembly which meet the present ANSI emission standards.

Gas logs are increasingly popular in homes. Decorative artificial logs are placed on a grate which is located over a gas burner. The burner is typically a tube with spaced

apertures. Sand is poured over the gas burner to hide it from sight. Artificial embers are then spread across the sand. In use, gas flows through the burner and escapes through the spaced apertures. The gas filters up through the sand underneath the artificial logs. The gas is ignited and creates flames between the logs. The height of the flame is controlled by a primary valve which can be manipulated by the user.

Gas logs can, under these conditions, provide a great deal of heat to a room. Also, gas logs require virtually no effort to light. Natural logs, on the other hand, must be properly cured before burning. Even then, kindling is usually needed. And once lit, it is difficult to control the rate of burning. Beyond convenience, gas logs are also aesthetically pleasing. However, the standard gas logs burner only creates flames around the artificial logs. Natural logs, when burned will break apart to produce beautiful burning embers in front of the main log stack. A need exists to produce a more realistic aesthetic burn with gas logs.

Due to the popularity of gas logs, a number of advances have been patented. For example, U.S. Pat. No. 5,000,162 to Shimek et al. discloses a "Clean Burning Glowing Ember and Gas Log Burner System." This unit is marketed under the trademark Heat-N-Glow as the Model 5000GDVMH as a self-contained fireplace and wall heater for mobile homes. The system is a low-BTU system whose main objective is to minimize carbon monoxide creation and soot deposit on the logs. A burner system is provided with a first branch and a second branch. The first branch is supported on a prefabricated grate between a first and second decorative log. The second branch is forward of the logs and is protected under a metal mesh. A very light layer of special ember material is spread on top of the mesh. Shimek et al. '162 is only sold as a complete system of logs, burner and special ember material. It cannot be fitted to existing pan burners which are by far the most common burner in use, the combination resulting in the assembly of the invention. Thus, the Shimek burner system is an expensive option.

The Shimek burner system provides a metal trim piece or refractory material in front of the second burner pipe branch so that it is not easily viewed by a person standing in front of the fireplace. The second branch only illuminates a thin line of ember material. Neither the first or second branch can be covered by sand as is common in other units. The gas apertures in the branches are located on the upper surface of both branches. Thus, sand could easily clog the apertures. Moreover, the flow of gas into the second branch cannot be regulated.

U.S. Pat. No. 5,052,370 to Karabin discloses a "Gas Burner Assembly Including Emberizing Material." The gas burner comprises a first and second gas-burner assembly. The first gas-burner assembly is formed by a pair of parallel burner tubes connected by a third burner tube. The second gas-burner assembly is located forward of the first assembly and is generally T-shaped. The second burner only illuminates a thin line of ember material. A single gas source supplies both burner assemblies. An igniter is provided to ignite the gas from the main burner assembly. The flame from that burning gas ignites the gas from the second burner assembly. As with the Shimek et al. burner assembly, the flow of gas to the second burner assembly cannot be controlled.

Finally, U.S. Pat. No. 5,081,981 to Beal discloses yet another burner and is entitled "Yellow Flame Gas Fireplace Burner Assembly." The Beal reference is primarily concerned with producing a clean yellow flame. The burner assembly includes a U-shaped burner tube. The front portion

of the burner tube is forward of the artificial logs and provides flame for ember material. However, as with the Shimck reference above, the forward portion of the burner tube is hidden from view by a portion of the grate. The Beal system does not contemplate the present assembly. Furthermore, as with both the Shimck and Karabin references, there is no means provided to control separately the flow of gas into the front burner tube.

A need exists for an inexpensive assembly for improving the performance and aesthetic appeal of pan-type gas burners. The assembly should distribute gas under artificial coals or embers in front of the gas-fired logs. The assembly should also provide a method of controlling the flow of gas to a secondary burner, thus controlling the height of the coals and embers bed flames and the amount of heat radiated into a room. A need further exists for an assembly which can safely operate even if completely covered by sand and enhances gas burn of both primary log burner and secondary coals and embers burner by gas flow control and burn direction.

These present and long-felt needs for gas logs and glowing coals- and embers-burner systems will burn clean and closely simulate the natural flames produced by burning wood logs have not yet been met by the art. Therefore, it is desirable to produce a reliable and efficient gas logs and glowing coals- and embers-burner assembly which produces the desired efficiency of burn while providing decorative flames that closely simulate burning wood logs while at the same time providing useable heat and still meet EPA regulations and the ANSI emissions and safety standards.

SUMMARY OF THE INVENTION

It is a primary object of the present invention to provide a highly efficient gas-burner assembly for use with artificial, decorative logs and glowing coals and embers wherein the assembly provides control for the glowing coals and embers independently of the gas logs burn.

It is another primary object of the present invention to provide a novel burner assembly which closely simulates the flames, embers and coals of natural wood logs burn.

It is another principle object of the present invention to provide a novel burner assembly which has low carbon monoxide emission characteristics.

It is yet another object of the present invention to provide an efficient low carbon monoxide emission burner assembly that combines long decorative gas flames with short or low smoldering glowing embers and coals in the same assembly.

It is another object of the present invention to provide a gas flow communicating primary and secondary burner tubes with the gas distribution ports of the secondary burner tube directed away from the opening of the fireplace and utilizing the natural draft of the fireplace to enhance the overall efficiency of the burn of the two burners.

The present burner assembly is the combination of an inexpensive primary gas logs burner assembly in gas flow communication with a secondary coals- and embers-burner tube positioned forward and below the primary burner tube to enhance the natural draft of the fireplace to improve efficiency of burn and aesthetic appeal of the gas-fired artificial logs, coals- and embers-burner assembly. The secondary burner can distribute gas under artificial coals and embers in front of the gas logs with control of the gas flow to the secondary burner being readily adjustable by a valve in the connection means between the primary and secondary burners. The secondary burner receives gas through the primary burner, the connection means, and the gas flow is regulated selectively by the valve which is

interposed between the primary and secondary burners in the connection means. The control of gas flow thus controls the height of the coals and embers bed flames and the amount of radiant heat which is produced in the front of the fireplace and is distributed into the room. The amount of radiant heat can be enhanced by utilizing the control valve for increasing the amount of gas being burned in the secondary burner or the utilization of even a tertiary burner along with the secondary burner which are provided forward of the gas logs arrangement in the fireplace. The secondary burner can operate efficiently when completely covered with sand and artificial coals and embers materials, there being no need for a new grate to hide the secondary burner.

The ability to regulate the flow of gas to the secondary burner is an especially important feature. In addition, the gas flow from the secondary burner away from the opening of the fireplace and, in effect, toward the primary burner is also of special importance because of the utilization of the fireplace natural draft and direction of flames to more completely burn the gas, avoid any pockets of gas in front of the gas logs. The direction of the gas dispersion from the secondary burner ensures that through the action of the natural draft of the fireplace and the burning logs from the primary burner that complete and total combustion in an efficient manner will be achieved of the gas flowing from the secondary burner which is positioned somewhat forward of the primary burner.

People buy gas logs primarily for convenience, but this does not mean that they want to give up on the beauty of burning real logs. Standard pan burners only provide part of that beauty. Having roaring flames throughout the logs is greatly complemented by lower flames in front of the gas logs throughout a coals and embers bed. None of the prior art references above feature or even suggest a variable control means for accomplishing lower flames in the coals and embers bed. Moreover, every fireplace drafts differently. Such differences in fireplace construction and drafting, i.e., fireplace draft, as well as sizing and manufacture of present artificial fireplace burner apparatus dictates that variable control of the secondary burner, the coals and embers burner which operates independently of the primary logs burner is necessary. Volume and velocity of air entering the firebox varies according to the size of the room, height of the ceilings, and size of the firebox. None of the prior art references compensate for the varying drafts of fireplaces and therefore fail to accommodate all fireplaces while attempting to provide the maximum aesthetic beauty desired and efficiency of burn.

Most importantly, the gas-fired artificial logs, coals- and embers-burner assembly through the secondary burner control afforded by the valve, allows the user to selectively increase the amount of gas being burned forward of the artificial logs. This control also affords a greater introduction of radiant heat to the room as desired on colder days. As previously discussed, artificial gas logs can act as a heat sink and absorb heat produced by the flames. The heat generated by the secondary burner is largely radiant and is projected into the room, which affords quick heating of the room while also providing the aesthetic beauties of a gas-fired artificial logs, coals- and embers-burner assembly operation.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention, and for further details and advantages thereof, reference is now made to the following Detailed Description taken in conjunction with the accompanying drawings, in which:

FIG. 1 provides a perspective view of a prior art pan burner used with artificial gas logs;

FIG. 2 provides a gas-fired artificial logs primary pan tube burner and secondary coals and embers tube burner;

FIG. 3 illustrates the effect of the present assembly in providing logs, coals and embers flames; and

FIG. 4 is a front view of the assembly illuminating the coals and embers bed and gas logs flames.

DETAILED DESCRIPTION OF THE DRAWINGS

The present assembly provides a number of advantages over the burner assemblies disclosed in the prior art. FIG. 1 illustrates a standard pan burner 10 which is used in the vast majority of artificial log sets. The pan burner 10 has an open frame 12 which supports a burner tube 14. An inlet 16 is connected to a gas source (not shown). A plurality of apertures, as evidenced by gas plumes 18, are spaced along the length of the burner tube 14. Gas escapes through the apertures and filters through sand (not shown). Gas which escapes from the sand is initially ignited to create flames. These flames are continually fed by the escaping gas. The burner tube 14 is supported by the side walls 12a, 12b of the frame 12. The burner tube 14 extends beyond the side wall 12a and is capped.

FIG. 2 illustrates a secondary burner apparatus 100 which embodies the present invention in combination with primary burner tube 14. The secondary burner apparatus 100 can be retrofitted to the terminal end 14a of the burner tube 14 in the pan burner 10. The cap must be removed from the terminal end 14a. A connector 102 is then attached to the uncapped end of burner tube 14. The connector 102 is fitted to the secondary burner tube 104 creating an enclosed fluid path for the gas. The connections between the connector 102 and the terminal end 14a should be adequately sealed to prevent leakage. Likewise, the connection between the connector 102 and the secondary burner tube 104 should also be properly sealed. A valve 106 is interposed in this fluid path. The valve 106 can be variably positioned to give the user the ability select the amount of gas entering the secondary burner. The secondary burner tube 104 is generally parallel to the primary burner tube 14. The terminal portion of the secondary burner tube 104a is closed. The primary and secondary burner tubes are typically made of steel.

A plurality of apertures 108 are along the length of the secondary burner tube 104. The apertures 108 can be evenly spaced or clustered. The apertures 108 are typically between $\frac{1}{8}$ and $\frac{1}{4}$ inch in diameter, but are preferably $\frac{1}{4}$ of an inch in diameter. More importantly, the apertures are located along the radial edge of the secondary burner tube 104, below the upper ridge of the tube. By avoiding the upper ridge, the apertures are less likely to be clogged by sand. Gas passing through the valve 106 enters the secondary burner tube 104 and escapes through the spaced apertures. The apertures can be evenly spaced or clustered.

These various spaced apertures or gas discharge ports are most important in their position in regard to both the primary and secondary tube burners. In the secondary burner tube 104, the gas is discharged in a direction away from the opening of the fireplace or in another aspect is directed somewhat toward or directly toward the primary burner tube 14. The effects of such gas burn direction enhances the aesthetic beauty of the overall logs, coals, and embers burn, but, more importantly, provide several safety features of the gas-fired artificial logs, coals- and embers-burner assembly. First, the natural draft of the fireplace provides a more efficient burn of the gas and avoids high or intolerable levels

of carbon monoxide. Even more importantly is that the backward direction of gas flow direction toward the primary burner from the secondary burner avoids creation of pockets of gas in the sand and other coverage material of these burners which could possibly create a flash explosion due to accumulated gas. For example, if the gas is directed from the secondary burner 104 toward the opening of the fireplace, then two independent sources of gas pocketing occurs—one on the gas logs primary burner which may or may not be covered by granular materials as well as that generated by the secondary burner which is removed from about four to eight or ten inches in front of the primary burner. Lighting of such gas distribution pockets would be hazardous and uniformity of coordinated burn utilizing natural draft of the fireplace would be lost. If the secondary burner 104 discharges gas in a vertical direction, apertures in the sand or coverage granular material will occur and one would lose the aesthetic beauty of the applications of distribution of gas for burning and creating flame coals' and embers' appearance.

In the gas-fired artificial logs, coals- and embers-burner assembly of the invention, the primary elongated burner tube can be comprised of a one-half inch pipe while the secondary coals- and embers-burner elongated tube can be of a one-quarter inch pipe. These dimensional relationships can be varied depending on the needs for gas volume and the size of the fireplace. The spacing between the primary and secondary burner tubes can also be varied within reasonable lengths of from about four to eight or ten inches depending on the size and depth of the coals and embers bed one requires. The secondary elongated burner tube can also have adjustments for height, meaning distance elevated from the floor of the fireplace, again depending on the depth and size of the coals and embers fire bed. In all of these dimensional relationships, the present invention provides an adjustable burn facility for the secondary elongated burner tube which controls the amount of coals and embers flame and glow, again depending on the individual's desires, size of the room, size of the fireplace and the amount of natural draft through the fireplace.

FIGS. 3 and 4 illustrate the effect of the secondary burner apparatus 100 once connected to the pan burner 10. As discussed, a grate 20 is located above the pan burner which is covered with sand 22. The grate 20 can hold at least one artificial log 24. Artificial ember material 26 which glows when heated can be strewn under and around the artificial logs and on top of the sand. Flames 30 fed by gas from the primary burner tube 14 rise through the artificial logs 24. Flames 40 fed by gas from the secondary burner tube 104 can rise through the artificial ember bed 28. As illustrated, the flames 40 can be lower than the flames 30, thus providing an aesthetically pleasing sight.

Although preferred embodiments of the invention have been described in the foregoing Detailed Description and illustrated in the accompanying drawings, it will be understood that the invention is not limited to the embodiments disclosed, but is capable of numerous rearrangements, modifications, and substitutions of parts and elements without departing from the spirit of the invention. Accordingly, the present invention is intended to encompass such rearrangements, modifications, and substitutions of parts and elements as fall within the scope of the invention.

What is claimed is:

1. A gas-fired artificial logs and coals-burner assembly for fireplace comprising:
 - a elongated primary burner tube including a plurality of gas discharge ports;

- a secondary coals burner elongated tube positioned forwardly of the primary burner tube;
 - a support means for holding the elongated primary burner tube in a raised level relative to the forwardly position secondary coals burner elongated tube;
 - the secondary coals burner elongated tube including a plurality of gas discharge ports;
 - the elongated primary burner tube and the secondary coals burner elongated tube communicating through tubular connection means wherein the gas flow to the secondary elongated coals burner tube is fed through the primary burner tube and the tubular connection means;
 - a valve for adjusting gas flow to the secondary coals burner elongated tube positioned in the tubular gas connection means; and
 - the primary burner tube being in communication with a gas source with a gas flow control means therein for controlling gas flow into said primary burner tube.
2. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the support means for the primary burner tube is comprised of an open frame pan for supporting the primary burner tube in an elevated position relative to the fireplace floor.
3. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the secondary coals burner elongated tube discharge ports are directed toward the primary burner elongated tube at an angle of from about 5 to about 75 degrees based on the plane of the fireplace floor.
4. The gas-fired artificial logs and coals-burner assembly according to claim 3 wherein the secondary coals burner elongated tube discharge ports directed toward the primary burner tube utilizes the fireplace natural draft in achieving combustion of both gas sources in sufficient air to maintain satisfactory levels of CO.
5. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the secondary coals burner elongated tube is substantially parallel to the primary burner tube and has a smaller inside diameter than the primary burner tube with the valve adjusting gas flow for coals burn and forwarding heat radiation from the fireplace.
6. The gas-fired artificial logs and coals-burner assembly according to claim 4 wherein the primary burner tube is comprised of a standard half-inch pipe and the secondary burner tube is comprised of a standard quarter-inch pipe.
7. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the elongated primary burner tube and the secondary coals burner elongated tube are spaced apart on different planes at from about four to about eight inches.
8. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the secondary coals burner elongated tube is of a smaller diameter than the primary burner tube which allows for a lower profile of coals and sand coverage.
9. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the secondary coals burner elongated tube is adjustable in height relative to the floor of the fireplace and the elevated primary burner tube.
10. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein at least two secondary coal burner elongated tubes are utilized for artificial coal burn and radiant heat generation.
11. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the primary and secondary burner tubes have apertures of from about $\frac{1}{32}$ inch to about $\frac{1}{4}$ inch.

12. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the gas flow adjustment valve has a removable handle, the gas flow adjustment allowing a variety of settings from full closed to full open.
13. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the connection means is comprised of a connector attached to the terminal end of the primary burner tube at a first end of a connector and attached to the secondary coals burner elongated tube to a connector second end with the valve interposed between the primary burner tube and the secondary burner tube.
14. The gas-fired artificial logs and coals-burner assembly according to claim 13 wherein the connector generally is shaped outward from the first end connected to the primary burner tube, directed generally perpendicular to the burner tubes alignment and inward to the second end connected to the secondary burner tube, the valve and connector being positioned generally exterior of the primary and secondary burner tube fire zones.
15. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the open frame pan and primary elongated burner tube is positioned under an artificial logs and grate support means.
16. The gas-fired artificial logs and coals-burner assembly according to claim 1 wherein the primary elongated burner tube is covered with sand and the secondary elongated burner tube is covered with sand, mica, and fibrous materials which simulate coals and ember burn.
17. A gas-fired artificial coals- and embers-burner apparatus suitable for attaching to a gas-fired primary artificial log burner tube said primary artificial log burner tube having a terminal end comprising:
- a secondary coals burning elongated tube;
 - a connector means for connecting said terminal end in communication with the secondary burner tube, the secondary burner tube positioned substantially parallel, forward and below the primary burner tube, the connector means having interposed between the primary and secondary burner tubes a gas flow adjustment valve, the primary and secondary burner tubes having a plurality of gas discharge ports, the secondary burner tube being in gas flow communication with the primary burner tube being the connection means, a gas distribution ports of the secondary burner tube directed away from the fireplace opening.
18. The gas-fired artificial coals- and embers-burner apparatus according to claim 1, wherein the gas distribution ports of the secondary burner tube are directed toward the primary burner tube at from about 5 degrees to about 75 degrees elevation from the fireplace floor.
19. A gas burner assembly for use in a fireplace comprising:
- a primary burner tube having a first end and a second end, said first end adapted to be connected to a gas source with a gas flow control means for controlling the amount of gas flowing into said primary burner tube;
 - a second burner tube;
 - a connector tube attached to said second end of said primary burner tube and to said second burner tube to provide fluid communication between said primary burner tube and said second burner tube; and
 - a valve disposed in said connector tube for selectively controlling the flow of gas from said primary burner tube into said second burner tube.

B

JT-APP 2366

Glowing Embers Burner (G4 and GX4 Series)

The Peterson Real-Fyre Glowing Embers Burner remains the most popular of our burner systems. This system creates dancing, wood-fire-like flames and a remarkably authentic glowing ember bed beneath the logs.

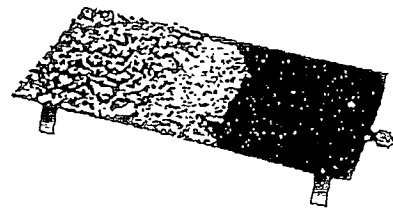
The G4-Series burner system is available in sizes 12" to 60". It is compatible with most Real-Fyre Gas Log styles. The burner system includes a wood-fire style grate, Glowing Embers Burner Pan, connector kit, Glowing Embers, granules (select sand or vermiculite), grate clips and damper clamp. The G4 Series will accommodate all Peterson controls, including the remote control systems, and the Warm Air Circulator.

The Real-Fyre G4 burner pan is engineered to provide the maximum in performance, safety and durability. The burner portholes are precisely sized and spaced to ensure a natural, balanced flame presentation. It also provides quick ignition and quiet operation. The fuel injector/air mixer allows only the required amount of fuel, ensuring the ultimate in performance while conserving gas. The pan is constructed of high quality steel covered with a heat-resistant paint. It is securely welded to prevent gas from escaping.

The G4 Series is available to burn Natural or Propane Gas (a safety pilot system is required for burners using Propane Gas). Radco listed on units up to 96,000 BTU's. Also available for See-Thru and Peninsula fireplaces.

The Front Flame Burner System (F Series)

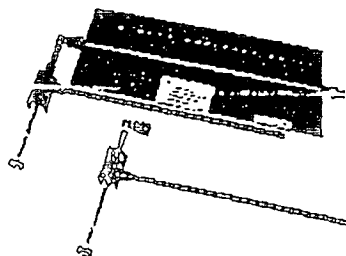
features a patented burner design that provides dramatic flames to the front of the logs, as well as flickering fire through the log stack. Special designed flame baffles bring prominent flames around the bottom front log for a dramatic presentation. This burner system is RADCO approved and compatible with most Real-Fyre Gas Log styles. Available for natural and propane gas in sizes 12" to 60". Burner system includes Front Flame burner, custom grate and connector kit. The Front Flame Burner System is available in see-through and circular formats.



Flame Pan Burner (P Series)

The Flame Pan Burner System is designed to provide a unique setting for your fireplace. The Pan includes special baffles that allow the flames to erupt over the entire pan surface, surrounding your Real-Fyre Logs. This makes the Flame Pan Burner System ideal for see-through, peninsular or island fireplaces. The lid of the pan burner is removable, which allows you to set the pan low on the hearth, bury it with embers and create a campfire effect.

The Flame Pan Burner System is available for natural or propane gas in sizes 16" to 42". It is compatible with most Real-Fyre Gas Log style and Peterson control systems.



Ember Flame Booster

(see example)

As an accessory for your G4 Series Burner System. Model # EMB-16, EMB-24, EMB-30 or Order pre-assembled on your G-5 Series (AGA Design Certified) Log Set.

The Realism and excitement of your Real-Fyre Gas Log set is amplified by the Ember Flame Booster (EMB Series). This easy-to-install accessory adds dramatic front flames to your gas log set.

CIVIL COVER SHEET

The JS-44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM)

I. PLAINTIFFS

GOLDEN BLOUNT, INC.

(b) COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF Dallas
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) ATTORNEYS (FIRM NAME, ADDRESS AND TELEPHONE NUMBER)
Roy W. Hardin
Locke Liddell & Sapp LLP
2200 Ross Avenue, Suite 2200
Dallas, Texas 75201-6776 (214) 740-8000

DEFENDANTS

ROBERT H. PETERSON CO.

COUNTY OF RESIDENCE OF FIRST LISTED DEFENDANT _____
(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

ATTORNEYS (IF KNOWN)

II. BASIS OF JURISDICTION

(PLACE AN "X" IN ONE BOX ONLY)

- ☐ 1 U.S. Government Plaintiff
☒ 3 Federal Question (U.S. Government Not a Party)
☐ 2 U.S. Government Defendant
☐ 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES

(For Diversity Cases Only)

- | | PTF | DEF | | PTF | DEF |
|---|----------------------------|----------------------------|---|----------------------------|----------------------------|
| Citizen of This State | ☐ 1 | ☐ 1 | Incorporated or Principal Place of Business in This State | ☐ 4 | ☐ 4 |
| Citizen of Another State | ☐ 2 | ☐ 2 | Incorporated and Principal Place of Business in Another State | ☐ 5 | ☐ 5 |
| Citizen or Subject of a Foreign Country | ☐ 3 | ☐ 3 | Foreign Nation | ☐ 6 | ☐ 6 |

IV. ORIGIN

(PLACE AN "X" IN ONE BOX ONLY)

- ☒ 1 Original Proceeding
☐ 2 Removed from State Court
☐ 3 Remanded from Appellate Court
☐ 4 Reinstated or Reopened
☐ 5 Transferred from another district (specify) _____
☐ 6 Multidistrict Litigation
☐ 7 Appeal to District Judge from Magistrate Judgment

NATURE OF SUIT

(PLACE AN "X" IN ONE BOX ONLY)

CONTRACT	TORTS	FORFEITURE/PENALTY	BANKRUPTCY	OTHER STATUTES
☐ 110 Insurance ☐ 120 Marine ☐ 130 Miller Act ☐ 140 Negotiable Instrument ☐ 150 Recovery of Overpayment & Enforcement of Judgment ☐ 151 Medicare Act ☐ 152 Recovery of Defaulted Student Loans (Excl. Veterans) ☐ 153 Recovery of Overpayment of Veteran's Benefits ☐ 160 Stockholders' Suits ☐ 180 Other Contract ☐ 185 Contract Product Liability	PERSONAL INJURY ☐ 310 Airplane ☐ 315 Airplane Product Liability ☐ 320 Assault, Libel & Slander ☐ 330 Federal Employers Liability ☐ 340 Marine ☐ 345 Marine Product Liability ☐ 350 Motor Vehicle ☐ 355 Motor Vehicle Product Liability ☐ 360 Other Personal Injury PERSONAL INJURY ☐ 362 Personal Injury - Med. Malpractice ☐ 365 Personal Injury - Product Liability ☐ 368 Asbestos Personal Injury Product Liability PERSONAL PROPERTY ☐ 370 Other Fraud ☐ 371 Truth in Lending ☐ 380 Other Personal Property Damage ☐ 385 Property Damage Product Liability	☐ 610 Agriculture ☐ 620 Other Food & Drug ☐ 625 Drug Related Seizure of Property 21 USC 881 ☐ 630 Liquor Laws ☐ 640 R.R. & Truck ☐ 650 Airline Regs. ☐ 660 Occupational Safety/Health ☐ 680 Other LABOR ☐ 710 Fair Labor Standards Act ☐ 720 Labor/Mgmt. Relations ☐ 730 Labor/Mgmt. Reporting & Disclosure Act ☐ 740 Railway Labor Act ☐ 790 Other Labor Litigation ☐ 791 Empl. Ret. Inc. Security Act	☐ 422 Appeal 28 USC 158 ☐ 423 Withdrawal 28 USC 157 PROPERTY RIGHTS ☐ 820 Copyrights ☐ 830 Patent ☐ 840 Trademark SOCIAL SECURITY ☐ 861 HIA (1395m) ☐ 862 Black Lung (923) ☐ 863 DMC/DMM (405(g)) ☐ 864 SSID Title XVI ☐ 865 RSI (405(g)) FEDERAL TAX SUITS ☐ 870 Taxes (U.S. Plaintiff or Defendant) ☐ 871 IRS - Third Party 26 USC 7609	☐ 400 State Reapportionment ☐ 410 Antitrust ☐ 430 Banks and Banking ☐ 450 Commerce/ICC Rates/etc ☐ 460 Deportation ☐ 470 Racketeer Influenced and Corrupt Organizations ☐ 810 Selective Service ☐ 850 Securities/Commodities/Exchange ☐ 875 Customer Challenge 12 USC 3410 ☐ 881 Agricultural Acts ☐ 882 Economic Stabilization Act ☐ 883 Environmental Matters ☐ 884 Energy Allocation Act ☐ 885 Freedom of Information Act ☐ 900 Appeal of Fee Determination Under Equal Access to Justice ☐ 950 Constitutionality of State Statutes ☐ 990 Other Statutory Actions
REAL PROPERTY ☐ 210 Land Condemnation ☐ 220 Foreclosure ☐ 230 Rent Lease & Ejectment ☐ 240 Torts to Land ☐ 245 Tort Product Liability ☐ 290 All Other Real Property	CIVIL RIGHTS ☐ 441 Voting ☐ 442 Employment ☐ 443 Housing/Accommodations ☐ 444 Welfare ☐ 440 Other Civil Rights PRISONER PETITIONS ☐ 510 Motions to Vacate Sentence ☐ Habeas Corpus ☐ 530 General ☐ 535 Death Penalty ☐ 540 Mandamus & Other ☐ 550 Civil Rights			

VI. CAUSE OF ACTION

(CITE THE U.S. CIVIL STATUTE UNDER WHICH YOU ARE FILING AND WRITE BRIEF STATEMENT OF CAUSE. DO NOT CITE JURISDICTIONAL STATUTES UNLESS DIVERSITY.)

Action for patent infringement under 35 U.S.C. § 1 et seq.

VII. REQUESTED IN COMPLAINT:

CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23 ☐

DEMAND \$

CHECK YES only if demanded in complaint

JURY DEMAND: ☒ YES ☐ NO

II. RELATED CASE(S) IF ANY

JUDGE

DOCKET NUMBER

DATE

January 18, 2001

SIGNATURE OF ATTORNEY OF RECORD

Roy W. Hardin

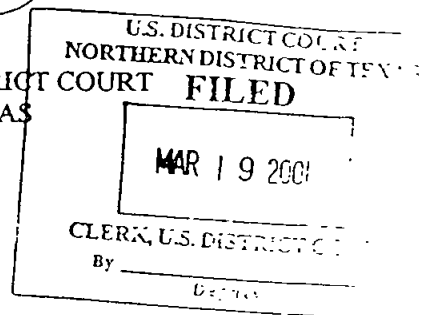
FOR OFFICE USE ONLY

RECEIPT # _____ AMOUNT _____ APPLYING IFP _____ JUDGE _____ MAG. JUDGE _____

(2)

DAM (FWM)

IN THE UNITED STATES PATENT DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION



GOLDEN BLOUNT, INC.

Plaintiff,

v.

ROBERT H. PETERSON CO.

Defendant.

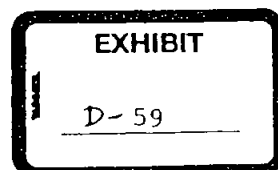
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Civil Action No. 3-01CV0127-R

ANSWER AND COUNTERCLAIM

Defendant, Robert H. Peterson Co. ("Peterson"), by its attorneys answers Plaintiff's, Golden Blount, Inc. ("Golden Blount"), complaint as follows:

1. Defendants are without knowledge or information sufficient to form a belief as to the truth of the allegations of Paragraph 1, and therefore deny the same.
2. The allegations of Paragraph 2 are admitted.
3. In response to the allegations of Paragraph 3, Defendant denies that venue is proper pursuant to Title 28 United States Code, Section 1400(b), and denies that it has done anything improper. The remaining allegations are admitted.
4. In response to the allegations of Paragraph 4, Defendant admits that U. S. Patent No. 5,988,159 was issued by the U. S. Patent and Trademark Office and that a copy of the '159 patent was attached to the Complaint as Exhibit "A". Defendants deny that the '159 patent was duly and legally issued. Defendants are without knowledge or information



sufficient to form a belief as to the truth of the remaining allegations of Paragraph 4 and therefore deny the same.

5. The allegations of Paragraph 5 are denied.
6. The allegations of Paragraph 6 are denied.
7. The allegations of Paragraph 7 are denied.

AFFIRMATIVE DEFENSE

8. The '159 patent, and each of the claims allegedly infringed by Defendant, are invalid for failure to comply with one or more of the requirements of Title 35, United States Code.

COUNTERCLAIM

9. The allegations of Paragraph 8 of Defendant's affirmative defense are repeated and realleged herein.

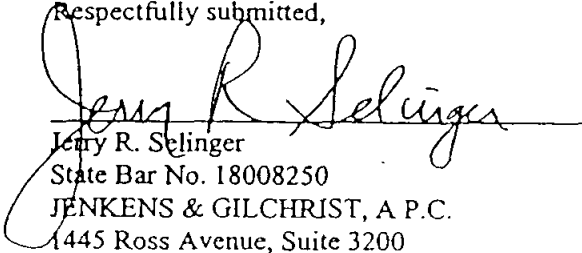
10. This counterclaim seeks a declaratory judgment of invalidity of United States Patent No. 5,988,159. The Court has subject matter jurisdiction in accordance with 28 U.S.C. Sections 2201, 2202 and 1338(a).

11. The '159 patent is invalid for failure to comply with one or more of the requirements of Title 35, United States Code.

WHEREFORE, Defendant Robert H. Peterson Co. prays for judgment against Golden Blount, Inc., as follows:

- A. A judgment in favor of Defendant and against Plaintiff with no award to Plaintiff of any damages, costs, or fees;
- B. A declaratory judgment that U. S. Patent No. 5,988,159 is invalid;
- C. An order awarding Defendant its costs in addition to its attorneys' fees in accordance with 35 U.S.C. Section 285; and
- D. Such other and further relief as the Court may deem just and equitable.

Respectfully submitted,


Jerry R. Selinger
State Bar No. 18008250
JENKENS & GILCHRIST, A P.C.
1445 Ross Avenue, Suite 3200
Dallas, Texas 75202
214/855-4776 (Telephone)
214/855-4300 (Facsimile)

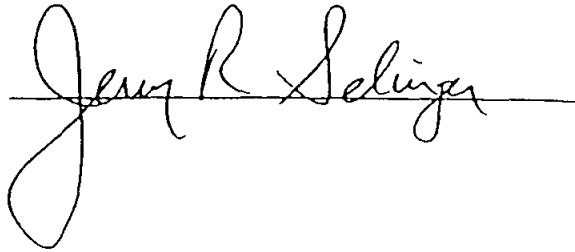
ATTORNEYS FOR
ROBERT H. PETERSON CO.

OF COUNSEL:

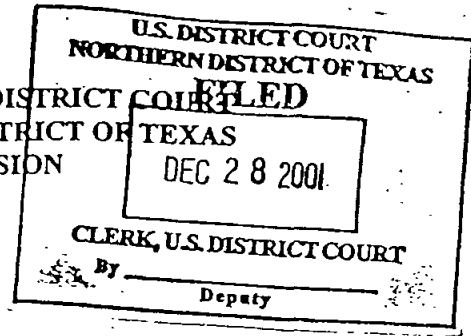
Dean A. Monco
F. William McLaughlin
WOOD, PHILLIPS, VANSANTEN,
CLARK & MORTIMER
500 West Madison Street, Suite 3800
Chicago, Illinois 60661-2511
Telephone: 312.876-1800
Facsimile: 312.876-2020

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing Answer and Counterclaim has been served on all counsel of record by first-class mail, postage prepaid, on this 19th day of March, 2001.

A handwritten signature in cursive script, reading "Jerry R. Selinger", is written over a horizontal line.

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION



GOLDEN BLOUNT, INC.,

Plaintiff,

v.

ROBERT H. PETERSON CO.,

Defendant.

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Civil Action No.

3-01CV0127-R

PLAINTIFF'S REPLY TO DEFENDANT'S COUNTERCLAIM

Plaintiff, Golden Blount, Inc. ("Golden Blount"), by its attorneys replies to Defendant's, Robert H. Peterson Co. ("Peterson"), counterclaim as follows:

1. Paragraph 9 fails to contain factual allegations, however, in any event the allegations of Paragraph 9 are denied.
2. In response to the allegations of Paragraph 10, Plaintiff admits that the counterclaim seeks a declaratory judgment of invalidity of the patent in suit, as well as Plaintiff admits that the subject matter jurisdiction is mandated by 28 U.S.C. Sections 2201, 2202 and 1338(a).
3. Plaintiff denies the allegations of Paragraph 11.

EXHIBIT

D-60

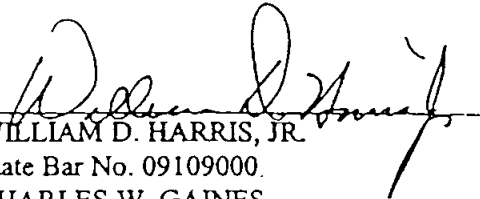
JT-APP 2373

PRAYER AND RELIEF

WHEREFORE, Golden Blount petitions this court for a judgment against Peterson on this declaratory judgment count and that the relief set forth in the complaint be extended to Plaintiff.

Respectfully submitted,

For Plaintiff Golden Blount, Inc.


WILLIAM D. HARRIS, JR.

State Bar No. 09109000.

CHARLES W. GAINES

State Bar No. 07570580

Hitt Gaines & Boisbrun, P.C.

225 University Plaza

275 West Campbell Road

Richardson, Texas 75080

972/480-8800 (Telephone)

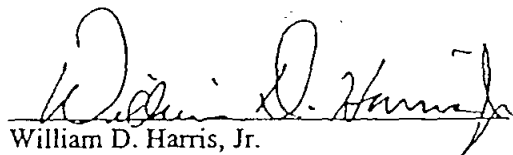
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CERTIFICATE OF SERVICE

I hereby certify that a true copy of the enclosed Plaintiff's Reply to Defendant's Counterclaim was served on the following counsel of record on December 28, 2001, by first class mail and facsimile:

Jerry R. Selinger
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1445 Ross Avenue, Suite 3200
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F. William McLaughlin
Dean A. Monco
Wood, Phillips, VanSanten,
Clark & Mortimer
500 W. Madison Street, Suite 3800
Chicago, IL 60611-2511
312/876-1800 (Telephone)
312/876-2020 (Facsimile)


William D. Harris, Jr.

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

GOLDEN BLOUNT, INC.

Plaintiff,

v.

ROBERT H. PETERSON CO.

Defendant.

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Civil Action No. 3-01CV0127-R

**DEFENDANT'S ANSWERS TO PLAINTIFF GOLDEN BLOUNT, INC.'S
FIRST SET OF INTERROGATORIES**

Pursuant to Rule 34 of the Federal Rules of Civil Procedure ("FRCP"), Defendant Robert H. Peterson Co. ("Peterson") responds to Plaintiff Golden Blount, Inc.'s ("Blount") First Set of Interrogatories.

General Objections

1. Peterson objects to Blount's interrogatories and its "definitions" to the extent that they seek to impose on Peterson a duty or obligation beyond that required by Rule 33, FRCP.

2. Peterson objects to Blount's interrogatories as premature to the extent they seek Peterson's complete contentions at this early stage of discovery and prior to expert witness reports. Peterson's responses should not be considered final and are subject to modification.

3. Peterson objects to Blount's interrogatories to the extent that they call

EXHIBIT

D-61

JT-APP 2376

for information subject to attorney-client privilege, work product immunity, or any other ground of privilege or immunity from discovery.

4. Peterson objects to Blount's interrogatories to the extent that they seek information that is not within Peterson's possession, custody or control.

5. Peterson objects to Blount's interrogatories to the extent that they may be construed to reach ongoing research and development activities which have not resulted in any products sold or distributed to the public.

6. Peterson objects to Blount's interrogatories to the extent that they seek information that is unreasonably cumulative, duplicative, or that is obtainable from some other source that is more convenient, less burdensome, or less expensive.

7. Peterson objects to Blount's interrogatories to the extent that they seek information that is irrelevant to the subject matter of this action or reasonably calculated to lead to the discovery of admissible evidence.

8. Peterson objects to Blount's interrogatories to the extent that they seek disclosure of confidential information.

9. Peterson objects to the use of the term "any associated kits" in the Interrogatories as being vague, indefinite and irrelevant to the subject matter of this action.

INTERROGATORIES

Subject to the above objections, Peterson answers as follows:

Interrogatory No. 1

1. For each of Claims 1, 17 and 19 of United States patent 5,988,159 ("the '159 patent), identify each claim limitation that RHP contends is not contained in RHP's Ember

Flame Booster and describe RHP's alleged difference between any such limitation and the corresponding element of RHP's Ember Flame Booster.

Answer to Interrogatory No. 1

With respect to claim 1 of the '159 patent, the Ember Flame Booster does not include a support means for holding an elongated primary burner tube in a raised level relative to a secondary coals burner elongated tube. The Ember Flame Booster does not include a valve positioned in a tubular gas connection means. The Ember Flame Booster does not include a primary burner tube being in communication with a gas source with a gas flow control means for controlling gas flow into the primary tube. The differences between the Ember Flame Booster and the limitations described herein are that the relationships or elements recited in the limitations do not exist in the Ember Flame Booster.

With respect to claim 17 of the '159 patent, the Peterson Ember Flame Booster does not include a secondary burner tube positioned below a primary tube. Nor does it include a connector means having a gas flow adjustment valve. Nor does it include a gas distribution port of a secondary burner tube directed away from the fireplace opening. The differences between the Ember Flame Booster and the limitations described herein are that the relationships or elements recited in the limitations do not exist in the Ember Flame Booster.

With respect to claim 19 of the '159 patent, the Peterson Ember Flame Booster does not include a connector tube attached to a second burner tube. Nor does it include a valve disposed in a connector tube. The differences between the Ember Flame Booster and the limitations described herein are that the relationships or elements recited in

the limitations do not exist in the Ember Flame Booster.

Interrogatory No. 2

2. Chronicle and describe the history of RHP's development of the Ember Flame Booster and of any associated kit, starting with the original development thereof and including any modifications made and identify the individuals involved with such original development or modification.

Answer to Interrogatory No. 2

In the mid 1960's. Bob Peterson and Vince Jankowski began to develop see-thru and circular (3-sided) gas log sets first using Robert H. Peterson Company's ("Peterson's") "F" burner (called Front Flame or Tri-Flame). This burner system was used in combination with various elbows and/or valves (including AV-1, AV-2, HE-1). All of these valves and elbows are adjustable either with a handle, or an internal screw which regulates the flow of a burner. Peterson used these valves or elbows in combinations (one, two, three or four) depending on whether the unit was singleface, see-thru, or circular, and on how many burners were most marketable, while retaining safety certification or testing.

Often times Peterson used several burners in one gas log set hooked up together, from the main gas supply along with several valves or hearth elbows, (sometimes two for one individual burner) to direct and adjust flame and to control noise.

Peterson began to sell Hearth Elbows to adjust flame size and flame noise for any "F" type burner in the late 1960's. This includes "F" (singleface), F2-9 (See-Thru), and F3 (Circular) burners.

Peterson continued to develop single face, see-thru, and circular gas log burner systems into the 1970's. Many single face gas log sets were developed with double or triple burners. Peterson used "F" burners, then "P" burners (Flame Pan) and "G4" (Glowing Ember - ½ pan with grate). Peterson used valves and elbows, some of which are shown in drawings.

"P" burners became popular in the early to mid 1970's. Some individual Flame Pans ("P") had two pipe burners (either for aesthetics or certification purposes). To certify for use in certain areas of the United States and Canada, certain combustion requirements must be met. This can be easier to accomplish on a "P" Flame Pan burner system with burner pipes or tubes in the front, (possibly middle), and back of the unit. Some versions were tested and listed or certified by either AGA, CGA, GAL, or RADCO. Peterson also put single "P" burners together in sequence for special (often very large) fireplace situations. In all of these cases valves or Hearth Elbows were used to regulate the flow of gas.

Peterson developed a "U" burner for see-thru fire places, peninsula, certain open free-standing fireplaces in the early 1980's. One version enabled adjusting the flame higher or lower to the front by using a hearth elbow valve. (See Drawing).

Peterson's "J" burner system (with upper and lower burner) began development in the early 1990's. During, this period and for a few years before 1990 several gas log and/or gas fireplace manufacturing companies began to market dual and triple burner gas log sets. Almost every company selling vented or unvented gas log sets has one or more multi-burner systems. Many have valves or elbows to regulate flow.

Peterson continued to improve its own double and triple burners, especially

the "J" burner. Peterson began experimenting with further burner systems, similar to the Ember Flame Booster, in the early 1990's at the request of customers, especially those in the Southeastern United States. Several prototypes were developed. In 1997 Peterson decided to offer the Ember Flame Booster as a catalog product and had it certified by AGA and listed by RADCO in 1998 or 1999.

Interrogatory No. 3

3. Identify each basis for any contention that any claim of the '159 patent is invalid including the identity of each prior art reference or activity on which RHP relies for such contention.

Answer to Interrogatory No. 3

At least claims 1, 17 and 19 of the '159 patent are anticipated or obvious because the alleged invention was known or used by others in this country before the invention thereof by the applicant for the '159 patent, as described above in response to Interrogatory No. 2 and shown in documents to be produced herein.

At least claims 1, 17 and 19 of the '159 patent are invalid as obvious in view of the references cited in the prosecution history of the '159 patent in combination with at least the Peterson F3 Series circular burner and related publications, and the Peterson HE-1 Adjusting Hearth Elbow and installation instructions therefor.

Interrogatory No. 4

4. Chronicle and describe the date and circumstances surrounding RHP's

first becoming aware of the '159 patent.

Answer to Interrogatory No. 4

Peterson first became aware of the '159 patent when it received the letter of December 10, 1999, from L. Dan Tucker.

Interrogatory No. 5

5. State whether you have requested an opinion or advice, legal and/or otherwise, concerning either the validity, enforceability or infringement of the '159 patent and, if so, identify all such requests, whether written or oral, and all response to such requests, whether written or oral, and for each such request and response identify the dates thereof, the substance thereof and the individuals involved.

Answer to Interrogatory No. 5

Peterson has requested advice concerning validity, enforceability and/or infringement of the '159 patent beginning in December 1999 to the present. Peterson has been given oral opinions with respect to validity and/or infringement of the '159 patent in telephone conferences between Leslie S. Bortz and F. William McLaughlin on or about December 29, 1999; February 14, 2001 and May 10, 2001.

Interrogatory No. 6

6. Identify the number of Ember Flame Boosters and associate kits sold by RHP.

Answer to Interrogatory No. 6

Peterson will provide an answer to Interrogatory No. 6 upon entry of a protective order in this action.

Interrogatory No. 7

7. Identify RHP's revenue and costs associated with the sale of Ember Flame Booster and associated kits.

Answer to Interrogatory No. 7

Peterson will provide an answer to Interrogatory No. 7 upon entry of a protective order in this action.

Interrogatory No. 8

8. Identify all customers receiving RHP's Ember Flame Boosters or associated kits.

Answer to Interrogatory No. 8

Peterson will provide an answer to Interrogatory No. 8 upon entry of a protective order in this action.

Respectfully submitted,

Jerry R. Selinger
JENKENS & GILCHRIST
1445 Ross Avenue
Suite 3200
Dallas, Texas 75202
Telephone: 214.855-4500
Facsimile: 214.855-4300

ATTORNEY FOR DEFENDANT
ROBERT H. PETERSON CO.

OF COUNSEL:

F. William McLaughlin
Dean A. Monco
WOOD, PHILLIPS, VANSANTEN,
CLARK & MORTIMER
500 West Madison Street
Suite 3800
Chicago, IL 60661-2511
Telephone: 312.876-1800
Facsimile: 312.876-2020

Leslie Bortz, being duly sworn on oath, states that I am _____ of Robert H. Peterson Co., Defendant in the above-identified litigation; that I have read the foregoing document entitled "Defendant's Answers to Plaintiff Golden Blount, Inc.'s First Set of Interrogatories"; and that, based on my knowledge and information available to me I believe the contents of the foregoing answers are true and correct; and that I sign them on behalf of Robert H. Peterson Co.

ROBERT H. PETERSON CO.

Leslie S. Bortz

Dated: May ___, 2001

STATE OF _____)
) ss.
COUNTY OF _____)

Before me, a Notary Public in and for the County and State aforesaid, appeared _____, to me personally known to be the signer of the foregoing instrument, and acknowledged execution of said instrument as a free and voluntary act for the uses and purposes therein expressed.

Dated: _____, 2001

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CERTIFICATE OF SERVICE

This certifies that a copy of the foregoing DEFENDANT'S ANSWERS TO PLAINTIFF GOLDEN BLOUNT, INC.'S FIRST SET OF INTERROGATORIES was served on Counsel for Plaintiffs by first class mail, postage prepaid, to Roy W. Hardin, Locke Liddell & Sapp LLP, 2200 Ross Avenue, Suite 2200, Dallas, Texas 75201-6776, this ___th day of May, 2001.

Jerry R. Selinger
JENKENS & GILCHRIST
1445 Ross Avenue
Suite 3200
Dallas, Texas 75202
Telephone: 214.855-4500

ATTORNEY FOR DEFENDANT
ROBERT H. PETERSON CO.

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

GOLDEN BLOUNT, INC.

Plaintiff,

v.

ROBERT H. PETERSON CO.

Defendant.

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Civil Action No. 3-01CV0127-R

**DEFENDANT'S RESPONSES TO PLAINTIFF GOLDEN BLOUNT, INC.'S
FIRST SET OF DOCUMENT REQUESTS**

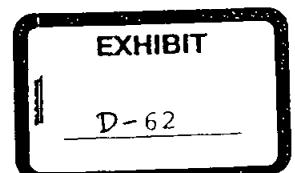
Pursuant to Rule 34 of the Federal Rules of Civil Procedure ("FRCP"), Defendant Robert H. Peterson Co. ("Peterson") responds to Plaintiff Golden Blount, Inc.'s ("Blount") First Set of Document Requests.

The documents will be produced at the office of Wood, Phillips, VanSanten, Clark & Mortimer, 500 West Madison Street, Suite 3800, Chicago, Illinois 60661-2511.

General Objections

1. Peterson objects to Blount's document requests and its "definitions" to the extent that they seek to impose on Peterson a duty or obligation beyond that required by Rule 34, FRCP.

2. Peterson objects to Blount's document requests as premature to the extent they seek Peterson's complete contentions at this early stage of discovery and prior to expert witness reports. Peterson's responses should not be considered final and are subject



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to modification.

3. Peterson objects to Blount's document requests to the extent that they call for information subject to attorney-client privilege, work product immunity, or any other ground of privilege or immunity from discovery.

4. Peterson objects to Blount's document requests to the extent that they seek information that is not within Peterson's possession, custody or control.

5. Peterson objects to Blount's document requests to the extent that they may be construed to reach ongoing research and development activities which have not resulted in any products sold or distributed to the public.

6. Peterson objects to Blount's document requests to the extent that they seek information that is unreasonably cumulative, duplicative, or that is obtainable from some other source that is more convenient, less burdensome, or less expensive.

7. Peterson objects to Blount's document requests to the extent that they seek information that is irrelevant to the subject matter of this action or reasonably calculated to lead to the discovery of admissible evidence.

8. Peterson objects to Blount's document requests to the extent that they seek disclosure of confidential information.

9. Peterson objects to the use of the term "any associated kits" in the Interrogatories as being vague, indefinite and irrelevant to the subject matter of this Action or reasonably calculated to lead to the discovery of admissible evidence.

DOCUMENT REQUESTS

Subject to the above objections, Peterson responds as follows:

Request No. 1

1. All documents and things concerning RHP's Ember Flame Booster or any associated kits.

Response to Request No. 1

Responsive documents, if any, will be produced. Responsive documents containing confidential information will be produced only upon entry of a protective order in this action.

Request No. 2

2. Drawings, specifications and materials concerning RHP's Ember Flame Booster sufficient to describe the structure and operation thereof.

Response to Request No. 2

Responsive documents, if any, will be produced. Responsive documents containing confidential information will be produced only upon entry of a protective order in this action.

Request No. 3

3. All documents and things concerning the original development of RHP's Ember Flame Booster.

Response to Request No. 3

Responsive documents, if any, will be produced. Responsive documents containing confidential information will be produced only upon entry of a protective order in this action.

Request No. 4

4. All documents and things concerning the original development of any kit associated with RHP's Ember Flame Booster.

Response to Request No. 4

No responsive documents exist.

Request No. 5

5. All documents and things concerning any design or operation change ever made to RHP's Ember Flame Booster.

Response to Request No. 5

No responsive documents exist.

Request No. 6

6. All documents and things concerning any design or operation change ever made to any kit associated with RHP's Ember Flame Booster.

Response to Request No. 6

No responsive documents exist.

Request No. 7

7. A copy of each version of any installation or operation instruction manual, pamphlet or other similar document sold with or provided to any customer of RHP's Ember Flame Booster or associated kits.

Response to Request No. 7

Responsive documents, if any, will be produced.

Request No. 8

8. All documents and things concerning United States Patent 5,988,159 ("the '159 patent").

Response to Request No. 8

Responsive documents, if any, will be produced. Responsive documents containing confidential information will be produced only upon entry of a protective order in this action.

Request No. 9

9. All documents and things concerning any prior art to the '159 patent which RHP contends invalidates any claim of the '159 patent.

Response to Request No. 9

Responsive documents, if any, will be produced.

Request No. 10

10. All documents and things concerning the date and circumstances surrounding RHP's first becoming aware of the '159 patent.

Response to Request No. 10

Responsive documents, if any, will be produced.

Request No. 11

11. Documents sufficient to indicate the number of Ember Flame Boosters and associated kits sold by RHP.

Response to Request No. 11

Responsive documents, if any, will be produced. Responsive documents containing confidential information will be produced only upon entry of a protective order in this action.

Request No. 12

12. Documents sufficient to indicate RHP's revenue and costs associated with the sale of Ember Flame Booster and associated kits.

Response to Request No. 12

Responsive documents, if any, will be produced. Responsive documents containing confidential information will be produced only upon entry of a protective order in this action.

Request No. 13

13. Documents sufficient to indicate the identity of all customers receiving RHP's Ember Flame Boosters and associated kits.

Response to Request No. 13

Responsive documents, if any, will be produced. Responsive documents containing confidential information will be produced only upon entry of a protective order in this action.

Respectfully submitted,

Jerry R. Selinger
JENKENS & GILCHRIST
1445 Ross Avenue
Suite 3200
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Telephone: 214.855-4500
Facsimile: 214.855-4300

ATTORNEY FOR DEFENDANT
ROBERT H. PETERSON CO.

OF COUNSEL:

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WOOD, PHILLIPS, VANSANTEN,
CLARK & MORTIMER
500 West Madison Street
Suite 3800
Chicago, IL 60661-2511
Telephone: 312.876-1800
Facsimile: 312.876-2020

CERTIFICATE OF SERVICE

This certifies that a copy of the foregoing DEFENDANT'S RESPONSES TO PLAINTIFF GOLDEN BLOUNT, INC.'S FIRST SET OF DOCUMENT REQUESTS was served on Counsel for Plaintiffs by first class mail, postage prepaid, to Roy W. Hardin, Locke Liddell & Sapp LLP, 2200 Ross Avenue, Suite 2200, Dallas, Texas 75201-6776, this ___th day of May, 2001.

Jerry R. Selinger
JENKENS & GILCHRIST
1445 Ross Avenue
Suite 3200
Dallas, Texas 75202
Telephone: 214.855-4500

ATTORNEY FOR DEFENDANT
ROBERT H. PETERSON CO.

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

GOLDEN BLOUNT, INC.,

Plaintiff,

v.

ROBERT H. PETERSON CO.,

Defendant.

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Civil Action No. 3-01CV0127-R

**PLAINTIFF GOLDEN BLOUNT, INC.'S
RESPONSE TO DEFENDANT'S FIRST SET OF DOCUMENT REQUESTS**

Pursuant to Fed. R. Civ. P. 34, Plaintiff Golden Blount, Inc. ("Golden Blount") objects and responds to Defendant Robert H. Peterson Co.'s ("RHP") First Set of Requests For Production Of Documents And Things.

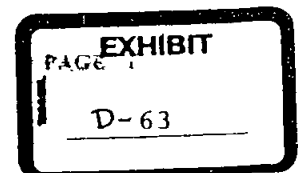
General Objections

Golden Blount objects to RHP's "Discovery and Instructions" and provides its general objections as follows, which are hereafter referenced as General Objections and are hereby incorporated into each of Golden Blount's responses to RHP's individual document requests:

1. Golden Blount objects to RHP's "Discovery and Instructions" to the extent they seek to impose greater burdens on Golden Blount than those required by the Federal Rules of Civil Procedure. In responding to RHP's Document Requests, Golden Blount responds in accordance with its obligations under the Federal Rules of Civil Procedure.

2. Golden Blount specifically objects to the definition of "plaintiff" or "Blount" in Paragraph D of RHP's "Discovery and Instructions" as far too broad, inclusive, and unreasonable. Golden Blount will respond to RHP's Document Requests using only documents

PLAINTIFF'S RESPONSE TO DEFENDANT'S
FIRST SET OF DOCUMENT REQUESTS



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in the possession, custody, or control of Golden Blount. Golden Blount objects to RHP's Document Requests to the extent they seek the production of documents not within Golden Blount's custody, possession or control.

3. Golden Blount objects to RHP's Document Requests to the extent that they seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

4. Golden Blount objects to RHP's Document Requests to the extent they seek the production of documents that are publicly available.

5. Golden Blount objects to RHP's Document Requests to the extent they seek production of Golden Blount's trade secret and other confidential research, development, or commercial information (hereinafter "Golden Blount's Confidential Information").

6. Golden Blount objects to being required to produce documents at a time or place or in a manner other than as mutually agreed upon by counsel for the parties. Golden Blount reserves the right to produce documents where they ordinarily are kept. Fed. R. Civ. P. 34(b) requires service of a written response within thirty (30) days but it does not require Golden Blount to produce the documents or to make them available for inspection in that same time.

7. Golden Blount objects to RHP's Document Requests to the extent that they purport to seek "all" documents, where a limited number of documents would provide the requested information, on the grounds that such a requirement makes the document requests overly broad, unduly burdensome and oppressive.

Responses and Objections to RHP's Specific Requests

RHP's Request No. 1

The alleged infringement (direct, contributory, and/or induced) by defendant of the patent in suit and/or to the charge that defendant infringes in any manner the patent in suit.

Response and Objections

Subject to its General Objections, Golden Blount will produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 2

Each theory, contention, or analysis by which defendant may be considered to infringe the patent in suit.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Subject to its General Objections and specific objection, Golden Blount will produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 3

Communications between plaintiff and any other person or entity, including outside consultants and defendant, which relate in any manner to the patent-in-suit, defendant's alleging infringing product, defendant's apparatus by which defendant's alleging infringing product may be practiced, or the charge of infringement against defendant.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Subject to its General Objections and specific objection, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 4

Communications or writings which mention defendant and which refer to a dual burner/burner assembly, apparatus by which the alleging infringing product may be practiced, or the patent-in-suit.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Subject to its General Objections and specific objection, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 5

Publications and unpublished manuscripts of any employee, consultant, or the like of plaintiff which relate or refer to any dual burner/burner assembly or any apparatus by which a dual burner/burner assembly may be practiced.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 6

Communications or writings which refer to any third party and which relate to any dual burner/burner assembly, apparatus by which any dual burner/burner assembly may be practiced, or to the patent in suit.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 7

The patent-in-suit, including any certificate of correction, parent, continuation, continuation-in-part, divisional, reissue, reexamination, or similar related application(s) in the U.S. and abroad.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount objects to this request to the extent that it seeks "similar related application(s) in the U.S. and abroad" because that phrase is vague.

Golden Blount objects to this request to the extent it seeks to impose greater burdens on Golden Blount than those required by the Federal Rules of Civil Procedure. In responding to this

request, Golden Blount responds in accordance with its obligations under the Federal Rules of Civil Procedure.

Golden Blount objects to this request to the extent it seeks the production of documents that are publicly available.

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and its specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 8

The conception, reduction to practice (including discovery, design, development, and testing), and diligence in reducing to practice the alleged invention of the patent-in-suit.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and its specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 9

The dates of the first (a) use, (b) offer to sell, and (c) sale of plaintiff's apparatus by which plaintiff's dual burner/burner assembly (disclosed and claimed in the patent-in-suit) may be practiced, whether deemed experimental or otherwise.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and its specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 10

Domestic and foreign patent applications of plaintiff, including their file histories, which comprise, relate to, or refer in any way to the subject matter disclosed in the patent in suit or which are counterparts of the patent-in-suit.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount object to this request to the extent it seeks documents "which comprise, relate to, or refer in any way to the subject matter disclosed in the patent in suit" because it is overbroad and indefinite.

Golden Blount objects to this request because the phrase "which are counterparts" is vague.

Golden Blount objects to this request to the extent it seeks to impose greater burdens on Golden Blount than those required by the Federal Rules of Civil Procedure. In responding to this request, Golden Blount responds in accordance with its obligations under the Federal Rules of Civil Procedure.

Golden Blount objects to this request to the extent it seeks the production of documents that are publicly available.

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and its specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 11

Patents or patent applications including file histories owned in whole or in part by plaintiff which claim, disclose, describe, or relate to any dual burner/burner assembly or any apparatus by which any dual burner/burner assembly may be practiced.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount objects to this request to the extent it seeks to impose greater burdens on Golden Blount than those required by the Federal Rules of Civil Procedure. In responding to this

request, Golden Blount responds in accordance with its obligations under the Federal Rules of Civil Procedure.

Golden Blount objects to this request to the extent it seeks the production of documents that are publicly available.

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and its specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 12

Plaintiff's issued domestic or foreign patents, or pending domestic or foreign patent applications, which contain claims that would allegedly be infringed in any manner by defendant's dual burner/burner assembly or by defendant's apparatus having the capability of practicing any dual burner/burner assembly.

Response and Objections

Golden Blount objects to this request because the phrase "that would allegedly be infringed in any manner" is vague, purports to relate to future and/or to hypothetical events and seems to call for a legal conclusion rather than the production of documents.

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount objects to this request to the extent it seeks to impose greater burdens on Golden Blount than those required by the Federal Rules of Civil Procedure. In responding to this

request, Golden Blount responds in accordance with its obligations under the Federal Rules of Civil Procedure.

Golden Blount objects to this request to the extent it seeks the production of documents that are publicly available.

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and its specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 13

Prior art patents, printed publications, uses, disclosures or whatever kind, and sales and/or offers to sell relating to the subject matter of the patent in suit to plaintiff's dual burner/burner assembly or to apparatus by which any dual burner/burner assembly may be practiced.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 14

Prior art searches relating to the patent-in-suit including all prior art identified in such searches.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount also objects to this request to the extent it is duplicative of Request No. 13.

Subject to its General Objections and specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 15

Opinions, analyses, and writings, whether technical or lay and/or by counsel, referring to the validity or invalidity, enforceability or unenforceability, and/or to infringement or non-infringement by defendant and/or others, of the patent-in-suit.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Subject to its General Objections and specific objection, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 16

Prior art which is indicative of the scope and content of the prior art at the time the alleged invention (as defined by the claims of the patent-in-suit) was developed.

Response and Objections

Golden Blount objects to this request because the phrase "which is indicative" is vague and to the extent that this request seems to call for a legal conclusion rather than for the production of documents.

Golden Blount objects to this request to the extent that it is duplicative of Requests Nos. 13 and 14. See Golden Blount's response and objections to Requests Nos. 13 and 14.

RHP's Request No. 17

Differences between the scope and content of the prior art and the alleged invention (as defined by the claims of the patent-in-suit).

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Subject to its General Objections and specific objection, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 18

Any re-examination and/or reissue of the patent-in-suit and/or its foreign counterparts.

Response and Objections

Subject to its General Objections and specific objection, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 19

Any oppositions and/or nullity suits filed against the patent-in-suit and/or its foreign counterparts.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 20

Third parties being charged to infringe the patent-in-suit.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 21

Any litigation involving the patent-in-suit, including all documents produced, received, copied, and/or filed with any court

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount objects to this request to the extent it seeks the production of documents that are publicly available.

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 22

Any license, agreement, or other conveyance or agreement (including drafts of such documents) relating to any rights in or to the patent in suit between plaintiff, the named alleged inventors, and any third parties.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 23

Each agreement, including agreements not currently in force, to which plaintiff is or was a party, which agreement requires the payment of royalties and/or other consideration for any dual burner/burner assembly or use of any apparatus by which a dual burner/burner assembly may be practiced.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 24

Any offer by plaintiff of a license under the patent-in-suit, any request by any third party for such a license, and any response to each such request or offer.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 25

The discovery, development, testing and/or commercialization by plaintiff of any dual burner/burner assembly or any apparatus by which a dual burner/burner assembly may be practiced.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount objects to this request to the extent it seeks to impose greater burdens on Golden Blount than those required by the Federal Rules of Civil Procedure. In responding to this request, Golden Blount responds in accordance with its obligations under the Federal Rules of Civil Procedure.

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and its specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same

available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 26

Grants, contracts, and/or other agreements which relate to or which support the conception, reduction to practice, and/or development or testing of any plaintiff's dual burner/burner assembly or any plaintiff's apparatus by which a dual burner/burner assembly may be practiced.

Response and Objections

Golden Blount objects to this request to the extent that it is duplicative of Request No. 25.

See Golden Blount's response to Request No. 25.

RHP's Request No. 27

Studies, experiments, and/or opinions relating to or dealing with comparisons between defendant's dual burner/burner assembly and plaintiff's dual burner/burner assembly, or between defendant's apparatus by which a dual burner/burner assembly may be practiced.

Response and Objections

Golden Blount objects to this request to the extent that it seek documents that are protected by the attorney-client privilege, that constitute attorney work product or that are otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

Golden Blount objects to this request to the extent it seeks to impose greater burdens on Golden Blount than those required by the Federal Rules of Civil Procedure. In responding to this request, Golden Blount responds in accordance with its obligations under the Federal Rules of Civil Procedure.

Golden Blount objects to this request to the extent it seeks production of Golden Blount's Confidential Information.

Subject to its General Objections and its specific objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same

available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 28

Each dual burner/burner assembly, and/or each apparatus by which a dual burner/burner assembly may be practiced, described by or for plaintiff or distributed by or for plaintiff including, without limitation, advertisements, sales bulletins to dealers or distributors, direction inserts, and all other informational and/or promotional materials.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 29

Any dual burner/burner assembly or apparatus by which any dual burner/burner assembly may be practiced, which originated with and/or was obtained from defendant.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

RHP's Request No. 30

All documents identified in Plaintiff's Responses to Defendant's First Set of Interrogatories served simultaneously herewith.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

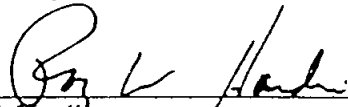
RHP's Request No. 31

To the extent not already produced, all documents containing information called for in any of Interrogatory Nos. 1 through 9, served contemporaneously herewith.

Response and Objections

Subject to its General Objections, Golden Blount will, after entry of an appropriate protective order, produce responsive documents, if any, or make same available for inspection that are within its possession, custody, or control, and that it can locate through reasonable diligence.

Respectfully submitted,

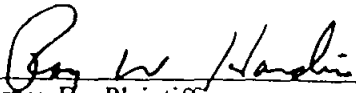


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**ATTORNEYS FOR PLAINTIFF
GOLDEN BLOUNT, INC.**

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing has been served on the following by the manner indicated on June 22, 2001.



Attorney For Plaintiff
Golden Blount, Inc.

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DAM FWM

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

GOLDEN BLOUNT, INC.,

Plaintiff,

v.

ROBERT H. PETERSON CO.,

Defendant.

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Civil Action No. 3-01CV0127-R

**PLAINTIFF GOLDEN BLOUNT, INC.'S
ANSWERS AND OBJECTIONS TO DEFENDANT'S
FIRST SET OF INTERROGATORIES**

Pursuant to Fed. R. Civ. P. 33, Plaintiff Golden Blount, Inc. ("Golden Blount") answers and objects to Defendant Robert H. Peterson Co.'s ("RHP") First Set of Interrogatories.

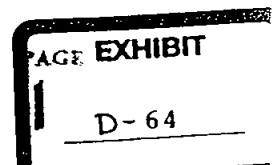
General Objections

Golden Blount objects to RHP's "Discovery and Instructions" and provides its general objections as follows, which are hereafter referenced as General Objections and are hereby incorporated into each of Golden Blount's answers to RHP's individual interrogatories:

1. Golden Blount objects to RHP's "Discovery and Instructions" to the extent they seek to impose greater burdens on Golden Blount than those required by the Federal Rules of Civil Procedure. In responding to RHP's Interrogatories, Golden Blount responds in accordance with its obligations under the Federal Rules of Civil Procedure.

2. Golden Blount specifically objects to the definition of "plaintiff" or "Blount" in Paragraph D of RHP's "Discovery and Instructions" as far too broad, inclusive, and unreasonable. Golden Blount will respond to RHP's Interrogatories using only the information in the possession, custody, or control of Golden Blount. Golden Blount objects to RHP's

PLAINTIFF'S ANSWERS AND OBJECTIONS TO
DEFENDANT'S FIRST SET OF INTERROGATORIES



JT-APP 2415

Interrogatories to the extent they seek information not within Golden Blount's custody, possession or control.

3. Golden Blount objects to RHP's Interrogatories to the extent that they seek information that is protected by the attorney-client privilege, that constitutes attorney work product or that is otherwise not subject to discovery by virtue of Fed. R. Civ. P. 26(b)(3).

4. Golden Blount objects to RHP's Interrogatories to the extent they seek information that is publicly available.

5. Golden Blount objects to RHP's Interrogatories to the extent they seek production of Golden Blount's trade secret and other confidential research, development, or commercial information (hereinafter "Golden Blount's Confidential Information").

6. Golden Blount objects to RHP's Document Requests to the extent that they purport to seek "all" documents, where a limited number of documents would provide the requested information, on the grounds that such a requirement makes the document requests overly broad, unduly burdensome and oppressive.

7. Pursuant to Fed. R. Civ. P. 33(d), Golden Blount objects to RHP's Interrogatories to the extent that the burden of deriving or ascertaining the answer is substantially the same for RHP as it is for Golden Blount. Golden Blount therefore may exercise its option to produce documents to RHP in response to a specific interrogatory instead of taking on the burden to derive or ascertain an answer.

Responses And Objections To RHP's Specific Interrogatories

INTERROGATORY NO. 1:

With respect to the alleged invention (as defined by any asserted claim) of the patent-in-suit, provide all facts relating to the alleged invention. (This includes, but is not limited to, date of conception, where, by whom and under what circumstances the alleged invention of the claim was conceived, with a complete chronology of the development of the invention claimed in the application for the patent-in-suit, from the time of the initial conception to the filing date of the application for the patent-in-suit, describing all of the acts which occurred in the development, the dates on which they occurred, the persons involved, and the reasons for any changes or alterations made, and the date of the first actual reduction to practice of the alleged invention of the claim of the patent-in-suit and the date, place and circumstances of the first disclosure to another of the alleged invention of the claim of the patent-in-suit, and the identity of the persons to whom it was disclosed.)

ANSWER:

Golden Blount objects to this Interrogatory to the extent that it poses purely questions of law.

Subject to its General Objections and specific objections, Golden Blount provides the following answer:

The invention claimed in the '159 patent was conceived of by Golden Blount. The invention was conceived sometime in the spring of 1993, but certainly before the initial patent filing which occurred on May 17, 1993. At that time no one had a product which provided for controlled flames in front and lower than the main burner so as to provide an ember glow effect. Several prototypes were built that included a separate ember flame tube that ran in front of and parallel to the main burner. However, such arrangements did not work well due to variables such as differences in gas pressure and in the draw of a particular fireplace where the unit was installed. The development occurred at Plaintiff's place of business. After several failed attempts, the concept of employing a separate valve to control the gas flow through the ember flame tube was considered. A prototype was made and tested and was recognized to be superior in adaptability and performance to any of the previous efforts. Others to whom the invention

was first disclosed include Golden Blount's sons who were working with their father at the time. It is believed that the invention had been made and initially tested at least as early as the filing of the original application in the United States Patent Office in May of 1993.

INTERROGATORY NO. 2:

With regard to the named inventor of the patent-in-suit, provide all facts relating to his employment history during the relevant time period. (This includes, but is not limited to, the named inventor's present employer and position, and job responsibilities to the extent known, his present business and home addresses and telephone numbers, a chronology of his employers, position and job responsibilities starting at the time of the alleged conception as to the claim of the patent-in-suit and ending with actual or constructive reduction to practice, and the identity of all of those who participated in any of the activity with him (from conception to reduction to practice), including the title and job responsibilities of each such person and the nature and extent of his or her participation, to the extent not set forth in response to Interrogatory No. 1.)

ANSWER:

Subject to its General Objections, Golden Blount provides the following answer:

The inventor, Mr. Golden Blount, was the owner of Golden Blount, Inc. and was also its chief operating officer at that time. He continues in those roles up through the present time. His home address is 5310 Harbor Town, Dallas TX, 75287.

INTERROGATORY NO. 3:

With respect to the patent-in-suit, provide all information relevant to the issue of on-sale bar. (This includes, but is not limited to, the date of the first offer of sale by anyone, the date of the first sale by anyone, and the date of the first use, commercial or otherwise, by anyone of a dual burner/burner assembly or any apparatus by which any dual burner/burner assembly could be practiced embodying the alleged invention of the claim of the patent-in-suit; and the identity of the vendor and the customer to whom each said first offer of sale, first sale and first use was made.)

ANSWER:

Golden Blount objects to this Interrogatory to the extent that it poses purely questions of law.

Golden Blount objects to this Interrogatory to the extent that it seeks information that is not within its possession, custody or control.

Subject to its General Objections and specific objections, Golden Blount provides the following answer:

There was no sale of the invention until approximately November of 1993. Records of the first sale may not be available but will be produced if they can be located upon a reasonable search.

INTERROGATORY NO. 4:

With respect to charges of infringement against Peterson, apply each limitation thereof separately to each dual burner/burner assembly and apparatus alleged to be infringing, including whether each claim element assertedly is infringed by reliance on the Doctrine of Equivalents. As to any element as to which Blount contends the Doctrine of Equivalents is applicable, state all facts which Blount contends may prove that Peterson's dual burner/burner assembly or any apparatus by which any dual burner/burner assembly could be practiced embodies substantially the same means performing substantially "the same function" "in substantially the same way" to "accomplish substantially the same result" as that claimed.

ANSWER:

Golden Blount objects to this Interrogatory to the extent that it poses purely questions of law.

Golden Blount objects to this Interrogatory as premature. RHP has objected to the production of its responsive documents until the Court enters a Protective Order. Without the benefit of discovery, Golden Blount cannot at this time provide the level of detail and specificity

requested. Golden Blount will amend its answer in the future should RHP provide the discovery requested by Golden Blount.

Subject to its General Objections, Golden Blount provides the following answer:

RHP markets a kit called the Ember Flame Booster which can be found at its web site at <http://www.rhpeterson.com>. The ad states in part, "The Realism and excitement of your Real Fyre Gas Log set is amplified by the Ember Flame Booster (EMB Series). This easy to install accessory adds dramatic front flames to your gas log set and magnifies its beauty. The Ember Flame Booster is available for Log Set sizes 18", 24", or 30" for natural gas only. Plus the Ember flame Booster has an independent control allowing for adjustable front flame and glowing ember setting."

This Ember Flame Booster set directly and literally infringes at least Claim 17 of the patent-in-suit. It is an embers-burner apparatus suitable for attaching to a gas-fired primary artificial log burner tube. It includes a secondary coal burning elongated tube. It has a connector for connecting the terminal end of the primary burner tube with the secondary burner tube in a position substantially parallel, forward and below the primary tube. The connector means has interposed between the primary and secondary burner tubes a gas flow adjustment valve. The primary and secondary burner tubes have a plurality of discharge ports. The secondary burner being in gas flow communication with the primary burner via the connection means and the gas distribution ports of the secondary burner are directed away from the fireplace opening. The infringement is literal.

INTERROGATORY NO. 5:

With respect to the patent-in-suit, and to the extent not identified in response to Interrogatory No. 1, identify each person who was involved in the preparation or prosecution of each patent application leading up to the patent-in-suit. For each such person, state what work he or she performed concerning each such patent application.

ANSWER:

Subject to its General Objections, Golden Blount provides the following answer:

Golden Blount – initial application and drawings.

David Carstens – patent attorney – preparation of CIP.

Henry Croskell – patent attorney – prosecution of patent

L. Dan Tucker – patent attorney – prosecution of patent

INTERROGATORY NO. 6:

Identify all foreign patents or applications for foreign patents corresponding to, or which claim a priority date based upon, or which resulted from the activity that evolved into the subject matter of, the U.S. application for the patent-in-suit.

ANSWER:

None.

INTERROGATORY NO. 7:

With respect to the patent-in-suit, provide all facts known about prior or contemporaneous development of any dual burner/burner assembly. (This includes, but is not limited to, the identity all persons other than Blount who were known to Blount or the named inventor of the patent-in-suit to be working on any dual burner/burner assembly prior to April 2, 1996, and the identity all persons with whom Blount or the alleged inventors of the patent-in-suit discussed any dual burner/burner assembly, either orally or by written correspondence or otherwise, prior to April 2, 1996.)

ANSWER:

Subject to its General Objections, Golden Blount provides the following answer:

All relevant facts known about prior or contemporaneous development of any dual burner/burner assembly were disclosed to the U.S. Patent Office during the prosecution of the patent-in-suit. Pursuant to Fed. R. Civ. P. 33(d), Golden Blount will produce a copy of the prosecution history of the patent in suit. At this time Plaintiff does not recall anyone else who was working on this problem during the time of the invention.

INTERROGATORY NO. 8:

With respect to the patent-in-suit, identify any licenses or any rights of any kind granted to anyone under the patent-in-suit, or under any of the applications which resulted in the patent-in-suit, or under any corresponding foreign patent or application. Describe how any licensees under the patent-in-suit or Blount have marked the number of the patent-in-suit on any dual burner/burner assembly or any apparatus by which any dual burner/burner assembly could be practiced, and state whether all products sold by Blount or its licensees have been so marked.

ANSWER:

None.

INTERROGATORY NO. 9:

With respect to the subject matter of the patent-in-suit, to the extent that Blount relies upon any of the secondary consideration of *Graham v. John Deere*, 383 U.S. 1 (1966), for determining obviousness or nonobviousness, set forth all relevant facts relating to any such consideration and identify all persons and documents relating thereto.

ANSWER:

Golden Blount objects to this Interrogatory to the extent that it poses purely questions of law.

Golden Blount objects to this Interrogatory as premature. Moreover, the patent in suit is presumptively valid and therefore nonobvious. Other than mere allegations, RHP has failed to provide information concerning any secondary consideration that would tend to show that any claim of the patent-in-suit is obvious. However the patent application file history contains information regarding the substantial commercial success enjoyed by the invention once it was introduced to the market. Those sales, which have continued, have also contributed to sales of basic gas log sets because the realism provided by the invention causes increased consumer interest in the sets. Also, there have been several copies of the invention introduced to the market, including defendant's infringing products. These copies demonstrate the effectiveness of the invention. Plaintiff is unaware of anyone who solved the ember glow problem the way this invention does and finds it curious that Defendant, a long time manufacturer in the marketplace, claims the invention to be "obvious" but obviously copied it and did not independently discover or invent it until after the market success of Plaintiff.

INTERROGATORY NO. 10:

Identify all prior art dual burner/burner assemblies (regardless of which subpart of 35 U.S.C. § 102 make it prior art) known to the named inventor of the patent-in-suit or any attorney involved therewith prior to or during the pendency before the Patent and Trademark Office of the applications(s) for the patent-in-suit.

ANSWER:

Pursuant to Fed. R. Civ. P. 33(d), Golden Blount objects to this Interrogatory to the extent that it calls for information that RHP can obtain from reviewing the prosecution history of the patent in suit.

Golden Blount objects to this Interrogatory to the extent that it is duplicative of Interrogatory No. 7.

Subject to its General Objections, Golden Blount provides the following answer:

All information concerning any prior art dual burner/burner assemblies known to Golden Blount or to any attorney involved therewith prior to or during the pendency before the Patent and Trademark Office of the applications(s) for the patent-in-suit were disclosed to the U.S. Patent Office during the prosecution of the patent-in-suit. Pursuant to Fed. R. Civ. P. 33(d), Golden Blount will produce a copy of the prosecution history of the patent in suit.

INTERROGATORY NO. 11:

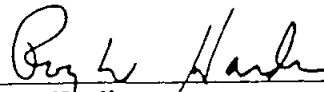
With respect to any other litigation involving the patent-in-suit, provide all relevant information about all such suits. (This includes, but is not limited to, the identity of all parties to each lawsuit, the date(s) each law suit was commenced and concluded, the jurisdiction where each lawsuit was filed, the status of each lawsuit, and identify all documents produced, inspected, copied or offered for inspection in conjunction with each lawsuit.)

ANSWER:

Subject to its General Objections, Golden Blount provides the following answer:

Golden Blount is unaware of any other litigation involving the patent-in-suit.

Respectfully submitted,



As to objections:

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**ATTORNEYS FOR PLAINTIFF
GOLDEN BLOUNT, INC.**

As to answers:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Golden Blount

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing has been served on the following by the manner indicated on Jan 22, 2001.



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Golden Blount, Inc.

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