

Case No. 2011-1301

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**UNITED STATES COURTS OF APPEALS FOR THE FEDERAL CIRCUIT**

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CLS BANK INTERNATIONAL,

Plaintiff-Appellee,

and

CLS SERVICES LTD.,

Counterclaim-Defendant Appellee,

v.

ALICE CORPORATION PTY. LTD.,

Defendant-Appellant.

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

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**BRIEF OF AMICUS CURIAE Sigram Schindler Beteiligungsgesellschaft  
mbH,  
IN SUPPORT OF NEITHER PARTY**

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December 6, 2012

## CERTIFICATE OF INTEREST

Pursuant to Federal Circuit Rules 29(a) and 47.4, counsel for Amicus Curiae certifies that:

1. The full name of the amicus is :

Sigram Schindler Beteiligungsgesellschaft mbH

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) is:

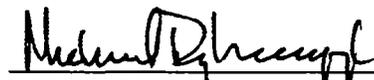
N/A

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the amicus curiae are:

None.

4. The name of all law firms and the partners or associates for the party or amicus expected to appear in this Court is: Michael R. Dzwonczyk, Sigram Schindler Beteiligungsgesellschaft mbH, Berlin, Germany.

December 6, 2012



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## STATEMENT OF IDENTITY AND INTEREST

Sigram Schindler Beteiligungsgesellschaft mbH and its subsidiaries (collectively “SSBG”) are research-based high technology companies located in Berlin, Germany, developing and selling products and services all over the world, including the US, via TELES AG, listed on the Prime Standard segment of the Frankfurt Stock Exchange. SSBG is a majority shareholder of TELES AG, originally founded by Sigram Schindler, at that time full professor of the Comp. Sc. Dep. at the Technical University of Berlin. Due to its commercial success, TELES has paid significant dividends to its shareholders.

SSBG’s ability to invest in high-tech research is dependent upon the intellectual property protections accorded under the global patent systems, in particular in the United States and Europe. Strong patent systems require that the patents issued are consistently interpreted so that the metes and bound of the protected subject matter is clear and consistent. SSBG, therefore, has a vested interest in supporting the US patent system in its ongoing development in adjusting itself to the needs of sectors of the economy based on emerging technologies. The USSC provides clear guidance and mandates in the *KSR/BILSKI/MAYO* line of decisions to further advance patent precedence in this area.

This brief, in support of neither party, is filed on behalf of *Amicus Curiae* SSBG. SSBG has no financial interest in either side. No party, no counsel

representing a party, and no person, other than SSBG, contributed money that was intended to fund the preparation and submission of this brief.

## SUMMARY

The below sections **a.** and **b.** provide answers (first explicitly and then in brief) to the questions **a.** and **b.** referred to in the CAFC's request for briefs in the present case.

**a.** First part: This test (described explicitly)

- 1) starts with disaggregating the compound allegedly inventive concepts of the claimed computer-implemented invention into their respective overall equivalent independent concepts, as disclosed by the patent's specification – being a first step of facts determination – and next
- 2) checking, using these independent allegedly inventive concepts instead of the compound allegedly inventive concept, whether the patent discloses (explicitly or implicitly, for the person of pertinent ordinary skill and creativity) a practical problem and its solution such that achieving this problem's solution requires performing the claimed invention – being a second step of facts determination – and
- 3) stating, if this requirement does exist/hold, that this invention is not only an “abstract idea” of this problem's solution – all independent concepts being patent-eligible or not.

Second part: Solely the presence, as such, of a computer in a claim on an otherwise not patent-eligible invention should not yet lend patent-eligibility to

the claim – the presence of a computer therein should stand for its necessity as defined/determined in the first part. Otherwise the computer should be moot as to this question.

- b. First part: No, it should not matter; Second part: Yes, but subject to the above test.

The above suggested test for a computer-implemented invention represented by a disclosed practical problem's solution – which this claimed computer-implemented invention, i.e. this solution of this problem<sup>1</sup>, must pass for not being solely an abstract idea (which warrants this invention is patent-eligible) – is repeated in brief, next.

- a. The test of a “computer-implemented” invention for not to be an “abstract idea” comprises two steps:
- 1) disaggregate the claimed invention's compound concepts into their independent concepts, as disclosed by the specification, for use in step 2),
  - 2) check that, if the “computer-implemented” invention is reduced by one of its properties described by one such concept, performing it does not solve the problem.

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<sup>1</sup> In patent language the terms “invention”, “system”, method”, “solution”, “problem”, ... stand for notions that IT denotes as “type” alias “class” of “invention”, “system”, method”, “solution”, “problem”, ...

The rest of this brief provides justification for this test as suggested. It is based on the research by Sigrum Schindler in his FSTP Project (funded by SSBG) focused on developing a “Patent Technology” that provides useful results, unavailable otherwise, in most processes typically occurring in patent prosecutions/litigations in any national patent system. Based on background in the foundations of maths, physics, and IT, SSBG is inspired by the epistemologically fundamental, far reaching, and very fertile insights related to processes of innovations recently provided by the Highest Courts (via their patent precedents) on both sides of the Atlantic, i.e. by the BGH in Germany, the EPO in the EU, and most importantly, by the USSC and the CAFC in the US.

## ARGUMENT

### **I. *MAYO* PROVIDES GUIDANCE FOR DEVELOPING PATENT PRECEDENTS**

With its *KSR* and *BILSKI* decisions, and in particular with the *MAYO* decision, the US Supreme Court (“USSC”) clearly demanded that the US patent precedents cater to the needs of sectors of the economy based on emerging technologies. In *MAYO* it indicated how to perform the § 101 test for a claimed invention using a “natural law” such that the claim, if granted, would not

- i) in scope cover the whole area of application of this natural law – newly discovered or not – i.e. preempt further innovations based on this natural law, and
- ii) be supported solely by this natural law (set patent-ineligible by the USSC), but would comprise a sufficient amount of patent-eligible creativity/inventiveness making it patentable; thereby the USSC demanded presenting this creativity/inventiveness as at least one inventive concept embodied by the claimed invention. That is, the USSC hints at several patent-eligible inventive concepts potentially being more indicative of the creativity/inventiveness embodied by the claimed invention.

By its use of the term/notion “concept” for describing properties of a claimed invention, the USSC refers to a technique common in Information Technology (IT) for describing properties of new systems. In IT, this precisely

definable term was developed/used first, in the 1970s, for specifying data base systems, since then elaborated in Artificial Intelligence (AI), Natural Language (NL), and most recently in Description Logic (DL) and Knowledge Representation (KR). Today it is a fundamental notion in “advanced IT”.

Using this term/notion “concept” in patent jurisdiction, i.e. in a NL environment, requires observing also another IT measure of caution, which was discovered in the 1970s by David Parnas, one of the godfathers of SW-System-Design technique. Namely, the indispensable principle of “separation of concerns” in requirement statements in IT is the same as “disaggregation of compound concepts” described in this Brief. While compound concepts in natural languages are felt as being intuitive and hence are absolutely ubiquitous therein – e.g. in wordings of patent claims – they logically are extremely error prone (just as compound concerns are error prone in requirement statements in specifications of IT systems).

Most of the complicated discussions in patent precedents – in particular as to testing a claimed invention by applying the requirements of sections 101, 102/103, and 112 to it – are clearly due to an attempt at becoming clear and precise about the relations of the meanings of these four sections to the meanings of these compound inventive concepts without first disaggregating them into their (binary) independent inventive concepts. Yet, in fact, following this approach,

clarity/precision is frequently not achievable or possible!!! Even worse, maintaining such compound concepts may result in the courts' opinions elaborating on them to be inoperable and inconsistent.

These phenomena are well known from semantics research, NL, KR, IT-System- Design, ... – and may be vastly avoided, in patent jurisdiction, by a careful facts determination based on solely (binary) independent disclosed concepts, i.e. by avoiding using compound inventive concepts, as frequently provided in the wordings in patent claims. In *MAYO*, the USSC demands using also for the US patent jurisdiction a state-of-the-art claims representation that is feasible for dealing with patents in emerging technologies.

## **II. THE NOTION OF THE TERM “ABSTRACT IDEA” IS SUFFICIENTLY CLEAR**

The majority and the dissenting opinions in the *CLS* decision commonly expose a notional pitfall embodied by the § 101 test. They both assume performing it dependably would require defining the notion of the term “abstract idea” as such. This assumption is questionable. For example, while the notion of the mathematical term “i” ( $= \sqrt{-1}$ ) as such is undefinable – only some of this notion's relations to some other numbers embodying it are definable, notably complex numbers. Theory of electricity is unthinkable without complex numbers,

i.e. without the notion of “i”, and yet it works dependably, as we know from daily life, by just using these relations of i. The same applies here. Patent jurisdiction does not need to know the meaning as such of the term “abstract idea”. It may simply use some of the relations of this term to other patent notions embodying it, notably: **a)** one or several abstract ideas alone are not patent-eligible, and **b)** adding an abstract idea to or removing it from a claimed invention does not affect the outcome of its test under § 101. **a)** and **b)** are consistent with the directives of the USSC in *BILSKI/MAYO*: Of the terms “abstract idea” and “natural law” it uses their relative meanings, not their (indefinable) notions as such.

This simple relative definition of the meaning of the term “abstract idea” – hence representable by independent concept(s) – suffices for enabling the test suggested to uniquely determine the decisive fact in a § 101 test. By contrast, a § 101 test of an invention may be unpredictable if it works with a compound inventive concept aggregated from several independent inventive concepts. Due to its so caused notional complexity this compound concept may seem to be an “abstract idea” as such, and therefore definitively indefinable. The suggested test excludes this possibility as the compound concepts are disaggregated.

### III. THE TEST SUGGESTED MAY BE CONSISTENT WITH THE PREVIOUS *CLS* DECISION

Reconsidering the *CLS* case in the light of *MAYO* – as demanded by the USSC – supports using the suggested test for first disaggregating the compound allegedly inventive concept of a computer-implemented invention at issue. I.e., for identifying,

- just as demanded in *MAYO*, the needed amount of creativity/inventiveness embodied by the claimed invention for making it indicated patentable (see I.), and then
- the reason why the ALICE's patents need not be only an abstract idea – as previously decided by the CAFC (in a way not meeting the USSC stated *MAYO*-requirements).

It should be noted that, this Amicus Brief suggests a new and often more careful way of performing a claimed invention's § 101 test – it does not legally evaluate the indicative outcome of the so achieved facts determination. That this outcome here actually may uphold the original CAFC decision is due to the majority opinion having applied already (most of) this care, i.e. at least (most of) the step 1) of the test suggested by this Brief – as shown next.

The reason is that the majority opinion states (p. 26, second paragraph) that there are at least 7 reasons for considering the asserted claimed computer-

implemented (“exchanging obligations”) method as being inventive. Namely, it states that the patents’ common specification discloses that

- this “exchanging obligations” concept actually is a compound concept comprising at least 7 (binary) independent disclosed concepts (whereby even – here being moot –
- none of its 7 independent concepts is exempted from patent-eligibility but is a usual patent-eligible property of this compound inventive “exchanging obligations” concept).

These 7 independent concepts – identified by the majority opinion as properties of the compound concept – are in principle:

- the “shadow” concept,
- the “start-of-the-day balance” concept,
- the “transaction based adjustment” concept,
- the “chronological adjustment” concept,
- the “end-of-the-day reflect the adjustments” concept,
- the “irrevocable, time invariant obligations” concept, and
- the “ultimate exchange of obligations” concept,

whereby the chosen concept names establish the nexus to the opinion’s presentation.

According to the CLS decision, these (binary) independent concepts are disclosed (see above) by the patents' specification, are in total equivalent to the "exchanging obligations" compound inventive concept – thus making-up the claimed "computer-implemented" invention – and hence establish the positive result of step 1) of the test suggested (see the SUMMARY). Possibly, step 2) of the suggested test may also be passed, due to the elaborate description of the problem and its particular solution<sup>1)</sup> in the specification.

#### **IV. KSR / BILSKI / MAYO SIMPLIFY & CLARIFY ALSO §§ 102/103 & 112 TESTS**

The "compound concept disaggregation" technique, induced by the USSC's KSR, BILSKI, MAYO decisions, provides the same clarity /simplicity/dependability, as just outlined for the § 101 test in the CLS case, also to the §§ 102/103 and 112 tests of claimed inventions and hence vastly increases legal predictability.

This is shown in more detail than above in footnote 4 of a document that will be available shortly ([www.fstp-expert-system.com](http://www.fstp-expert-system.com)). This footnote analyses 8 cases/memorandum, namely: 1) the USPTO's MEMORANDUM "2012 Interim Procedure for Subject Matter Eligibility Analysis ... Involving Laws of Nature" (July 3, 2012), and the 7 CAFC decisions in 2) *CLS Bank* 3) *BANCORP* 4)

*AMP 5) RETRACTABLE TECHNOLOGIES 6) NOAH 7) ULTRAMERCIAL  
and 8) PHILLIPS.*

Each of these 8 documents circles around this new necessity of disaggregating compound inventive concept in testing claimed inventions under §§ 101, 102/103, 112 – a necessity not existing when dealing with tangible subject matter, i.e. caused by patents dealing with “model based” inventions, as typical for all emerging technologies. Anyone of it already partially practices compound inventive concept disaggregation, yet inconsistently, as none of them recognized it as an explicit and necessary requirement for testing an invention under §§ 101, 102/103, 112.

## CONCLUSION

An analysis under 101 can begin by performing the suggested “compound inventive concept disaggregation”.

Disaggregating compound inventive concepts is nothing new in patent jurisprudence, but exactly what the *MAYO* decision requires, and recent CAFC decisions follow this approach implicitly. Yet, it should be applied as a clearly identified first step in any § 101, 102/103, and 112 test of a claimed invention at issue – as this step is indispensable for determining the scientifically unquestionable facts, on which all legal determinations should be based.

From the point of view of advanced IT, this step is indispensable. And, for regaining predictability in patent law, there seems to be no other option but to practice this unquestionable scientific method, as enabled by advanced IT and consistent with the patent clause of the Constitution.

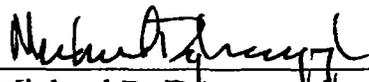
Thus, USSC precedent as established in at least the *KSR/ BILSKI/MAYO* cases can be applied systematically using this approach<sup>2)</sup>.

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<sup>2)</sup> SSBG is grateful for the extremely thoughtful elaborations performed by both Highest Courts of the US and embodied by their precedents on the epistemological problems of innovations – their considerations provide the fertile grounds for broader discussions related to promoting socially desirable innovations in all emerging technologies, and thereby achieving economic progress.

***Comments are highly appreciated on [www.fstp-expert-system.com](http://www.fstp-expert-system.com)***

Respectfully Submitted,



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**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

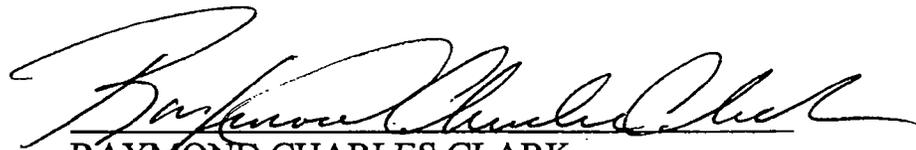
I hereby certify that on this 6<sup>th</sup> of December, the Defendants-Appellants AMICUS CURIAE, AMICUS CURIAE Brief was filed via hand delivery with the Clerk of Court, U.S. Court of Appeals for the Federal Circuit, 717 Madison Place NW, Washington, D.C. 20439, and that copies were served on the following counsel of record via overnight courier:

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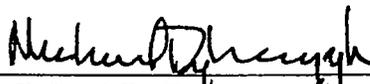
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