

United States Court of Appeals for the Federal Circuit

*Revised: January 26, 2009

2006-1286
(Serial No. 09/461,742)

IN RE STEPHEN W. COMISKEY

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Appealed from: United States Patent and Trademark Office
 Board of Patent Appeals and Interferences

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IN RE STEPHEN W. COMISKEY

Appeal from the United States Patent and Trademark Office, Board of Patent Appeals and Interferences.

DECIDED: January 13, 2009

Before MICHEL, Chief Judge, DYK and PROST, Circuit Judges.

DYK, Circuit Judge.

Acting en banc, the court today vacated the September 20, 2007, judgment in this case, and the panel's original opinion, which is reported at 499 F.3d 1365 (Fed. Cir. 2007), was withdrawn. The en banc court reassigned the opinion to the panel for revision. The panel's original opinion is revised as follows:

Appellant Stephen W. Comiskey ("Comiskey") appeals the decision of the Board of Patent Appeals and Interferences ("Board") affirming the examiner's rejection of claims 1-59 of his patent application as obvious in view of the prior art and therefore unpatentable under 35 U.S.C. § 103. We do not reach the Board's obviousness rejection of the independent claims under § 103. We conclude that Comiskey's independent claims 1 and 32 and most of their dependent claims are unpatentable

subject matter under 35 U.S.C. § 101. With respect to independent claims 17 and 46 (and dependent claims 18-29, 31, 47-57, and 59) and dependent claims 15, 30, 44, and 58, we remand to the PTO to consider the § 101 question in the first instance. We therefore affirm-in-part, vacate-in-part, and remand.

BACKGROUND

I

Comiskey's patent application No. 09/461,742 claims a method and system for mandatory arbitration involving legal documents, such as wills or contracts. According to the application, the claimed "program . . . requires resolution by binding arbitration of any challenge or complaint concerning any unilateral document . . . [or] contractual document."

Independent claim 1 recites a "method for mandatory arbitration resolution regarding one or more unilateral documents" involving the following steps. First, the unilateral document and its author are enrolled. Second, arbitration language is incorporated in the unilateral document requiring that any contested issue related to the document be presented to the pre-chosen arbitration program for binding arbitration. Third, the method "requir[es] a complainant [sic] to submit a request for arbitration resolution." Fourth, the method conducts arbitration resolution. Fifth, the method provides "support to the arbitration." Finally, the method determines "an award or decision . . . [that] is final and binding."¹ Independent claim 32 is practically identical to

¹ Claim 1 states in full:

A method for mandatory arbitration resolution regarding one or more unilateral documents comprising the steps of:

claim 1, except that it refers to contractual documents rather than unilateral documents.² Although the application's written description references "an automated system and method for requiring resolution through binding arbitration" and "a mandatory arbitration system through a computer on a network," claims 1 and 32 do not

enrolling a person and one or more unilateral documents associated with the person in a mandatory arbitration system at a time prior to or as of the time of creation of or execution of the one or more unilateral documents;

incorporating arbitration language, that is specific to the enrolled person, in the previously enrolled unilateral document wherein the arbitration language provides that any contested issue related to the unilateral document must be presented to the mandatory arbitration system, in which the person and the one or more unilateral documents are enrolled, for binding arbitration wherein the contested issue comprises one or more of a challenge to the documents, interpretation of the documents, interpretation or application of terms of the documents and execution of the documents or terms of the documents;

requiring a complainant to submit a request for arbitration resolution to the mandatory arbitration system wherein the request is directed to the contested issue related to the unilateral document containing the arbitration language;

conducting arbitration resolution for the contested issue related to the unilateral document in response to the request for arbitration resolution;

providing support to the arbitration resolution; and

determining an award or a decision for the contested issue related to the unilateral document in accordance with the incorporated arbitration language, wherein the award or the decision is final and binding with respect to the complainant.

² In addition, Claim 32 notes that the inserted arbitration language would cover a challenge to the contractual document "by any party to the Contract or by any alleged third party beneficiary of the Contract." It also notes that the party submitting a request for arbitration resolution could be "a party to the Contractual document [or] a party so designated in the contractual document."

reference, and the parties agree that these claims do not require, the use of a mechanical device such as a computer.

Independent claim 17 recites a “system for mandatory arbitration resolution regarding one or more unilateral documents.” It includes the following limitations: (1) “a registration module” to register the unilateral document and its executor; (2) “an arbitration module” for incorporating arbitration language that requires any contested issue related to the unilateral document be presented to the system; (3) “an arbitration resolution module” that requires “a complainant to submit a request for arbitration resolution”; and (4) “a means for selecting an arbitrator from an arbitrator database” and “providing support to the arbitrator . . . where the arbitrator determines an award or a decision . . . [that] is final and binding.”³ Independent claim 46 is practically identical to

³ Claim 17 states in full:

A system for mandatory arbitration resolution regarding one or more unilateral documents comprising:

a registration module for enrolling a person who is executing and one or more unilateral documents associated with the person in a mandatory arbitration system at a time prior to or as of the time of creation of or execution of the one or more unilateral documents;

an arbitration module for incorporating arbitration language, that is specific to the enrolled person, in the previously enrolled unilateral document wherein the arbitration language provides that any contested issue related to the unilateral document must be presented to the mandatory arbitration system, in which the person and the one or more unilateral documents are enrolled, for binding arbitration wherein the contested issue comprises one or more of a challenge to the documents, interpretation of the documents, interpretation or application of terms of the documents and execution of the documents or terms of the documents; and for providing this arbitration language to the enrolled person;

claim 17, except that it refers to contractual documents rather than unilateral documents.⁴ Four dependent claims (claims 15, 30, 44, and 58) also explicitly require use of a computer or other machine. Each states, in full: “[t]he method[/system] of claim [1, 17, 32, or 46] wherein access to the mandatory arbitration is established through the Internet, intranet, World Wide Web, software applications, telephone, television, cable, video [or radio], magnetic, electronic communication, or other communication means.”

II

Comiskey filed his patent application with the United States Patent and Trademark Office (“PTO”) on December 16, 1999. On March 28, 2001, the examiner issued a first office action rejecting claims 1-9, 11-24, 26-38, 40-52, and 54-59 under 35 U.S.C. § 103(a) as unpatentable over Ginter, U.S. Patent No. 6,185,683 (’683 patent), in view of Perry, U.S. Patent No. 5,241,466 (’466 patent), and Walker, U.S. Patent No. 5,794,207 (’207 patent). Ginter discloses an electronic system for securely delivering documents from the sender to the recipient through the electronic equivalent of a

an arbitration resolution module for requiring a complainant to submit a request for arbitration resolution to the mandatory arbitration system wherein the request is directed to the contested issue related to the unilateral document containing the arbitration language; and

a means for selecting an arbitrator from an arbitrator database to conduct an arbitration resolution for the contested issue related to the unilateral document in response to the request for arbitration resolution, for providing support to the arbitrator, and where the arbitrator determines an award or a decision for the contested issue related to the unilateral document in accordance with the incorporated arbitration language, wherein the award or the decision is final and binding with respect to the complainant.

⁴ Claim 46 also notes that the party submitting a request for arbitration may be “a party to the contractual document [or] a party so designated in the contractual document.”

“personal document carrier” that can validate transactions as well as actively participate in the transaction by, among other things, providing arbitration. ’683 patent “Abstract.” Walker discloses an electronic system that allows buyers to submit binding purchase offers and sellers to create contracts by accepting a purchase offer on its terms. It also teaches the inclusion of language in the purchase offers “requiring that both parties submit to binding arbitration of all disputes” and suggests that a “central controller . . . can support the arbitration process by providing an arbiter for each dispute.” ’207 patent col.30 ll.47-54. Perry discloses an electronic central depository for secure storage and rapid retrieval of unilateral documents such as wills. The examiner also found claims 10, 25, 39, and 53 (which added the additional limitation of displaying an “arbitration schedule”) unpatentable over Ginter in view of a document entitled “Arbitration Fee Schedule.” The examiner’s final office action on May 30, 2001, provided the same basis for rejection.

Comiskey filed an amendment after final rejection on August 29, 2001, “to more distinctly claim and particularly point out” the aspects of his invention that he believed were novel, namely pre-enrolling the person in a mandatory arbitration system, including language in the document requiring submission of disputes to this pre-chosen system, and enabling a person to submit a dispute pertaining to the document to this pre-chosen system for binding arbitration. On December 31, 2001, the examiner mailed a final rejection of the amended claims, which rejected the claims on the same basis. After Comiskey filed a request for continued examination, the finality of the prior office action was withdrawn, and the examiner mailed another non-final rejection on July 9, 2002, based again on the same grounds. In response, Comiskey submitted a

“declaration of long felt need” on October 1, 2002, claiming that based on his experience representing clients involved in family disputes concerning unilateral documents, he believed his invention addressed an area of long felt need. On November 6, 2002, the examiner mailed a final rejection based on the same reasons as the prior office actions and rejected Comiskey’s assertion of long felt need on the ground that the cited prior art references had recognized and addressed the problem prior to Comiskey.

Comiskey appealed, and on November 30, 2005, the Board affirmed the examiner’s rejection. The Board concluded that because all of the independent claims were argued together they stood or fell together, and it chose claim 32 as representative. It concluded that the combination of Ginter and Walker rendered this claim obvious. Despite concluding that all of the independent claims stood or fell together, the Board proceeded to consider claims 1 and 17, directed to unilateral documents, separately. It concluded that the addition of Perry to Ginter and Walker rendered these claims obvious. Finally, the Board considered and affirmed the examiner’s rejection of claims 10, 25, 39, and 53 as obvious in light of Ginter, Perry, Walker, and the “Arbitration Fee Schedule.”

Comiskey timely appealed to this court. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) (2000). After oral argument, we requested supplemental briefing directed at the patentability of the subject matter of Comiskey’s application under 35 U.S.C. § 101. In the supplemental briefing, Comiskey argued for the first time that we lacked the power to consider a ground for rejection not relied on below. Alternatively, Comiskey argued that his application was patentable under § 101, and that the subject

matter of his application did not fall within an exception to patentability, such as an abstract idea, natural phenomena, or law of nature.

The PTO urged that this court could properly consider the § 101 issue. Indeed, the PTO urged that this court resolve the case on this ground to “give the Office needed guidance in this area.” PTO Supp. Br. 15. The PTO argued that Comiskey’s independent claims were directed at an unpatentable abstract idea, and not a patentable process, because they neither were tied to a particular machine nor operated to change materials to a different state or thing. Rather the claims impermissibly “encompass[e]d a method of controlling how humans interact with each other to resolve a dispute, based on a human arbitrator’s perception of the dispute.” PTO Supp. Br. 12.

DISCUSSION

We do not reach the ground relied on by the Board below—that the claims were unpatentable as obvious over Ginter in view of Walker, Perry, and “Arbitration Fee Schedule”—because we conclude that many of the claims are “barred at the threshold by § 101.” Diamond v. Diehr, 450 U.S. 175, 188 (1981). It is well-established that “[t]he first door which must be opened on the difficult path to patentability is § 101.” State St. Bank & Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1372 n.2 (Fed. Cir. 1998) (quoting In re Bergy, 596 F.2d 952, 960 (CCPA 1979)). Only if the requirements of § 101 are satisfied is the inventor “allowed to pass through to” the other requirements for patentability, such as novelty under § 102 and, of pertinence to this case, non-obviousness under § 103. See id. As the Supreme Court stated in Parker v. Flook, “[t]he obligation to determine what type of discovery is sought to be patented [so as to determine whether it is “the kind of ‘discoveries’ that the statute was enacted to protect”]

must precede the determination of whether that discovery is, in fact, new or obvious.” 437 U.S. 584, 593 (1978) (emphases added).

The PTO acknowledges that the examiner, consistent with his obligation under the cases, must have addressed the predicate issue of patentable subject matter and implicitly concluded that the claims met the requirements of § 101. See Oral Arg. Tr. 18:40. For the reasons discussed below, we disagree that § 101 is satisfied. See also Manual of Patent Examining Procedures (“MPEP”) § 2106 “Guidelines Flowchart” (Rev. 5, Aug. 2006) (listing the steps an examiner should follow in determining patentability, with “determine whether the claimed invention complies with . . . 101” listed before “determine whether the claimed invention complies with 35 U.S.C. 102 and 103”).

I

We first address Comiskey’s argument that we cannot properly address the issue of patentable subject matter. At oral argument, Comiskey admitted that the court “could affirm on [the § 101] ground if in fact [we] came to the conclusion that . . . the subject matter of this claim does not address the statutory subject matter.” In his supplemental briefing, Comiskey attempts to “withdraw[] any statement made at oral argument which would infer that this Court could even consider a new statutory grounds for rejecti[on].” Appellant’s Supp. Br. 19. Comiskey now asserts that “[t]his Court lacks the power to sua sponte raise and thereafter decide a statutory ground of patentability never raised during the agency proceeding below” because our review of the Board’s decision is required to be “on the record before the Patent and Trademark Office” under 35 U.S.C. § 144 and the Administrative Procedure Act (“APA”), 5 U.S.C. § 706. Id. at 16-17.

Over sixty years ago in Securities & Exchange Commission v. Chenery Corp., 318 U.S. 80 (1943), the Supreme Court made clear that a reviewing court can (and should) affirm an agency decision on a legal ground not relied on by the agency if there is no issue of fact, policy, or agency expertise. The Court said:

In confining our review to a judgment upon the validity of the grounds upon which the Commission itself based its action, we do not disturb the settled rule that, in reviewing the decision of a lower court, it must be affirmed if the result is correct although the lower court relied upon a wrong ground or gave a wrong reason. . . . It would be wasteful to send a case back to a lower court to reinstate a decision which it had already made but which the appellate court concluded should properly be based on another ground within the power of the appellate court to formulate. But it is also familiar appellate procedure that where the correctness of the lower court's decision depends upon a determination of fact which only a jury could make but which has not been made, the appellate court cannot take the place of the jury. Like considerations govern review of administrative orders. If an order is valid only as a determination of policy or judgment which the agency alone is authorized to make and which it has not made, a judicial judgment cannot be made to do service for an administrative judgment.

Id. at 88 (emphases added; internal citations and quotation marks omitted). We have repeatedly applied Chenery and have said that “[w]e may, however, where appropriate, affirm the [agency] on grounds other than those relied upon in rendering its decision, when upholding the [agency’s] decision does not depend upon making a determination of fact not previously made by the [agency].” Killip v. Office of Pers. Mgmt., 991 F.2d 1564, 1568-69 (Fed. Cir. 1993) (emphases added); see also Newhouse v. Nicholson, 497 F.3d 1298, 1301 (Fed. Cir. 2007) (“[T]he Chenery doctrine is not implicated when the new ground for affirmance is not one that calls for a determination or judgment which an administrative agency alone is authorized to make.” (internal quotation marks omitted)); Spears v. Merit Sys. Prot. Bd., 766 F.2d 520, 523 (Fed. Cir. 1985). We note

that the APA specifically states that “the reviewing court shall decide all relevant questions of law.” 5 U.S.C. § 706. The Supreme Court has emphasized that in general the PTO should be treated like other administrative agencies, and that patent cases are subject to the same general administrative law legal principles. Dickinson v. Zurko, 527 U.S. 150, 154-55 (1999). Thus, the same rules governing affirmance of agency action on a ground not relied on below necessarily apply in the PTO context as in the administrative context generally.

As Comiskey points out, some of our cases have concluded that “it is inappropriate for this court to consider rejections that had not been considered by or relied upon by the Board.” In re Margolis, 785 F.2d 1029, 1032 (Fed. Cir. 1986). But these statements referred to situations that required factual determinations not made by the agency. For example, in Margolis and other cases the new grounds for decision would require this court to make factual determinations involving “the scope and content of the prior art [and] differences between the prior art and the claims at issue,” Dippin’ Dots, Inc. v. Mosey, 476 F.3d 1337, 1343 (Fed. Cir. 2007), which had not been

considered by the PTO.⁵ We decline to read these cases as rejecting the breadth of the Chenery decision on which they explicitly relied.

It is well-established that “whether the asserted claims . . . are invalid for failure to claim statutory subject matter under 35 U.S.C. § 101, is a question of law which we review without deference.” AT&T Corp. v. Excel Commc’ns, Inc., 172 F.3d 1352, 1355 (Fed. Cir. 1999). As a question of law, lack of statutory subject matter is a “ground [for affirmance] within the power of the appellate court to formulate.” Chenery, 318 U.S. at 88. While there may be cases in which the legal question as to patentable subject matter may turn on subsidiary factual issues, Comiskey has not identified any relevant fact issues that must be resolved in order to address the patentability of the subject matter of Comiskey’s application. Moreover, since we would review a Board decision on the issue of patentability without deference, see AT&T, 172 F.3d at 1355, the legal

⁵ See In re Thrift, 298 F.3d 1357, 1367 (Fed. Cir. 2002) (refusing to sustain an obviousness rejection based on a new prior art reference not relied on by the Board because it would require a determination of the scope of that reference and whether it provided a motivation to combine); Margolis, 785 F.2d at 1031-32 (refusing to consider anticipation and obviousness grounds based on prior art references submitted to the examiner but not considered by the examiner or the Board); In re Hounsfeld, 699 F.2d 1320, 1324 (Fed. Cir. 1983) (refusing to consider new ground for affirmance that would require determination of scope of a prior patent and a comparison between the claims of the prior patent and the claims of the application); Application of Fisher, 448 F.2d 1406, 1407 (CCPA 1971) (refusing to consider technical authorities urged by the PTO on appeal but not in the record). In other cases the issue, while perhaps now viewed as legal, was not at the time seen as legal in nature. See Application of Fleissner, 264 F.2d 897, 900 (CCPA 1959) (noting that a finding of indefiniteness with respect to a means plus function claim requires an examination of the “record” to ascertain corresponding structure); see also Hazeltine Research, Inc. v. Dage Elec. Co., 271 F.2d 218, 220-21 (7th Cir. 1959) (finding “no evidence in this record” to support the district court’s “finding[] of fact” that the “language of the claims of the patent in suit is invalid in that it is vague and indefinite”).

issue concerning patentability is not “a determination of policy or judgment which the agency alone is authorized to make.” Chenery, 318 U.S. at 88.

In these circumstances, Chenery not only permits us to supply a new legal ground for affirmance, but encourages such a resolution where, as here, “[i]t would be wasteful to send” the case back to the agency for a determination as to patentable subject matter. 318 U.S. at 88.⁶ We therefore may consider the patentability of Comiskey’s claims under § 101, and we turn to the merits of that question.⁷

II

Comiskey’s application may be viewed as falling within the general category of “business method” patents. At one time, “[t]hough seemingly within the category of process or method, a method of doing business [was] rejected as not being within the statutory classes.” State St. Bank, 149 F.3d at 1377 (quoting MPEP § 706.03(a) (1994)). In State Street Bank, we addressed the “business method” exception to statutory subject matter, and stated that “[w]e take this opportunity to lay this ill-conceived exception to rest.” Id. at 1375. State Street Bank involved “a data processing system for managing a financial services configuration of a portfolio established as a partnership,” and “[g]iven the complexity of the calculations, a

⁶ The situation is quite different where a party seeks for the first time on appeal to raise a new ground on appeal for setting aside agency action. See Boston Scientific Scimed, Inc. v. Medtronic Vascular, Inc., 497 F.3d 1293, 1298 (Fed. Cir. 2007).

⁷ As we recently noted in our en banc decision in In re Seagate Technology, LLC, “a court may consider an issue ‘antecedent to . . . and ultimately dispositive of’ the dispute before it, even an issue the parties fail to identify and brief.” 497 F.3d 1360, 1372 (Fed. Cir. 2007) (quoting U.S. Nat’l Bank of Or. v. Indep. Ins. Agents of Am., Inc., 508 U.S. 439, 447 (1993) (quoting Arcadia v. Ohio Power Co., 498 U.S. 73, 77 (1990))). The § 101 issue is an antecedent question to the § 103 issue, as discussed above.

computer or equivalent device [wa]s a virtual necessity to perform the task.” Id. at 1371. We held that this system was patentable, concluding that patentability does “not turn on whether the claimed subject matter does ‘business’ instead of something else.” Id. at 1377.

Although it has been suggested that State Street Bank supports the patentability of business methods generally,⁸ State Street Bank explicitly held that business methods are “subject to the same legal requirements for patentability as applied to any other process or method.” Id. at 1375; see also MPEP § 2106(I) (Rev. 4, Oct. 2005) (“Claims should not be categorized as methods of doing business. Instead, such claims should be treated like any other process claims.”). We must then consider the requirements of § 101 in determining whether Comiskey’s claims 1 and 32 for a method of mandatory arbitration for unilateral and contractual documents claim statutory subject matter.

A

The very constitutional provision that authorized Congress to create a patent system, Article I, § 8, also limited the subject matter eligible for patent protection to the “useful Arts.”⁹ According to the Supreme Court, this constitutional limitation on patentability “was written against the backdrop of the [English] practices—eventually

⁸ See, e.g., Leo J. Raskind, The State Street Bank Decision: The Bad Business of Unlimited Patent Protection for Methods of Doing Business, 10 Fordham Intell. Prop. Media & Ent. L.J. 61, 61 (1999).

⁹ Article I, § 8 states in full: “The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” The Supreme Court has concluded that the references to “Science” (i.e., knowledge generally) and “Writings” creates the right to copyright protection and the references to “useful Arts” and “Discoveries” creates the right to patent protection. See Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 5 (1966).

curtailed by the Statute of Monopolies—of the Crown in granting monopolies to court favorites in goods or businesses which had long before been enjoyed by the public.” Graham, 383 U.S. at 5. In the 16th and 17th centuries, the English Crown granted monopolies over entire types of business to specific individuals, for example the grant by James I to Darcy in 1600 of the exclusive right to manufacture or sell playing cards or the exclusive right to the printing business held by the London guild of booksellers and printers. See Peter Meinhardt, Inventions, Patents, and Monopoly 31 (2d ed. 1950); Eldred v. Ashcroft, 537 U.S. 186, 200 n.5 (2003). The purpose of such monopolies “was to enrich the King . . . as well as the grantee, at the expense of the community.” Meinhardt, supra, at 31. With this background in mind, the framers consciously acted to bar Congress from granting letters patent in particular types of business. The Constitution explicitly limited patentability to “the national purpose of advancing the useful arts—the process today called technological innovation.” Paulik v. Rizkalla, 760 F.2d 1270, 1276 (Fed. Cir. 1985) (en banc).

Beginning with the first patent act, the Patent Act of 1790, “Congress [] responded to the bidding of the Constitution,” Graham, 383 U.S. at 6, by including provisions limiting patentable subject matter. See An Act to Promote the Progress of Useful Arts, Ch. 7, 1 Stat. 109, 110 (1790). The standard used by the Patent Act of 1793, which limited patentability to “any new and useful art, machine, manufacture, or composition of matter, or any new or useful improvement [thereof],” is essentially the same as that used today. An Act to Promote the Progress of Useful Arts; and to Repeal the Act Heretofore Made for that Purpose, Ch. 11, 1 Stat. 318, 319 (1793). The Patent

Act of 1952 did replace the word “art” with the word “process” so that current § 101 states:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.¹⁰

However, the Supreme Court has made clear that the 1952 language change had no substantive effect, stating that “[a]nalysis of the eligibility of a claim of patent protection for a ‘process’ did not change with the addition of that term to § 101.” Diehr, 450 U.S. at 184.

Patentable subject matter under the 1952 Act is extremely broad. Given the breadth of the categories listed in § 101, it is not surprising that the legislative history of the 1952 Act noted that “Congress intended statutory subject matter to include anything under the sun that is made by man.” Chakrabarty, 447 U.S. at 309 (quoting S. Rep. No. 1979, 82d Cong., 2d Sess., 5 (1952); H.R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952) (internal quotation marks omitted)). On the other hand, the Supreme Court has made clear that this statement does “not . . . suggest that § 101 has no limits or that it embraces every discovery.” Id.

Specifically, Supreme Court decisions after the 1952 Patent Act have rejected a “purely literal reading” of the process provision and emphasized that not every “process”

¹⁰ The Supreme Court has defined “manufacture” to mean “the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or machinery” and “composition of matter” to mean “all compositions of two or more substances and all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids.” Diamond v. Chakrabarty, 447 U.S. 303, 308 (1980) (quotation marks and alteration omitted).

is patentable. Flook, 437 U.S. at 589. Instead “[t]he question is whether the method described and claimed is a ‘process’ within the meaning of the Patent Act.” Gottschalk v. Benson, 409 U.S. 63, 64 (1972); see also Flook, 437 U.S. at 593 (“[R]espondent incorrectly assumes that if a process application implements a principle in some specific fashion, it automatically falls within the patentable subject matter of § 101.”). “Abstract ideas” are one type of subject matter that the Supreme Court has consistently held fall beyond the broad reaches of patentable subject matter under § 101. As early as Le Roy v. Tatham, 55 U.S. 156, 175 (1852), the Supreme Court explained that “[a] principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.” Since then, the unpatentable nature of abstract ideas has repeatedly been confirmed. See, e.g., Diehr, 450 U.S. at 185; Chakrabarty, 447 U.S. at 309; Flook, 437 U.S. at 589; Benson, 409 U.S. at 67; Rubber-Tip Pencil Co. v. Howard, 87 U.S. 498, 507 (1874). The very cases of this court that recognized the patentability of some business methods have reaffirmed that abstract ideas are not patentable. See AT&T, 172 F.3d at 1355; State St. Bank, 149 F.3d at 1373; see also In re Alappat, 33 F.3d 1526, 1542-43 (Fed. Cir. 1994) (en banc).

The prohibition against the patenting of abstract ideas has two distinct (though related) aspects. First, when an abstract concept has no claimed practical application, it is not patentable. The Supreme Court has held that “[a]n idea of itself is not patentable.” Rubber-Tip Pencil, 87 U.S. at 507 (emphasis added). In Benson, the claim was for a method of converting binary-coded decimal numerals into pure binary numerals that was “not limited to any particular art or technology, to any particular

apparatus or machinery, or to any particular end use.” 409 U.S. at 64. Since the claim would therefore “wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself,” the claim was unpatentable because its “practical effect” was to “patent an idea” in the abstract. Id. at 71-72.¹¹ See also AT&T, 172 F.3d at 1358 (holding that a mathematical algorithm must produce “a useful, concrete, and tangible result” to be patentable); State St. Bank, 149 F.3d at 1373 (same); MPEP § 2106 (Rev. 5, Aug. 2006) (“[C]laims define nonstatutory processes if they . . . simply manipulate abstract ideas . . . without some claimed practical application.”).

Second, the abstract concept may have a practical application. The Supreme Court has reviewed process patents reciting algorithms or abstract concepts in claims directed to industrial processes. In that context, the Supreme Court has held that a claim reciting an algorithm or abstract idea can state statutory subject matter only if, as employed in the process, it is embodied in, operates on, transforms, or otherwise involves another class of statutory subject matter, i.e., a machine, manufacture, or composition of matter. 35 U.S.C. § 101. As the PTO notes, “[t]he Supreme Court has recognized only two instances in which such a method may qualify as a section 101 process: when the process ‘either [1] was tied to a particular apparatus or [2] operated to change materials to a ‘different state or thing.’” See PTO Supp. Br. 4 (quoting Flook, 437 U.S. at 588 n.9). In Diehr, the Supreme Court confirmed that a process claim reciting an algorithm could state statutory subject matter if it: (1) is tied to a machine or

¹¹ In Benson, the Supreme Court reversed a decision by our predecessor court that had, in turn, relied on earlier decisions, such as Application of Musgrave, 431 F.2d 882, 893 (CCPA 1970), suggesting that a process of human thinking in and of itself could be patentable.

(2) creates or involves a composition of matter or manufacture.¹² 450 U.S. at 184. There, in the context of a process claim for curing rubber that recited an algorithm, the Court concluded that “[t]ransformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.” Id. (quoting Benson, 409 U.S. at 70);¹³ see also In re Schrader, 22 F.3d 290, 295 (Fed. Cir. 1994) (holding when a claim does not invoke a machine, “§ 101 requires some kind of transformation or reduction of subject matter”). Thus, a claim that involves both a mental process and one of the other categories of statutory subject matter (i.e., a machine, manufacture, or composition) may be patentable under § 101. See Diehr, 450 U.S. at 184 (holding a process that involved calculations using the “Arrhenius equation” patentable because the claim “involve[d] the transformation of an article, in this case raw, uncured synthetic rubber, into a different state or thing”). For example, we have found processes involving mathematical algorithms used in computer

¹² Of course, process claims not limited to claiming an abstract concept or algorithm (i.e., a mental process) may not be subject to the same requirements.

¹³ See also Diehr, 450 U.S. at 184 (“Industrial processes . . . are the types which have historically been eligible to receive the protection of our patent laws.” (emphasis added)); Tilghman v. Proctor, 102 U.S. 707, 722 (1880) (“A manufacturing process is clearly an art, within the meaning of the law.” (emphasis added)); Cochrane v. Deener, 94 U.S. 780, 788 (1876) (“A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.”).

technology patentable because they claimed practical applications and were tied to specific machines.¹⁴

However, mental processes—or processes of human thinking—standing alone are not patentable even if they have practical application. The Supreme Court has stated that “[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” Benson, 409 U.S. at 67 (emphasis added). In Flook the patentee argued that his claims did not seek to patent an abstract idea (an algorithm) because they were limited to a practical application of that idea—updating “alarm limits” for catalytic chemical conversion of hydrocarbons. 437 U.S. at 586, 589-90. The Court rejected the notion that mere recitation of a practical application of an abstract idea makes it patentable, concluding that “[a] competent draftsman could attach some form of post-solution activity to almost any mathematical formula.” Id. at 590. Since all other features of the process were well-known, including “the use of computers for ‘automatic monitoring-alarming,’” the Court construed the application as “simply provid[ing] a new and presumably better method for calculating alarm limit values.” Id. at 594-95. The

¹⁴ See AT&T, 172 F.3d at 1355, 1358 (holding patentable “a process that uses the Boolean principle in order to determine the value of the PIC indicator” and that “require[d] the use of switches and computers”); State St. Bank, 149 F.3d at 1373 (“[W]e hold that the transformation of data . . . by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm.” (emphases added)); Alappat, 33 F.3d at 1544 (“This is not a disembodied mathematical concept which may be characterized as an ‘abstract idea,’ but rather a specific machine to produce a useful, concrete, and tangible result.” (emphases added)); Arrhythmia Research Tech., Inc. v. Corazonix Corp., 958 F.2d 1053, 1058-59 (Fed. Cir. 1992) (holding patentable a method for analyzing electrocardiograph signals for the detection of a specific heart condition that used “electronic equipment programmed to perform mathematical computation”).

Court held the application unpatentable because “if a claim [as a whole] is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.” Id. at 595 (quoting In re Richman, 563 F.2d 1026, 1030 (CCPA 1977)).

Following the lead of the Supreme Court, this court and our predecessor court have refused to find processes patentable when they merely claimed a mental process standing alone and untied to another category of statutory subject matter even when a practical application was claimed. In Schrader we held unpatentable a “method constitut[ing] a novel way of conducting auctions” by allowing competitive bidding on a plurality of related items. 22 F.3d at 291. In doing so, we rejected the patentee’s argument that the process used a machine. Two of the alleged machines—a “display” in the front of the auction room and “a closed-circuit television system” for bidders in different cities—were not claimed by the patent, and the third—a “record” in which bids could be entered—could be “a piece of paper or a chalkboard.” Id. at 293-94. We therefore concluded that the patent impermissibly claimed unpatentable subject matter. Similarly, in In re Warmerdam, 33 F.3d 1354, 1359-60 (Fed. Cir. 1994), we held unpatentable a process for controlling objects so as to avoid collisions because the key steps of “‘locating’ a medial axis” and “‘creating’ a bubble hierarchy” described “nothing more than the manipulation of basic mathematical constructs, the paradigmatic ‘abstract idea.’” A machine was not required, id. at 1358, nor was there any indication that the process operated on a manufacture or composition of matter.

Decisions of our predecessor court are in accord. In re Meyer, 688 F.2d 789, 795-96 (CCPA 1982), held that “a mental process that a neurologist should follow” was

not patentable because it was “not limited to any otherwise statutory process, machine, manufacture, or composition of matter.” Similarly, In re Maucorps held that an invention “[u]ltimately . . . directed toward optimizing the organization of sales representatives in a business” was unpatentable. 609 F.2d 481, 482, 486 (CCPA 1979); see also Alappat, 33 F.3d at 1541 (“Maucorps dealt with a business methodology for deciding how salesmen should best handle respective customers and Meyer involved a ‘system’ for aiding a neurologist in diagnosing patients. Clearly, neither of the alleged ‘inventions’ in those cases falls within any § 101 category.”).¹⁵

It is thus clear that the present statute does not allow patents to be issued on particular business systems—such as a particular type of arbitration—that depend entirely on the use of mental processes. In other words, the patent statute does not allow patents on particular systems that depend for their operation on human intelligence alone, a field of endeavor that both the framers and Congress intended to be beyond the reach of patentable subject matter. Thus, it is established that the application of human intelligence to the solution of practical problems is not in and of itself patentable.

B

Having considered the governing legal principles, we now turn to Comiskey’s application and begin with independent claims 1 and 32 which recite “[a] method for mandatory arbitration resolution” regarding unilateral and contractual documents.

¹⁵ In Musgrave, our predecessor court concluded that the claims at issue in that case included non-mental steps and claimed patentable subject matter. 431 F.2d at 893. To the extent that language in the opinion might suggest that mental processes standing alone are patentable, the broad language in the opinion was significantly cabined by Benson. See 1 Chisum on Patents § 1.03[6][c].

Comiskey has conceded that these claims do not require a machine, and these claims evidently do not describe a process of manufacture or a process for the alteration of a composition of matter. Comiskey's independent claims 1 and 32 claim the mental process of resolving a legal dispute between two parties by the decision of a human arbitrator. They describe in essence "conducting arbitration resolution for [a] contested issue" and "determining an award or a decision for the contested issue" through a pre-determined "mandatory" arbitration system, and thus claim the use of mental processes to resolve a legal dispute. Thus, like the claims that the Supreme Court found unpatentable in Benson and Flook and the claims found unpatentable in our own cases, Comiskey's independent claims 1 and 32 seek to patent the use of human intelligence in and of itself. Like the efforts to patent "a novel way of conducting auctions" which Schrader, 22 F.3d at 291, found to be directed to an abstract idea itself rather than a statutory category, Comiskey's independent claims 1 and 32 describe an allegedly novel way of requiring and conducting arbitration and are unpatentable.

C

We consider independent claims 17 and 46 separately. They recite the use of "module[s]," including "a registration module for enrolling" a person, "an arbitration module for incorporating arbitration language," and "an arbitration resolution module for requiring a complainant [or party] to submit a request for arbitration resolution to the mandatory arbitration system." Claim 17 also recites "a means for selecting an arbitrator from an arbitrator database." These claims, under the broadest reasonable interpretation, could require the use of a machine as part of Comiskey's arbitration system. See Alan Freedman, The Computer Glossary 268 (8th ed. 1998) (defining

module as “[a] self-contained hardware or software component that interacts with a larger system); id. at 90 (defining database as “any electronically-stored collection of data”). Similarly, even though Comiskey did not separately argue his dependent claims, our decision is based on a different ground than the Board’s, and we think it is appropriate to separately consider dependent claims 15, 30, 44, and 58. Each of these claims adds the following limitation to its corresponding independent claim: “wherein access to the mandatory arbitration is established through the Internet, intranet, World Wide Web, software applications, telephone, television, cable, video [or radio], magnetic, electronic communication, or other communications means.”

As to all of these claims, which under the broadest reasonable interpretation recite the use of a machine, we think that the § 101 question should be addressed in the first instance by the PTO. We therefore remand to the PTO to consider whether independent claims 17 and 46 (with dependent claims 18-29, 31, 47-57, and 59) and dependent claims 15, 30, 44, and 58 recite patentable subject matter under § 101.

CONCLUSION

We conclude that Comiskey’s independent claims 1 and 32 and dependent claims 2-14, 16, 33-43, and 45 do not claim patentable subject matter. With respect to independent claims 17 and 46 (with dependent claims 18-29, 31, 47-57, and 59) and dependent claims 15, 30, 44, and 58, we remand to the PTO to determine in the first instance whether § 101 is satisfied. If the Board had relied on the new § 101 ground for rejection in the first instance, Comiskey would have had the opportunity to amend his application under 37 C.F.R. § 41.50(b). We think that it is appropriate to afford

Comiskey the same protections in this respect as he would have had before the Board with respect to the claims that we have held unpatentable.

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED

COSTS

No costs.