2011-1301

United States Court of Appeals for the Federal Circuit

CLS BANK INTERNATIONAL,

Plaintiff-Appellee,

and

CLS SERVICES LTD.,

Counterclaim-Defendant Appellee,

v.

ALICE CORPORATION PTY. LTD.,

Defendant-Appellant.

Appeal from the United States District Court for the District of Columbia in case no. 07-CV-0974, Judge Rosemary M. Collyer.

BRIEF OF AMICUS CURIAE THE JUHASZ LAW FIRM, P.C. ON *EN BANC* REHEARING SUPPORTING NEITHER PARTY.

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UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT
***CLS BANK v. ALICE CORPORATION*, 2011-1301**

CERTIFICATE OF INTEREST

Counsel for the *Amicus Curiae* The Juhasz Law Firm, P.C. certifies the following:

1. The full names of every party or amicus represented by me is:
   The Juhasz Law Firm, P.C.

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:
   NONE

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of *amicus curiae* represented by me are:
   NONE

4. The names of all law firms and the partners or associates that appeared for the amicus· curiae now represented by me in the trial court or agency or that are expected to appear in this Court are:
   Paul R. Juhasz, The Juhasz Law Firm, P.C.

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BRIEF OF AMICUS CURIAE THE JUHASZ LAW FIRM, P.C. ON *EN BANC* REHEARING SUPPORTING NEITHER PARTY.

The Juhasz Law Firm, P.C. submits this brief as an *amicus curiae* pursuant to Fed. R. App. P. 29 and Rule 29 of this Court to address the questions set forth by this Court in its October 9, 2012 Order setting the case for *en banc* rehearing. The Order provides that amicus briefs may be filed without leave of this Court. Both the plaintiffs and the defendant have consented to the filing of this brief. Amici have no direct stake in the result of this appeal. Pursuant to Circuit Rule 29(c)(5), no party's counsel authored the brief in whole or in part, no party contributed money intended to fund preparing or submitting the brief, and no person other than the Amici or their counsel contributed money towards preparing or submitting this brief.

INTEREST OF AMICUS CURIAE

The author of this brief is a registered patent practitioner with law and science degrees and is a member of the patent firm The Juhasz Law Firm, P.C. Paul R. Juhasz has been practicing for 29 years and holds a B.S.Chem.E., a B.S.E.E., a J.D., and a P.E. Paul R. Juhasz deals with the issue of subject matter patentability for clients on a regular basis. Mr. Juhasz has written extensively and is extensively published on the Supreme Court's *Bilski* decision and subject matter patentability under 35 U.S.C. §101. He files this brief solely on behalf of the Firm and not on behalf of clients of the Firm. Amicus represents neither party in this action, and offers the following views based on extensive experience on this matter.

QUESTION PRESENTED

a. What test should the court adopt to determine whether a computer-implemented invention is a patent ineligible "abstract idea"; and when, if ever, does the presence of a computer in a claim lend patent eligibility to an otherwise patent-ineligible idea?

b. In assessing patent eligibility under 35 U.S.C. § 101 of a computer-implemented invention, should it matter whether the invention is claimed as a method, system, or storage medium; and should such claims at times be considered equivalent for §101 purposes?

ARGUMENT

A. The test to determine whether a computer-implemented invention is a patent ineligible "abstract idea" should be whether steps that are central to the claim (i.e., not token extra-solution activity) have a "physical" or "virtual" link to a specific real or tangible object.

Benson, *Flook*, *Diehr*, and *Bilski* stand for the proposition that a process claim taken as a whole and excluding extra-solution activity must be tailored narrowly enough to encompass only a particular application of a fundamental principle (i.e., a law of nature, natural phenomena, or an abstract idea) rather than to preempt the principle itself. *Bilski v. Kappos*, 130 S. Ct. 3218 (2010); *Gottschalk v. Benson*, 409 U.S. 63 (1972); *Parker v. Flook*, 437 U.S. 584 (1978) and *Diamond v. Diehr*, 450 U.S. 175 (1981). The 35 U.S.C. §101 challenge post-*Bilski* thus is to define the boundary line of an invention involving an abstract idea, law of nature, or natural phenomenon beyond which the invention preempts one of these categories and is therefore unpatentable subject matter, and within which it is patentable.

While it is expected that there is no bright line rule that will work in every case, for guidance on where to define this boundary line, the *Bilski* Court pointed to the

trilogy of *Benson-Flook-Diehr* as precedent. *Bilski supra*, at 3231 From the *Benson-Flook-Diehr* spectrum of inventions involving a fundamental principle, the threshold for subject matter patentability may be gleaned; to wit, the existence of a "link" of the invention to a specific physical or tangible object. The invention in *Diehr* was held patentable because it connected to (more specifically, the data or electrical signals generated by the software *manipulated*) the physical and tangible objects of a "mold" and a "press" through the steps of "loading of the mold" and "opening of the press." Patentability in *Flook* failed since the claims were without any such link.

More specifically, the *Diehr* Court stated that "[w]e were careful to note in *Flook* that the patent application did not purport to explain how the variables used in the formula were to be selected, nor did the application contain any disclosure relating to chemical processes at work or the means of setting off an alarm or adjusting the alarm limit." *Diehr*, *supra*, at footnote 14. All the application provided was a "formula for computing an updated alarm limit." *Ibid.* One interpretation of these comments on *Flook* in *Diehr* is that there was no "link" of the data to a physical or tangible object. "[Diehr's] claims, however, are not limited to the isolated step of programming a digital computer," the Court explained. *Id.*, at footnote 15. Rather, "[they] describe a process of curing rubber beginning with the loading of the mold and ending with the opening of the press and the production of a synthetic rubber product that has been perfectly cured—a

result heretofore unknown in the art." *Ibid*. In other words, there was a "link" of the data to a specific physical or tangible object (i.e., a "manipulation" by the data of a physical or tangible object – in this case, a physical mold and press).

Hence, in *Diehr*, software that *manipulates* a specific physical or tangible object (i.e., "physically links" to a physical or tangible object) is patentable subject matter (e.g., the software manipulated data in *Diehr* signaled a device when to open the molding press and remove the cured rubber product). The same should be considered true for "virtual links", where the data that are transformed or manipulated, while not physical objects themselves, *are representations of a specific physical or tangible object*, as in the Fifth claim of *Morse* (e.g., Morse code dot and dash signs representing the changing state of a physical switch or tangible on-off tones, lights, or clicks in telegraphic use were held patentable). *O'Reilly v. Morse*, 56 U.S. 62 (1853).

The *Morse* case is one of the bedrock cases in US patent jurisprudence. In his original 1837 petition to the Commissioner of Patents, Morse described his fifth claim as: "[a] dictionary or vocabulary of words, numbered and adapted to this system of telegraph." *Id*., at 76. In the 1848 reissue of the patent, Morse's fifth claim recited:

> "the system of signs, consisting of dots and spaces, and of dots, spaces, and horizontal lines, for numerals, letters, words, or sentences, substantially as herein set forth and illustrated, for telegraphic purposes." *Id.*, at 86.

In examining Morse's fifth claim, the Supreme Court held: "We perceive no well-founded objection . . . to his right to a patent for the first seven inventions set forth in the specification of his claims." *Id*., at 112. In other words, the fifth claim recited patentable subject matter. *Id*., at 112.

The Morse system claim was patentable arguably because the recited system *represented* a physical object (e.g., Morse code dot and dash signs representing the change in state of a physical object (e.g., switch)) or a tangible object (such as on-off tones, lights, or clicks in telegraphic use) despite arguably recited without any physical link to (*i.e.*, any physical manipulation of) any physical or tangible objects. Hence, an invention that *manipulates data representing a specific physical or tangible object* (i.e., that contains a "virtual link") should also be subject matter patentable under the Supreme Court's *Morse* precedent.

Also instructive on "virtual links", that is, the idea that *manipulation of data representing a physical or tangible object* is sufficient to provide patentable subject matter, is *In re Abele*, 684 F.2d 902 (CCPA 1982). In *Abele* the Court of Customs and Patent Appeals held unpatentable a broad independent claim reciting a process of graphically displaying variances of data from average values. *Id*., at 908. That claim did not specify any particular type or nature of data; nor did it specify how or from where the data was obtained or what the data represented. One dependent claim, however, was drawn to patent-eligible subject matter where it recited that "said data is X-ray attenuation data produced in a two dimensional

field by a computed tomography scanner." *Id*., at 908-909. As was explained by the Federal Circuit in *In re Bilski*, 2008 U.S. App. LEXIS 22479,*; 545 F.3d 943; 88 U.S.P.Q.2D (BNA) (Fed. Cir. 2008) (en banc), the data in *Abele*: "clearly represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. Thus, the transformation of that raw data into a particular visual depiction of a physical object on a display was sufficient to render that more narrowly claimed process patent-eligible." *Id*., at *50.

The term "physical" or "tangible" covers all things that exist in the real world rather than things that are imaginary or that exist only in the mind. Anything existing in the real world includes both physical things that can be directly manipulated, and tangible things, such as electrical signals, electromagnetic radiation, sound, light, or chemical properties which, while existing in the real world, may only be manipulated indirectly, such as with the assistance of a machine or apparatus, or by a chemical reaction.

The clue to the patentability of software may thus lie in the "manipulation" by the data (e.g., the electrical data or signals generated by the software instructions) of physical or tangible objects whether physically (i.e., by a "physical link") as in *Diehr* (*i.e.* , the electrical data or signals generated by the software instructions are manipulating in this case physical [not tangible] objects of a "mold" and a "press" through the steps of "loading of the mold" and "opening of the press") or virtually (i.e., by a "virtual link"), that is to say, by electrical signals or data generated by

the software instructions *representing physical or tangible objects* as in *Morse* (*e.g.,* opening or closing of a *physical* telegraphic switch or manipulation of *tangible* sound, light, etc., such as on-off tones, lights, or clicks in telegraphic use).

The "physical link" and "virtual link" patent claim approach may thus be helpful in defining that boundary line beyond which a claim preempts a fundamental principle (i.e., a law of nature, natural phenomena, or an abstract idea) and within which the claim does not under the Supreme Court's *Diehr* and *Morse* precedent.

B. Recited steps in the method claims of the U.S. 5,970,479 ("the '479 Patent") and U.S. 6,912,510 ("the '510 Patent"), and the system and product (media) claims of U.S. 7,149,720 ("the '720 Patent") and U.S. 7,725,375 ("the '375 Patent") have neither a "physical" link nor a "virtual" link and so the '479, '510, '720, and '375 Patents are not subject matter patentable under 35 U.S.C. §101.

The patents are directed to the two-part financial transaction, well known in the art, of first agreeing to a contract at one time, and then exchanging items of value, in this case making payment on the contract (i.e., settlement of the contract) at another time. The patents in *CLS* describe a system for minimizing the risk that, at the time of settlement of the contract, one bank will no longer have enough money to satisfy its payment obligation to the other under the contract. The asserted patent claims are method claims 33 and 34 of U.S. 5,970,479 ("the '479 Patent"), all method claims of U.S. 6,912,510 ("the '510 Patent"), and system and product

(media) claims of U.S. 7,149,720 ("the '720 Patent") and U.S. 7,725,375 ("the '375 Patent").

As explained above, the link of data or electrical signals generated by software instructions to something "real" (either by "physical" manipulation of a physical or tangible object, or by "virtual" manipulation of data *representing* a physical or tangible object) provides a useful clue to the patent eligibility of inventions involving processes. As explained in the following, in neither of the asserted claims, does the data of the software link to something "real." In neither of the asserted claims does the software *manipulate* a specific physical or tangible object. The asserted claims are without any "physical" or a "virtual" link and hence are unpatentable subject matter under this Court's *Diehr* and *Morse* precedent.

Method claim 33 of the '479 Patent is illustrative of '479 and '510 Patents:

> **33.** A method of exchanging obligations as between parties, each party holding *a credit record and a debit record* with an exchange institution, the credit records and debit records for exchange of *predetermined obligations*, the method comprising the steps of:
>
> (a) creating *a shadow credit record* and *a shadow debit record* for each stakeholder party to be held independently by a supervisory institution from the exchange institutions;
>
> (b) obtaining from each exchange institution *a start-of-day balance for each shadow credit record and shadow debit record*;
>
> (c) for *every transaction resulting in an exchange obligation*, the supervisory institution adjusting *each respective party's shadow credit record or shadow debit record*, allowing only these transactions that do not result in the value of the shadow debit record being less

> than the value of the shadow credit record at any time, each said adjustment taking place in chronological order; and
>
> (d) at the end-of-day, the supervisory institution instructing one of the exchange institutions to exchange *credits or debits to the credit record and debit record of the respective parties* in accordance with the adjustments of *the said permitted transactions, the credits and debits being irrevocable, time invariant obligations* placed on the exchange institutions. (emphasis added)

The operative nouns in the recited process are shown italicized above. They include terms like "a shadow credit record and a shadow debit record", "start-of-day balance", and "transaction"; not one term being a physical or tangible thing. The operative nouns are no different than the "commodity transactions" in *Bilski*, which the Supreme Court held to be abstract. *Bilski, supra*, at 3231

The operative verbs (in the form of present participles) in the recited process are shown underlined above. They include terms like "adjusting", "creating", "obtaining". They operate on abstract things like "shadow credit" and so provide no "physical" or "virtual" link to anything physical or tangible. Hence, they fail 35 U.S.C. §101 for the same reason that the "hedging" of an abstract commodity transaction in *Bilski* failed 35 U.S.C. §101.

Hence, in neither of the asserted claims of the '479 and '510 Patents can it be said that the data or electrical signals of the software instructions link to something "real." In neither of the asserted claims does the software *manipulate* a specific physical or tangible object. The asserted claims are without any "physical" or

"virtual" link and hence are unpatentable subject matter under the Supreme Court's *Diehr* and *Morse* precedent.

Illustrative of the system and product (media) claims of the '720 Patent is system claim 1 which recites:

> 1. **A data processing system** to enable the exchange of *an obligation between parties*, the system comprising:
>
> **a data storage unit having stored therein** *information about a shadow credit record and shadow debit record for a party, independent from a credit record and debit record* maintained by an exchange institution; and
>
> **a computer, coupled to** said data storage unit, that is **configured to** (a) receive *a transaction*; (b) electronically adjust *said shadow credit record and/or said shadow debit record in order to effect an exchange obligation* arising from said transaction, allowing only those transactions that do not result in a value of said shadow debit record being less than a value of said shadow credit record; and (c) generate *an instruction to said exchange institution at the end of a period of time to adjust said credit record and/or said debit record* in accordance with the adjustment of said shadow credit record and/or said shadow debit record, wherein *said instruction being an irrevocable, time invariant obligation* placed on said exchange institution. (emphasis added)

Claim 1 of the '720 Patent recites structure which has been emphasized above by bold lettering. The structure consists of the "a data processing system" recited in the preamble and the terms "a data storage unit having stored therein" and "a computer, coupled to . . . configured to", both recited in the body of the claim.

Neither recited structure *does anything other than* what conventional, systems, data storage units, and computers do – namely, provide a working order of things

(i.e., system), data storage (i.e., data storage unit), and computing (i.e., a computer). Hence, the subject matter patentability of claim 1 of the ‘720 Patent *should be determined by the functionality implemented by this structure* which is defined by the operative noun and operative verb terms and whether or not they preempt an abstract principle.

The operative nouns in the claim are shown italicized above. They include terms like “information about a shadow credit record and shadow debit record”, “obligation”, “instruction”; not one being a physical or tangible thing. The operative nouns are no different than the “commodity transactions” in *Bilski*, which the Supreme Court held to be abstract. *Ibid.*

The operative verbs (mostly recited here not as present particles as in claim 33 of the ‘479 Patent) shown underlined above *largely recite a process* implemented by the recited structure. They include terms like “the exchange of”, “ receive”, “electronically adjust”, “allowing”, “generate”. They operate on abstract things like an “obligation”, “information”, “transaction”, and so provide no “physical” or “virtual” link to anything physical or tangible. Hence, they fail 35 U.S.C. §101 for the same reason that the “hedging” of an abstract commodity transaction in *Bilski* failed 35 U.S.C. §101.

Hence, in neither of the claims of the ’720 Patent can it be said that the data or signals from the software instructions link to something “real.” In neither of the asserted claims does the software *manipulate* a specific physical or tangible object.

The asserted claims are without any "physical" or a "virtual" link and hence are unpatentable subject matter under the Supreme Court's *Diehr* and *Morse* precedent.

Illustrative of the '375 Patent is claim 39 which recites:

> 39. A **computer program product** comprising
>
> **a computer readable storage medium having** *computer readable program code* **embodied in the medium** for use by a party to exchange *an obligation* between a first party and a second party, the computer program product comprising:
>
> *program code* for causing **a computer to send a transaction** from said first party relating to *an exchange obligation arising from a currency exchange transaction* between said first party and said second party; and
>
> *program code* for causing **a computer to allow viewing** of *information relating to processing*, by a supervisory institution, *of said exchange obligation*, wherein said processing includes
>
> (1) maintaining *information about a first account* for the first party, independent from *a second account* maintained by a first exchange institution, *and information about a third account* for the second party, independent from *a fourth account* maintained by a second exchange institution;
>
> (2) electronically adjusting *said first account and said third account*, in order to effect *an exchange obligation arising from said transaction* between said first party and said second party, after ensuring that said first party and/or said second party have *adequate value in* said first account and/or said third account, respectively; and
>
> (3) generating *an instruction* to said first exchange institution and/or said second exchange institution *to adjust said second account and/or said fourth account in accordance with the adjustment of said first*

> *account and/or said third account*, wherein *said instruction being an irrevocable, time invariant obligation* placed on said first exchange institution and/or said second exchange institution. (emphasis added)

Like claim 1 of the ’720 Patent, the ‘375 Patent recites structure which has been emphasized above by bold lettering. The structure is “a computer program product”, “a computer readable storage medium”, “a computer to send a transaction”, and “a computer to allow viewing of information”.

The recited structure *does nothing other than* what conventional computer product or readable storage medium, flashed memory, or a computer to send or to allow viewing of information do – namely, provide: a computer product; readable storage medium, e.g., a setting of switches in silicon; or a computer that enables sending or viewing of information. So subject matter patentability of claim 39 of the ‘375 Patent *should be determined by the functionality implemented by this structure* which is defined by the operative noun and operative verb terms and whether or not they preempt an abstract principle.

The operative nouns in the recited process are shown italicized above. They include terms like “computer readable program code” (i.e., instructions); “obligation”; “currency exchange transaction”; “first, second, third, fourth accounts”, “information”; “adequate value”. Not one of these operative nouns is a physical or tangible thing. The italicized operative terms are no different than the “commodity transactions” in *Bilski*, which the Supreme Court held to be abstract. *Ibid.*

The operative verbs (most of them recited in the form of present participles as in process claim 33 of the '479 Patent) shown underlined above *largely recite a process* implemented by the recited structure. They include terms like "to exchange", "for causing", "maintaining", "electronically adjusting", "generating". They operate on abstract things like "information about an account" and so provide no "physical" or "virtual" link to anything physical or tangible. Hence, they fail 35 U.S.C. §101 for the same reason that the "hedging" of an abstract commodity transaction in *Bilski* failed 35 U.S.C. §101.

Hence, in neither of the claims of the '375 Patent can it be said that the data or signals from the software instructions links to something "real." In neither of the asserted claims does the software *manipulate* a specific physical or tangible object. The asserted claims are without any "physical" or a "virtual" link and hence are unpatentable subject matter under the Supreme Court's *Diehr* and *Morse* precedent.

C. *Bilski* should have a spillover effect upon the patentability of the other categories of machine, manufacture, or composition of matter since to hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.

As explained above, the system and product (media) claims of the '720 Patent and the '375 Patent have process limitations. See, for example, the operative verb terms described above. The recited structures, such as a computer, to implement these processes are general purpose devices except to the extent of

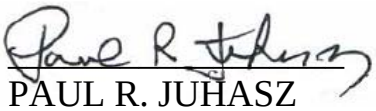
the functionality implemented in the recited structure. As previously explained, the functionality implemented by the recited structures does no more than perform abstract operations on operative nouns which as previously discussed are all abstract. The recited functionality preempt these abstract ideas and so the claims are not subject matter patentable under 35 U.S.C. §101.

Bilski should apply to these system and media claims. "To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.") *Diehr*, *supra*, at 192.

CONCLUSION

This Court should adopt the "physical" and "virtual" link test to determine whether a computer-implemented invention is a patent ineligible "abstract idea."

Respectfully submitted,



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December 4, 2012

United States Court of Appeals
for the Federal Circuit

CLS BANK v. ALICE CORPORATION, 2011-1301

CERTIFICATE OF SERVICE

I, John C. Kruesi, Jr., being duly sworn according to the law and being over the age of 18, upon my oath depose and say:

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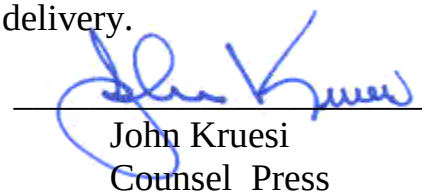
December 4, 2012



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December 4, 2012

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