

## Claiming Subject Matter in Business Method Patents

By

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The dot-com boom<sup>2</sup> witnessed an increase in filing of applications for patents for business methods, and was soon followed by a Congressional outcry,<sup>3</sup> which in turn was followed by increased scrutiny of applications directed to business methods by the Patent and Trademark Office.<sup>4</sup>

Figure 1 shows the results of these activities. The *State Street Bank* decision,<sup>5</sup> rendered in 1998 and which explicitly abolished denying a patent on the ground that it is directed to a method of doing business, is credited by many as causing an increase in filing of applications for business method patents. Indeed, the number of patents filed in Class 705 (which covers business methods<sup>6</sup>) doubled in 1999 over 1998. On the other hand, the number of applications filed a year later, in 2000, totaling 7800, was more than five times the number filed in 1998. Part of this increase is certainly attributable not just to the *State Street Bank* decision but also to an economic environment in 2000 that rewarded entrepreneurial activity involving Internet-based businesses.<sup>7</sup> Although the dot-com boom peaked in the year 2000,<sup>8</sup> patent filings in Class 705 peaked a year later at 8700. This one-year latency may reflect a delayed impact of the economic retreat. Despite the dramatic drop in stock prices, particularly of technology-based start-ups following the dot-com boom in years after 2000, however, filings in Class 705 have not

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<sup>2</sup> See, for example, "Dot-com" in Wikipedia, available at <http://en.wikipedia.org/wiki/Dot-com>.

<sup>3</sup> For example, on October 3, 2000, Representatives Berman and Boucher introduced H.R. 5364, entitled "Business Method Patent Improvement Act of 2000." The bill proposed extensive changes to the handling of applications for business method patents. When introducing the bill, Representative Boucher said his legislation was "an effort to repair the system before the PTO awards more monopoly power to people doing the patently obvious." The bill died in committee. See <http://thomas.loc.gov/cgi-bin/bdquery/z?d106:h.r.05364>.

<sup>4</sup> "A new second-level review of all allowed applications in Class 705 is required to ensure compliance with the mandatory search requirements, clarity and completeness of reasons for allowance, and to determine whether the scope of the claims should be reconsidered." United States Patent and Trademark Office White Paper, "Automated Financial or Management Data Processing Methods (Business Methods)," Section V "Quality," available at <http://www.uspto.gov/web/menu/busmethp/quality.htm> (page 6 of 7).

<sup>5</sup> *State Street Bank & Tr. Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (Fed Cir. 1998).

<sup>6</sup> "This is the generic class for apparatus and corresponding methods for performing data processing operations, in which there is a significant change in the data or for performing calculation operations wherein the apparatus or method is uniquely designed for or utilized in the practice, administration, or management of an enterprise, or in the processing of financial data. /This class also provides for apparatus and corresponding methods for performing data processing or calculating operations in which a charge for goods or services is determined." *Manual of Patent Classification*, section 705, available at <http://www.uspto.gov/web/offices/ac/ido/oejp/taf/def/705.htm>.

<sup>7</sup> See "Dot-com" in Wikipedia, *supra*, available at <http://en.wikipedia.org/wiki/Dot-com>.

<sup>8</sup> *Id.*

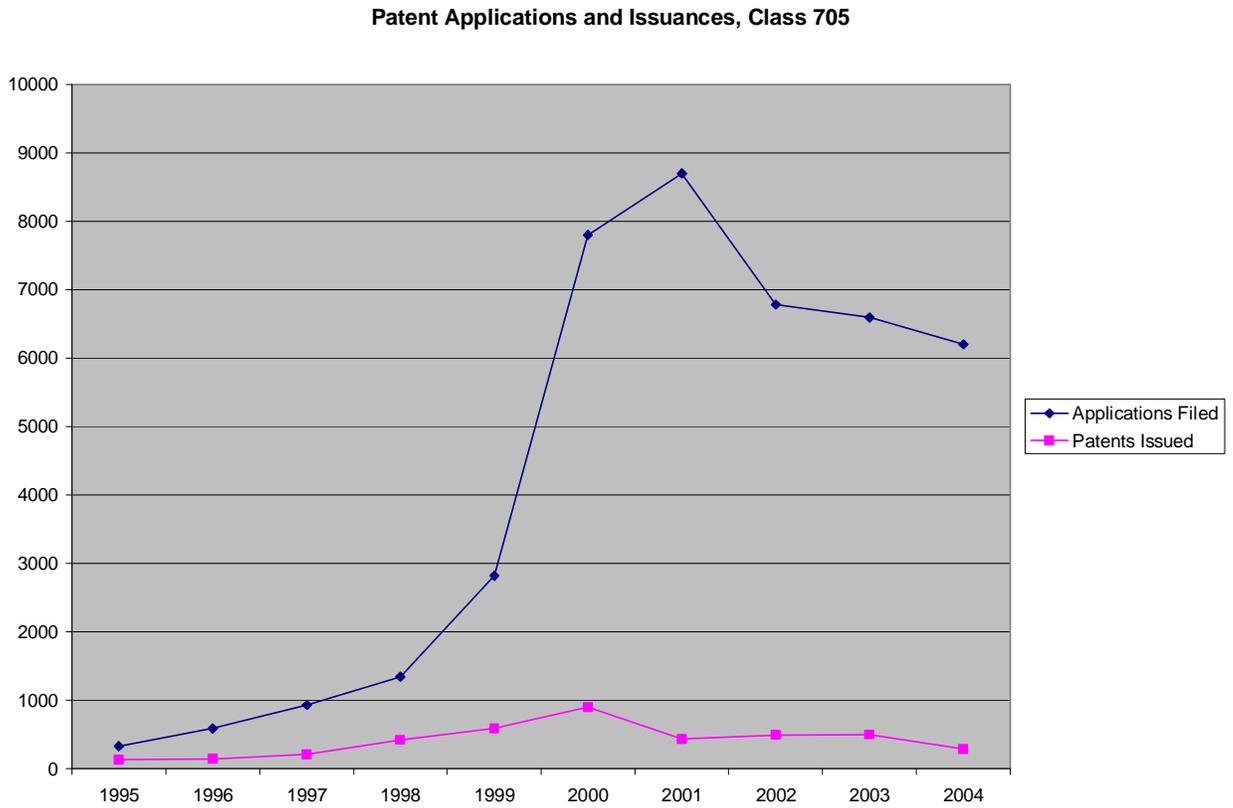
retreated all the way to 1999 levels. Instead filings in 2004, at 6200, were down about 30 percent from their 2001 peak.

There are probably competing factors at work in causing the present level of patent filings. First, Internet-based businesses, such as those of Google and Yahoo, play a continuing and in fact growing role in the national and, indeed, the world, economy. Second, the experience of patent issuances in Class 705 in 1999 and later years is in no way commensurate with the rise in application numbers. The number of issuances peaked 899 in 2000, the same year in which the unsuccessful Berman and Boucher bill was introduced in the House of Representatives. It was also in 2000 when the second level of review was instituted by the Patent and Trademark Office.<sup>9</sup> In 2004, there were 282 issuances, less than one-third of the number that issued in 2000.

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<sup>9</sup> See for example, Wired News, March 29, 2000, available at <http://wired-vig.wired.com/news/politics/0,1283,35267,00.html>.

Figure 1. Applications Filed and Patents Issued in Class 705. Source: United States Patent and Trademark Office.<sup>10</sup>



<sup>10</sup> <http://www.uspto.gov/web/menu/pbmethod/applicationfiling.htm>

The hurdles faced by business method patent applications are not simply procedural. They are substantive as well. Like all applications, business method applications must be directed to subject matter that is new<sup>11</sup> and non-obvious.<sup>12</sup> Like all applications, business method applications must also be directed to subject matter that is of the type which is protectable by a patent—that is, the subject matter must be statutory.<sup>13</sup>

Unlike most applications for a patent, however, business method patent applications target technology that often is not easy to characterize—particularly in a way that is consistent with requirements for statutory subject matter. It is for this reason that claims in the business method patent context are of singular importance. While the claims of course will critically affect the reception of any application by the Patent and Trademark Office, here the claims must be drafted with a view not just for novelty and non-obviousness but also for statutory subject matter.<sup>14</sup> Normally, one considers that claim breadth and claim abstraction are closely related concepts if not synonymous terms, but we will see here that in dealing with business method patents, the patent draftsman will fare better by decoupling the two concepts. Instead, the draftsman should look to identify clearly the context in which the business method is being practiced and to make sure that context finds its way into the claim.

We begin by considering the seminal case of *O'Reilly v. Morse*,<sup>15</sup> decided by the United States Supreme Court in 1854. The party Morse to this case was Samuel F.B. Morse, inventor of the telegraph. The court held the following method claim to the telegraph valid:

“1<sup>st</sup>. ... making use of the motive power of magnetism ... developed by the action of ... current as a means of operating ... machinery ... to imprint signals upon paper ... or to produce sounds ... for the purpose of telegraphic communication at any distances.”<sup>16</sup>

On the other hand, the Court found the following method claim to the telegraph invalid:

“Eighth. ... the use of the motive power of the electric ... current, which I call electromagnetism, however developed, for marking or printing ... characters, signs, or letters, at any distances....”<sup>17</sup>

The Court was bothered by the manner in which claim 8 characterized the subject matter. “If this claim can be maintained, it matters not by what process or machinery the result is accomplished.... In fine he claims an exclusive right to use a manner and

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<sup>11</sup> 35 U.S.C. § 102.

<sup>12</sup> 35 U.S.C. § 103.

<sup>13</sup> 35 U.S.C. § 101.

<sup>14</sup> Clarity and enablement under 35 U.S.C. § 112 also enter the picture, but here we are concerned particularly with how clearly constructed claims are limited in the context of business methods.

<sup>15</sup> *O'Reilly v. Morse*, 56 U.S. 62 (1854).

<sup>16</sup> 56 U.S. at 112, 128-129.

<sup>17</sup> 56 U.S. at 112-120

process which he has not described and indeed had not invented, and therefore could not describe when he obtained his patent. The court is of opinion that the claim is too broad, and not warranted by law.... No one, we suppose will maintain that Fulton could have taken out a patent for his invention of propelling vessels by steam, describing the process and machinery he used, and claimed under it the exclusive right to use the motive power of steam, however developed, for the purpose of propelling vessels.”<sup>18</sup>

At bottom—when one analyzes the differences between the acceptable claim 1 and the unacceptable claim 8, it was not really “undue breadth,” that prompted the Court to invalidate claim 8, for claim 1 has a breadth comparable to that of claim 8. The current of claim 1 must operate machinery to imprint signals or to produce sounds, whereas the current of claim 8 does not have to operate machinery. On the other hand, the current of claim 8 must still cause the printing of characters.<sup>19</sup> How else can the printing of characters be achieved without the use of machinery?

The real operative principle here is that abstract principles will not be protected. Instead, a patent claim must reflect structure, namely, the structure by which principles are harnessed to practical effect. Judge Newman of the Federal Circuit explained this decision 140 years later in this manner in her concurring decision in the *Alappat* case:

“Phenomena of nature and abstract scientific and mathematical principles have always been excluded from the patent system. Some have justified this exclusion simply on the ground of lack of ‘utility’; some on the ground of lack of ‘novelty’; and some on the ground that laws of nature, albeit newly discovered, are the heritage of humankind. On whatever theory, the unpatentability of the principle does not defeat patentability of its practical applications.”<sup>20</sup>

The present law has continued to echo the principles of *O’Reilly v. Morse* as interpreted by Judge Newman. The seminal *State Street Bank* case held that (1) merely abstract ideas are not “useful” and not patentable and (2) an algorithm applied in a useful way is patentable.<sup>21</sup>

The Patent and Trademark Office revised its guidelines for examination of business method patents in the wake of the *State Street Bank* decision, and the revised guidelines appear in section 2106 of the Manual of Patent Examining Procedure.<sup>22</sup> Under these guidelines, there is a discussion of a “safe harbor”, for claims being considered in relation to the statutory subject matter requirement, involving “Computer-Related Processes Limited to a Practical Application in the Technological Arts”. This section includes a discussion as follows:

“For such subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts. See *Alappat*, 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting *Diamond v. Diehr*,

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<sup>18</sup> 56 U.S. at 113.

<sup>19</sup> Interestingly claim 8 is narrower than claim 1 in that a current used only to produce a sound at a distance would not infringe claim 8.

<sup>20</sup> *In re Alappat*, 33 F.3d 1526, 1569 (Fed. Cir. 1994)(J. Newman concurring), citing *O’Reilly v. Morse*.

<sup>21</sup> *State Street Bank & Tr. Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373 (Fed Cir. 1998) (*Alappat* followed).

<sup>22</sup> Available at [http://www.uspto.gov/web/offices/pac/mpep/documents/2100\\_2106.htm#sect2106](http://www.uspto.gov/web/offices/pac/mpep/documents/2100_2106.htm#sect2106).

450 U.S. at 192, 209 USPQ at 10). See also *Alappat* 33 F.3d at 1569, 31 USPQ2d at 1578-79 (Newman, J., concurring) ("unpatentability of the principle does not defeat patentability of its practical applications") (citing *O'Reilly v. Morse*, 56 U.S. (15 How.) at 114-19). A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. See *AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1452. Likewise, a machine claim is statutory when the machine, as claimed, produces a concrete, tangible and useful result (as in *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601) and/or when a specific machine is being claimed (as in *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557 (in banc). For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory. However, a claimed process for digitally filtering noise employing the mathematical algorithm is statutory."<sup>23</sup>

The holdings of the *State Street Bank* case do not end with these pronouncements, however. As mentioned above, *State Street Bank* also stands for the proposition that Patents cannot be invalidated just because they claim "business methods." The court in *State Street Bank* thus found directed to statutory subject matter a system for managing a mutual fund investment structure.<sup>24</sup> On the other hand, patents can, as usual, be invalidated for claiming subject matter that is not novel or non-obvious.<sup>25</sup> The obvious consequence of *State Street* is that if a statutory subject matter rejection is not available to the Patent and Trademark Office, then a rejection for novelty or obviousness is by no means ruled out.

The import of *State Street* is that "Anything under the sun that is made by man" can be patented if it is new, non-obvious, and harnessed to practical effect as claimed.<sup>26</sup>

Let us consider a hypothetical business method claim to distinguish between a claim that is too abstract, like claim 8 of Mr. Morse, and a claim that is sufficiently anchored in a specific environment. Claim 1 of this example is directed to a method of

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<sup>23</sup> *Manual of Patent Examining Procedure* § 2106. In its annual Business Methods Partnership Meeting in April 2004, there was discussion of the view of Technology Center 3600, which examines applications in Class 705, that a business method claim must (1) "produce a useful, concrete, and tangible result" and (2) produce that result using the technological arts in a nontrivial manner. There is considerable debate whether this second requirement exists under case law or whether it is distinct from the first requirement. This excerpt from the *Manual of Patent Examining Procedure* does not resolve the question, since it merely presents a safe harbor, not a requirement that must be met in all cases. It is submitted, however, that the approach suggested in this paper to developing claims to business methods will in many cases permit surmounting any obstacle otherwise posed by a "technological arts" requirement.

<sup>24</sup> 149 F.3d at 1376-1377.

<sup>25</sup> 149 F.3d at 1377.

<sup>26</sup> 149 F.3d at 1373 and 1377. A comparison with European law is instructive. Under the European Patent Convention, an invention to be patentable must be "suceptible of industrial application" EPC Art. 52(1) (a requirement that is narrower than 35 USC § 101 utility). Moreover, business methods, software, and mathematical methods are not patentable "as such". EPC Art. 52(2) and (3). On the other hand, when a "technical effect" is present in the claimed invention, then it is not non-patentable "as such". VICOM/Computer related invention, T 0208/84, O.J. EPO 1987, 14 (a holding that is narrower than *State Street*).

advertising the availability of a house for sale. Claim 1 of our hypothetical reads as follows:

1. *A method of advertising availability of a house for sale comprising: putting up a “for sale” sign.*

Is this claim directed to novel subject matter? Of course not. But if we disregard that problem, could the claim be rejected on any other grounds? We do not know where the “putting up” occurs, an uncertainty making the claim vulnerable for unintelligibility under section 112. As importantly, however, the claim is vulnerable under section 101 as not directed to statutory subject matter. We have said that we put up a sign, but our “putting up” process that we have invoked lacks a specific context. Our sign, as it were, exists only in air. Our claim is thus too abstract, and can be rejected, just as Samuel Morse’s claim for a communication method that uses electromagnetism, under section 101.

Let us consider an alternative claim directed to similar subject matter:

2. *A method of advertising availability of a house for sale, the house being situated on a lot, the method comprising:
  - a. *providing a sign having a mounting arrangement for affixation of the sign to an item of real property, the sign including a text message indicating that the item of real property to which the sign is affixed is for sale; and*
  - b. *using the mounting arrangement to affix the sign to at least one of the house and the lot.*<sup>27</sup>*

The language in claim 2 is much more specific. The sign has a mounting arrangement and includes a text message. A second process claimed requires using the mounting arrangement in relation to the house or the lot. It would seem that all of this structure would substantially narrow the breadth of the claim, but in reality there is little, if any, narrowing of the claim, because claim 1 implies similar limitations even though it does not recite them. The trick of claim 2 is to identify the limitations that were implicit in claim 1 and to call them out.

Claim 2 has more benefits over claim 1 as well. The more specific structure of claim 2 allows us to add further limitations to the claim for the purpose of dealing with potential rejections for lack of novelty or obviousness. So mounting a sign on the real property is not new?—then what about more details on the mounting arrangement?

From this exercise, we can glean two principles:

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<sup>27</sup> The language of this claim may instructively be compared with the language of United States patent 6,751,596, directed to a system and method for tracking, monitoring, and supporting self-procuring principals in real estate transactions. The method of claim 1 cannot be carried out except with the use of a computer system.

*Sunstein principle 1: Claim breadth does not require abstraction.*

*Sunstein principle 2: Claim structure needs the context of the subject matter.*

These principles are intimately related. A claim's breadth comes from its coverage of varied schemes for implementation, but a claim that is abstract is one from which the context has been stripped. Stripping out the context of a claim does not necessarily broaden the claim, but in the business method context, it is likely to make the claim too abstract and therefore non-statutory. So in drafting business method claims, focus on supplying a context for the subject matter being claimed. Once you have supplied the context for the subject matter being claimed, you can avoid the problem of language that is too abstract. If you have specified the context in the claim with sufficient clarity, you can still have a broad claim and it will be statutory as well.

Let us consider another example. Long before *State Street*, Merrill Lynch obtained a patent for its cash management account operation, U.S. patent 4,346,442, entitled "Securities Brokerage-Cash Management System" (issued in 1982). This patent has two independent claims, and claim 2 reads as follows:

"2. In combination in a system for processing and supervising a plurality of composite subscriber accounts each comprising a *margin brokerage account*, a *charge card* and *checks* administered by a first institution, and participation in at least one *short term investment*, said system including ..."

"... said system further comprising means for generating a stored record of each subscriber deposit, charge card and check transactions, and anti-kiting means for providing an output alert record responsive to either of said deposits, or the check or charge card expenditures exceeding predetermined maximum bounds in amount and frequency, communicating means to communicate said updated credit limit for each account to said first institution."

This patent, number 4,346,442 was enforced successfully in 1983.<sup>28</sup> It has a great deal of context built into the claim.

As another example, consider patent 5,960,411, the Amazon "One-Click" patent. Claim 1 of this patent reads as follows:

"1. A method of placing an order for an item comprising:  
under control of a client system,  
displaying information identifying the item; and  
in response to only a single action being performed, sending a request to order the item along with an identifier of a purchaser of the item to a server system;  
under control of a single-action ordering component of the server system,  
receiving the request;  
retrieving additional information previously stored for the purchaser identified by the identifier in the received request; and

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<sup>28</sup> *Paine, Webber, Jackson & Curtis, Inc. v. Merrill Lynch, Pierce, Fenner and Smith, Inc.*, 564 F. Supp. 1358 (D. Del. 1983).

generating an order to purchase the requested item for the purchaser identified by the identifier in the received request using the retrieved additional information; and fulfilling the generated order to complete purchase of the item whereby the item is ordered without using a shopping cart ordering model.”

This claim as well clearly has substantial physical context. In fact, all of the processes recited are “under control of a client system”.<sup>29</sup> The Amazon one-click patent was the subject of litigation in *amazon.com v. barnesandnoble.com*,<sup>30</sup> in which the grant of a preliminary injunction was vacated, on the ground that substantial questions were raised as to patent validity, based on prior art.<sup>31</sup> On the other hand, there was no question as to whether the claim was directed to non-statutory subject matter, and the claims were held likely infringed.<sup>32</sup> After this decision, Amazon settled with *barnesandnoble.com*.<sup>33</sup>

We are left with two related questions:

- (1) Can a patentable business method involve something other than software?
- (2) Are business method patents inherently different from software patents?

As to the first question, we might answer, in theory yes, but because business has been practiced for centuries, and even millennia, there is an enormous amount of prior art! Cf. *Hotel Security Checking Co. v. Lorraine Co.*, 160 F. 467 (2d Cir. 1908) (patent 500,071 for cash-registering and account-checking designed to prevent frauds held not inventive).

As to the second question, we might answer that, despite the theory, the abundance of prior art makes non-software business methods rare. Thus the lesson from *State Street* that sections 102 and 103 can be used to challenge business method patents here has real teeth. Moreover, because most business method patents are software patents, they pose problems to practitioners and the Patent and Trademark Office that are similar, if not identical, to those of software patents.

In addressing questions of statutory subject matter in the context of business method patents, we have been led repeatedly to issues relating to prior art. Prior art is important in the context of business method patents for a number of reasons. Software patents and business method patents often use vocabulary that is not standardized, so finding prior art is difficult, even when it exists. Additionally, as in the case of all patents, failure to cite and to know relevant prior art undermines patent validity. Moreover, prior art, when known, can be used to provide a practical context in which to claim subject matter—a help in making subject matter statutory.

There are thus a number of practical lessons one can derive from looking at business method patenting through the lens of *O’Reilly v. Morse* and its progeny. First, work to identify extensive prior art and use it to provide a practical context for the subject matter to be claimed. Second, develop language in the claims to tie the subject matter to the practical context: “a useful, concrete and tangible result” (*State Street*). In drafting the claims, think of structures that are inevitably needed to implement the

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<sup>29</sup> “Client” is here a term taken from the computer art.

<sup>30</sup> 239 F.3d 1343 (Fed. Cir. 2001).

<sup>31</sup> 239 F.3d at 1367 and *passim*.

<sup>32</sup> 239 F.3d at 1358.

<sup>33</sup> See The Register Newswire, March 8, 2002, available at [http://www.theregister.co.uk/2002/03/08/amazon\\_settles\\_1click\\_patent\\_dispute/](http://www.theregister.co.uk/2002/03/08/amazon_settles_1click_patent_dispute/)

methods and make those structures explicit in the claims. Finally, make a record of the extensive prior art to establish firmly both novelty and non-obviousness. In this way one can increase the chances that one's business method application will be found to be directed to subject matter that is statutory and worthy of issuance as a patent.