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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LAWRENCE M. AUSUBEL

Appeal 2019-005178
Application 13/898,214
Technology Center 3600

Before ERIC S. FRAHM, BETH Z. SHAW, and
MATTHEW J. McNEILL, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge*,
BETH Z. SHAW.

Opinion dissenting filed by *Administrative Patent Judge*, ERIC S. FRAHM
SHAW, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–51. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We conducted an oral hearing for this case on July 29, 2020.

We AFFIRM.

CLAIMED SUBJECT MATTER

The claims are directed to a system and method for an efficient dynamic multi-unit auction. Claims 1 and 18, reproduced below, are illustrative of the claimed subject matter:

1. A computer system for conducting a clock auction of one or more types of items among a plurality of users, said system comprising:
 - means for transmitting first prices for one or more types of items;
 - means for receiving one or more bids, said bids indicating quantities of items that a user wishes to transact based on said first prices;
 - means for determining, based on received bids, whether the auction should continue or terminate;
 - means for transmitting second prices for one or more types of items, responsive to a determination to continue the auction, said second prices differing from the first prices for at least one type of item;
 - means for receiving further bids, said further bids indicating intra-round prices, each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating a quantity of items that a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price;

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Efficient Auctions LLC. Appeal Br. 2.

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means for testing whether the received further bids satisfy one or more constraints and applying only those further bids that satisfy the constraints; and

means for determining, based on applied further bids, whether the auction should continue or terminate.

18. A method for conducting a clock auction of one or more types of items among a plurality of users, said method implemented in a computer system comprising a plurality of computers including a first computer and at least one other computer which is located remotely from the first computer and interconnected by a communication system, said method comprising:

transmitting first prices for one or more types of items from said first computer to said communication system;

receiving, at one or more computers of said computer system, one or more bids from said communication system, said bids indicating quantities of items that a user wishes to transact based on said first prices;

determining, at one or more computers of said computer system, based on received bids, whether the auction should continue or terminate;

transmitting from said first computer second prices for one or more types of items, responsive to a determination to continue the auction, said second prices differing from the first prices for at least one type of item;

receiving, at one or more computers of said computer system, further bids, said further bids indicating intra-round prices, each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating a quantity of items that a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price;

testing, at one or more computers of said computer system, whether the received further bids satisfy one or more constraints and applying only those further bids that satisfy the constraints; and

determining, at one or more computers of said computer system, based on applied further bids, whether the auction should continue or terminate.

REJECTION

Claims 1–51 are rejected under 35 U.S.C. § 101. Final Act. 2.

OPINION

As an initial matter, we note that independent claim 1 is written as a means-plus-function claim and independent claim 18 is a method claim. Appellant does not contest that the elements of claim 1 should be construed as means-plus-function elements. *See* Appeal Br. 10 (“Claim 1 includes several ‘means’ clauses, each relying on the 6th paragraph of section 112.”).

Although we address each set of claims (i.e., claims 1–17 and claims 18–51) separately in this decision in order to address each of Appellant’s arguments,² we find there to be no distinction between them for § 101 purposes, because they recite the same concept. *See Voter Verified, Inc. v. Election Sys. & Software LLC*, 887 F.3d 1376, 1385 (Fed. Cir. 2018), *cert. denied*, 139 S. Ct. 813 (2019) (“While these claims encompass both methods and systems, we find there to be no distinction between them for § 101 purposes, as they simply recite the same concept”) (citing *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 226 (2014) (“[T]he system claims are no different from the method claims in substance. The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic computer components configured to implement the same idea.”)).

PRINCIPLES OF LAW

² Appellant groups claims 1–17 and claims 18–51 separately in the Appeal Brief when presenting some arguments, though not all. *See* Appeal Br. 10–20.

A. Section 112

For means-plus-function elements, which are statutorily limited to the “corresponding structure, material, or acts described in the specification and equivalents thereof,” 35 U.S.C. § 112, ¶ 6 requires that the specification must permit one of ordinary skill in the art to “know and understand what structure corresponds to the means limitation.” *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 951 (Fed. Cir. 2007).

B. Section 101

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[I]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g., Alice*, 573 U.S. at 216.

In determining whether a claim falls within an excluded category, we are guided by the Court’s two-part framework, described in *Mayo* and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611);

mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Court held that “a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (quotation marks omitted).

“A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

C. USPTO Section 101 Guidance

In January 2019, the U.S. Patent and Trademark Office (USPTO) published revised guidance on the application of § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Revised Guidance”).³ “All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance.” *Id.* at 51; *see also* October 2019 Update at 1.

Under the 2019 Revised Guidance and the October 2019 Update, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) (“Step 2A, Prong One”); and

³ In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the 2019 Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the “October 2019 Update”) (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018)) (“Step 2A, Prong Two”).⁴

2019 Revised Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, under Step 2B, to whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

2019 Revised Guidance, 84 Fed. Reg. at 52–56.

Abstract Idea

For the following reasons, we conclude the claims recite a fundamental economic practice, which is one of certain methods of organizing human activity identified in the Revised Guidance, and thus, an abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52, 53 (listing “[c]ertain methods of organizing human activity—fundamental economic

⁴ This evaluation is performed by (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception, and (b) evaluating those additional elements individually and in combination to determine whether the claim as a whole integrates the exception into a practical application. *See* 2019 Revised Guidance - Section III(A)(2), 84 Fed. Reg. 54–55.

principles or practices” as one of the “enumerated groupings of abstract ideas”). Additionally, we conclude the claims recite a mental process, which is one of certain methods of organizing human activity identified in the Revised Guidance, and thus, an abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52, 53 (listing “[m]ental process” as one of the “enumerated groupings of abstract ideas”).

Although we ultimately reach the same conclusion for all of claims 1–51, we address claims 1–17 and claims 18–51 separately, for the reasons discussed below.

Claim 1

Appellant addresses claims 1–17 as a group, and we treat claim 1 as representative of this group. *See* Appeal Br. 10.

The claim is directed to an abstract idea because it is directed to a fundamental economic practice, which is one of certain methods of organizing human activity, as discussed below. The steps of claim 1, include, with italics:

means for transmitting first prices for one or more types of items;

means for receiving one or more bids, said bids indicating quantities of items that a user wishes to transact based on said first prices;

means for determining, based on received bids, whether the auction should continue or terminate;

means for transmitting second prices for one or more types of items, responsive to a determination to continue the auction, said second prices differing from the first prices for at least one type of item;

means for receiving further bids, said further bids indicating intra-round prices, each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating a quantity of items that

a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price;

means for testing whether the received further bids satisfy one or more constraints and applying only those further bids that satisfy the constraints; and

means for determining, based on applied further bids, whether the auction should continue or terminate.

Appellant's claimed invention is directed to transmitting prices for one or more types of items, receiving one or more bids, determining whether an auction should continue or terminate, transmitting second prices for one or more types of items responsive to a determination to continue the auction, receiving further bids indicating intra-round prices (each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating a quantity of items that a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price), testing whether the received further bids satisfy constraints and applying only those further bids that satisfy the constraints, and determining based on applied further bids if the auction should continue or terminate.

Appellant argues that the various authorities of ineligible subject matter of apparatus claims 1–17 relied on by the Examiner do not have “any bearing on apparatus claims since each of these opinions only considered method or medium claims.” Appeal Br. 10. Appellant points to Figures 1–3, Figure 4, Figure 9a, 9b, and paragraphs 46, 47, 70–73, 82, 87–89, 66–69 as support for the “means for” limitations recited in claim 1. *See* Appeal Br. 3, 4. In the oral hearing on July 29, 2020, Appellant specifically identified the “algorithm” shown in Figures 9a and 9b as support for the “means for”

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elements of the claim. *See* Oral Hr'g Tr. 6:11–12; 9:19–22. To ascertain the scope of claim 1, we examine these figures in more detail, as discussed below. We begin with Figure 4 of Appellant's Specification because Figures 9a and 9b refer back to Figure 4.

Figure 4 of Appellant's Specification is reproduced below.

FIGURE 4

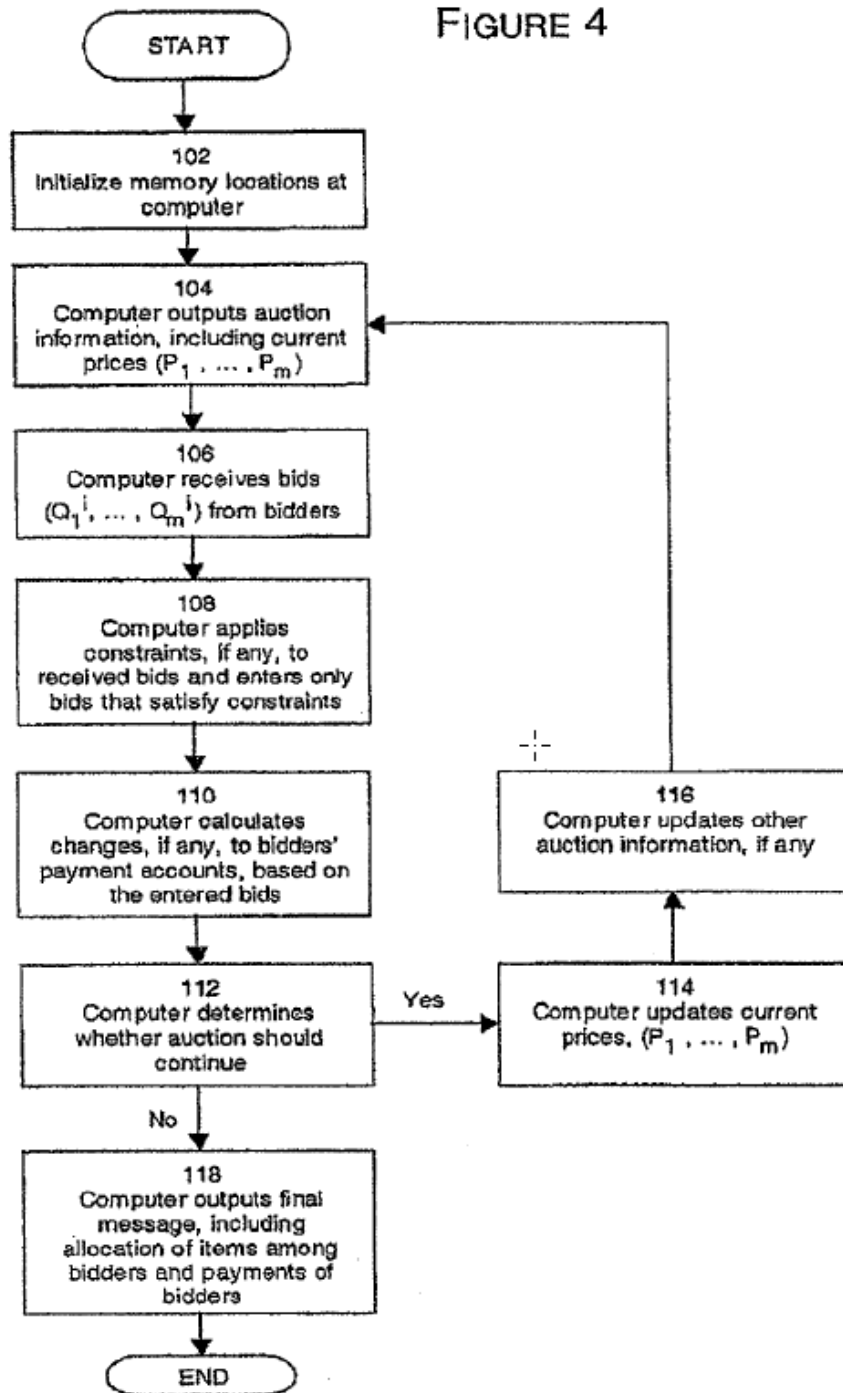


Figure 4 is a flow diagram of an auction process. Spec. ¶ 22. Figures 9a, 9b, and 9c are more detailed flow diagrams illustrating, in more detail, elements of Figure 4. Spec. ¶ 27.

Figure 9a of Appellant's Specification is reproduced below.

FIGURE 9a

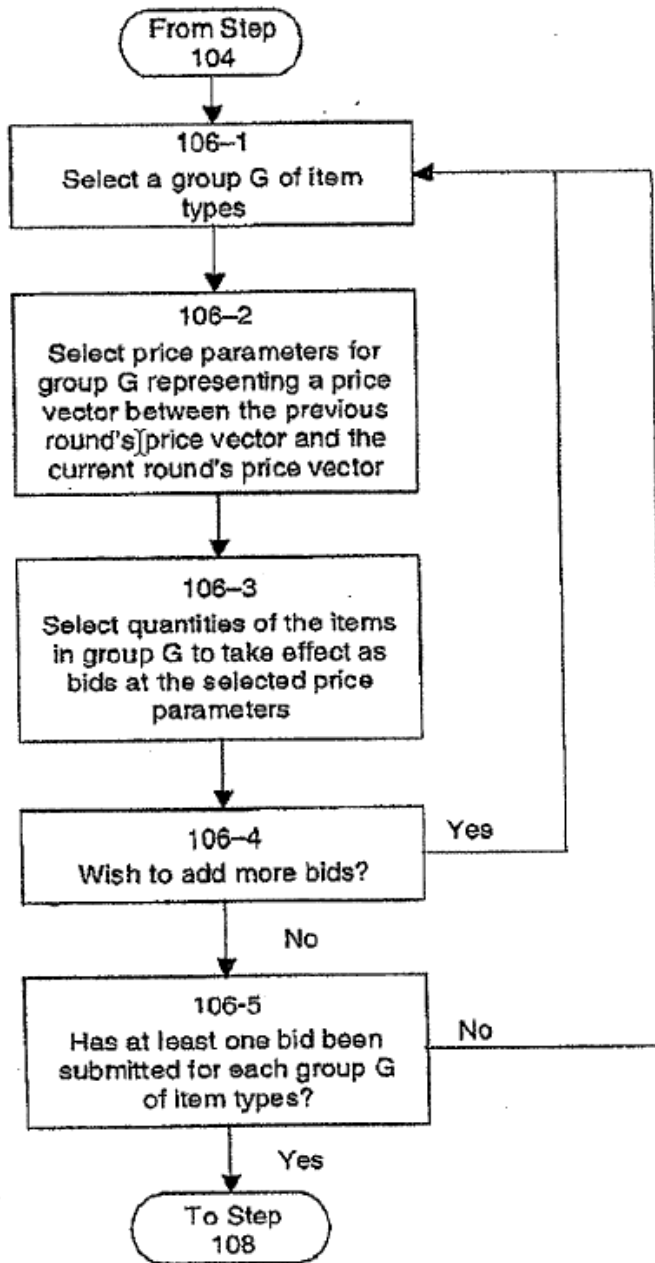


Figure 9a illustrates a flow diagram of a subprocess of step 106 of Figure 4. Spec. ¶ 87.

Figure 9b of Appellant's Specification is reproduced below.

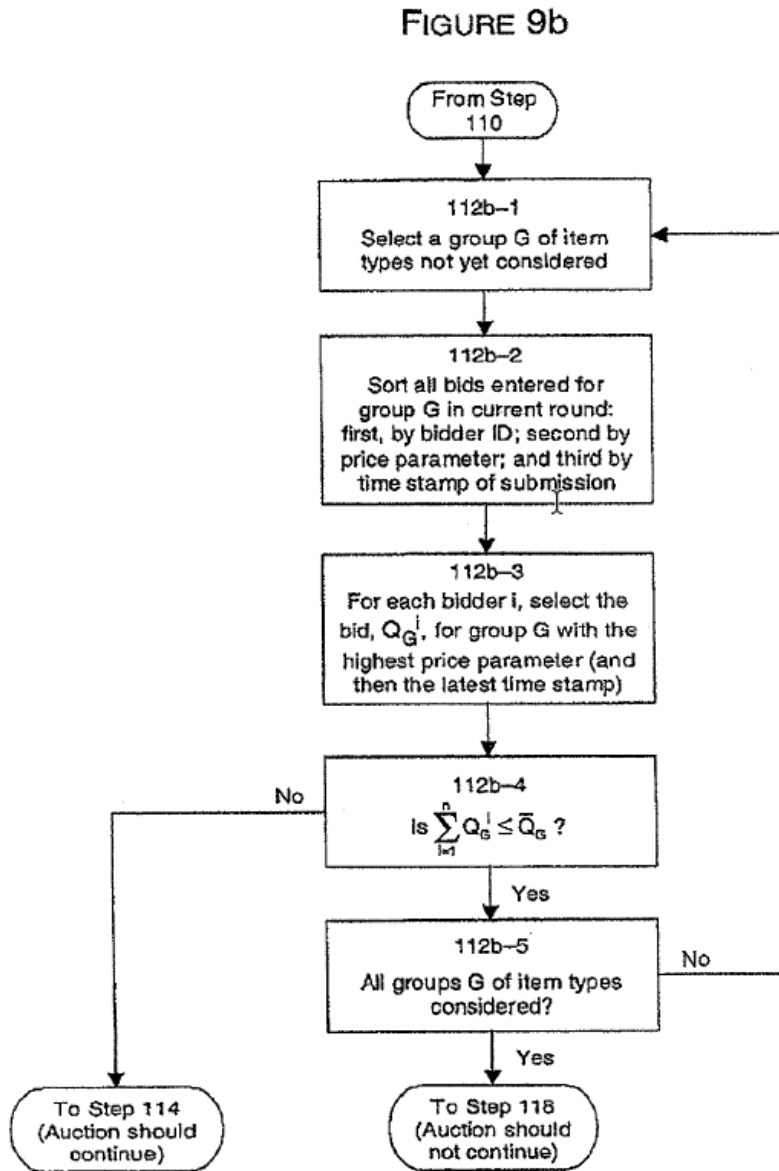


Figure 9b illustrates a flow diagram of a subprocess of step 112 of Figure 4. Spec. ¶ 88.

Even accepting Appellant's assertion (*see* Appeal Br. 4) that the corresponding "structure" of the "means for receiving further bids" limitation of claim 1 corresponds to Figures 9a and 9b of the Specification, this "means for" is described and shown as a flow diagram of a subprocess of an auction process. For example, Figure 9a "illustrates an exemplary process by which a particular bidder *i* may submit Intra-Round Bids." Spec. ¶ 87. "Figure 9a begins with step 106-1, in which bidder *i* selects a group, *G*, of item types on which he wishes to place a bid." *Id.*

In step 106-2, bidder *i* selects price parameters for group *G* representing a price vector between the previous round's price vector for group *G* and the current round's price vector for group *G*. In step 106-3, bidder *i* selects quantities of the item types of group *G* that he would like to take effect as bids at the selected price parameters. In step 106-4, bidder *i* expresses whether he wishes to enter more bids. If so, the process loops back to step 106-1. If not, the process continues to step 106-5. In step 106-5, the computer determines whether bidder *i* has submitted at least one bid for each group *G* of item types. If not, the process loops back to step 106-1, and optionally the computer prompts bidder *i* to submit bids on the groups *G* of item types on which bidder *i* has not submitted at least one valid bid in the current round. If so, the process goes to step 108 of Figure 4.

Id. Figure 9b "illustrates an exemplary process by which a computer determines whether the auction should continue, in a system where bidders are permitted to submit Intra-Round Bids." Spec. ¶ 88.

Thus, even if we agree with Appellant's assertion that the "means for receiving further bids" is limited to the "structure" of the flow of steps 106-1

through 106-3 shown in Figures 9a of the Specification (Appeal Br. 4), the structure, i.e., the algorithm, of the “means for receiving further bids” still falls under the umbrella of economic practices and mental steps, as discussed in more detail below. It is also significant that this means-plus-function limitation, as construed by Appellant, does not correspond to tangible structure. *C.f. Allvoice Developments US, LLC v. Microsoft Corp.*, 612 F. App’x 1009, 1018 n.5 (Fed. Cir. 2015) (non-precedential) (“[I]t is also significant that the means-plus-function limitations, as construed by Allvoice, do not correspond to tangible structure, as opposed to software instructions.”).

Under Supreme Court precedent, claims directed purely to an abstract idea are patent ineligible. As set forth in the 2019 Revised Guidance, which extracts and synthesizes key concepts identified by the courts, abstract ideas include (1) mathematical concepts, (2) certain methods of organizing human activity, and (3) mental processes. Among those certain methods of organizing human activity listed in the 2019 Revised Guidance are fundamental economic practices, such as the concept of intermediated settlement in *Alice*, and the concept of hedging in *Bilski*.

Like those concepts, claim 1 also recites a fundamental economic practice. Specifically, the italicized steps fall under the umbrella of economic practices, because the steps, including at least the means for “*transmitting first prices for one or more types of items*”; “*receiving one or more bids, said bids indicating quantities of items that a user wishes to transact based on said first prices*”; “*determining, based on received bids, whether the auction should continue or terminate*”; means for “*transmitting second prices for one or more types of items, responsive to a determination*

to continue the auction, said second prices differing from the first prices for at least one type of item”; means for “*receiving further bids, said further bids indicating intra-round prices, each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating a quantity of items that a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price*”; means for “*testing whether the received further bids satisfy one or more constraints and applying only those further bids that satisfy the constraints*”; and means for “*determining, based on applied further bids, whether the auction should continue or terminate,*” would ordinarily take place in clock auctions, which occur in our system of commerce. *See Spec. ¶ 6* (“This provides the advantage of improving the economic efficiency of the auction design over the prior art. The present invention usefully enables a seller or buyer to efficiently auction multiple types of goods or services, and to efficiently auction items with complex possibilities for substitution.”). In particular, the Specification explains that:

A clock auction is a dynamic auction procedure whereby: the auctioneer announces the current prices to bidders; the bidders respond with current bids; the auctioneer determines whether the auction should continue based on the bidding history; the auctioneer updates the current prices based on the bidding history and the process repeats, if it is determined that the auction should continue; and the auctioneer allocates the items among the bidders and assesses payments among the

bidders based on the bidding history, if it is determined that the auction should not continue.

Spec. ¶ 44.

In *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015), an advertisement taking into account the time of day and tailoring the information presented to the user based on that information was considered another “fundamental . . . practice long prevalent in our system.” In *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044 (Fed. Cir. 2017), patent claims directed to a system and method for providing financing to allow a customer to purchase a product selected from an inventory of products maintained by a dealer were considered patent ineligible as directed to the abstract idea of processing an application for financing a purchase, an economic practice long prevalent in commerce. Like the claims at issue in *Intellectual Ventures I* and *Credit Acceptance*, the claimed “system for conduction a clock auction of one or more types of items among a plurality of users” is “a fundamental economic practice long prevalent in our system of commerce.” *Credit Acceptance*, 859 F.3d at 1054.

Even if the “means for receiving further bids” is limited to the flow of steps depicted in Figure 9a or Figure 9b, these are steps that would ordinarily take place in clock auctions, which occur in our system of commerce. Appellant argues, without support, that “[o]ffering a bid is not a commercial interaction.” Reply Br. 5. We disagree because offering a bid for an item is an offer to purchase an item, which is a part of a commercial interaction. Thus, we conclude claim 1 recites a fundamental economic

practice, which is one of certain methods of organizing human activity identified in the 2019 Revised Guidance, and thus an abstract idea.

Additionally, claim 1 is similar to claims that courts have concluded recite a mental process. *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016) (“[W]ith the exception of generic computer-implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper.”), *quoted in* 2019 Revised Guidance, 84 Fed. Reg. at 52 n.14; *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324 (Fed. Cir. 2016) (holding that computer-implemented method for “anonymous loan shopping” was an abstract idea because it could be “performed by humans without a computer”); *quoted in* 2019 Revised Guidance, 84 Fed. Reg. at 52 n.14.

A person can perform the above-quoted steps of claim 1 by using his or her mind (or pen and paper) in the claimed manner. For example, a person can “*transmit[] first prices for one or more types of items,*” using pen and paper. A person can “*receiv[e] one or more bids, said bids indicating quantities of items that a user wishes to transact based on said first prices*” using pen and paper. A person can “*determin[e], based on received bids, whether the auction should continue or terminate,*” via his or her mind or via pen and paper. A person can transmit “*second prices for one or more types of items, responsive to a determination to continue the auction, said second prices differing from the first prices for at least one type of item*” using pen and paper. A person can “*receiv[e] further bids, said further bids indicating intra-round prices, each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating*”

*a quantity of items that a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price,” using pen and paper. A person can, via pen and paper, or his or her mind “test[] whether the received further bids satisfy one or more constraints and apply[] only those further bids that satisfy the constraints.” A person can “determin[e], based on applied further bids, whether the auction should continue or terminate,” using his or her mind, or pen and paper. Cf. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011) (noting that a recited step that constructed a map of credit card numbers could be performed by merely writing down a list of credit card transactions made from a particular IP address.); *see also In re Grams*, 888 F.2d 835, 837 n.1 (Fed. Cir. 1989) (“Words used in a claim operating on data to solve a problem can serve the same purpose as a formula.”); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (noting that analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, are essentially mental processes within the abstract idea category); *Digitech Image Tech., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) (“Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.”); *Benson*, 409 U.S. 63 (holding ineligible claims involving a mathematical algorithm and directed to converting binary-coded-decimal (BCD) numerals into pure binary numerals for use with a computer). *Accord CyberSource*, 654 F.3d at 1375 (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in [*Benson*].”). Therefore,*

the limitations fall squarely within the mental processes category of the agency's guidelines and, therefore, recite an abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52.

In accordance with the 2019 Revised Guidance, and looking to MPEP §§ 2106.05(a)–(c) and (e)–(h), we determine that the additional elements of claim 1, both individually and as an ordered combination, do not integrate a judicial exception, in this case the abstract idea of a fundamental economic practice or a mental process, into a practical application. Claim 1 is directed to the implementation of the abstract idea on a generic computer system.

Here, the the recited “computer system” in the preamble is the only recited element beyond the abstract idea, but this additional element does not integrate the abstract idea into a practical application when reading claim 1 as a whole. First, we are not persuaded that the claimed invention improves the computer or its components' functionality or efficiency, or otherwise changes the way those devices function, at least in the sense contemplated by the Federal Circuit in *Enfish, LLC v. Microsoft Corporation*, 822 F.3d 1327 (Fed. Cir. 2016), despite Appellant's argument to the contrary (Appeal Br. 10). The claimed self-referential table in *Enfish* was a specific type of data structure designed to improve the way a computer stores and retrieves data in memory. *Enfish*, 822 F.3d at 1339. To the extent Appellant contends that the claimed invention uses such a data structure to improve a computer's functionality or efficiency, or otherwise change the way that device functions, there is no persuasive evidence on this record to substantiate such a contention.

To the extent Appellant contends that the claimed invention is rooted in technology because it is ostensibly directed to a technical solution, we

disagree. Even assuming, without deciding, that claimed invention can conduct a clock auction faster than doing so manually, any speed increase comes from the capabilities of the generic computer components—not the recited process itself. *See FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (citing *Bancorp Servs., LLC v. Sun Life Assurance Co. of Canada (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (“[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”)); *see also Intellectual Ventures I LLC v. Erie Indemnity Co.*, 711 F. App’x 1012, 1017 (Fed. Cir. 2017) (unpublished) (“Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer ‘do[] not materially alter the patent eligibility of the claimed subject matter.’”). Like the claims in *FairWarning*, the focus of claim 1 is not on an improvement in computer processors as tools, but on certain independently abstract ideas that use generic computing components as tools. *See FairWarning*, 839 F.3d at 1095 (citations and quotation marks omitted).

As recognized by the Supreme Court, “the mere recitation of a generic computer cannot transform a patent ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223; *see id.* at 225 (concluding claims “simply instruct[ing] the practitioner to implement the abstract idea of intermediated settlement on a generic computer” are not patent eligible); *see also Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715–16 (Fed. Cir. 2014) (claims merely reciting abstract idea of using advertising as currency as applied to particular technological environment of the Internet are not patent

eligible); *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1344–45 (Fed. Cir. 2013) (claims reciting “generalized software components arranged to implement an abstract concept [of generating insurance-policy-related tasks based on rules to be completed upon the occurrence of an event] on a computer” are not patent eligible); *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1333–34 (Fed. Cir. 2012) (“Simply adding a ‘computer aided’ limitation to a claim covering an abstract concept, without more, is insufficient to render [a] claim patent eligible” (internal citation omitted)).

Nor is this a case involving eligible subject matter as in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). There, instead of a computer network operating in its normal, expected manner by sending a website visitor to a third-party website apparently connected with a clicked advertisement, the claimed invention in *DDR* generated and directed the visitor to a hybrid page that presented (1) product information from the third party, and (2) visual “look and feel” elements from the host website. *DDR*, 773 F.3d at 1258–59. Given this particular Internet-based solution, the court held that the claimed invention did not merely use the Internet to perform a business practice known from the pre-Internet world, but rather was necessarily rooted in computer technology to overcome a problem specifically arising in computer networks. *Id.* at 1257.

That is not the case here. As noted previously, Appellant’s claimed invention, in essence, is directed to conducting a clock auction for one or more items—albeit using computer-based components to achieve that end. The claimed invention here is not necessarily rooted in computer technology in the sense contemplated by *DDR* where the claimed invention solved a

challenge particular to the Internet. Although Appellant's invention uses a computer system, as noted previously, the claimed invention does not solve a challenge particular to the computing components used to implement this functionality.

Appellant's reliance on *Finjan, Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299 (Fed. Cir. 2018) (*see* Appeal Br. 15), is likewise unavailing. There, the court held eligible claims directed to a behavior-based virus scanning system. In reaching this conclusion, the court noted that the claimed invention employed a new kind of file that enabled a computer security system to do that which could not be done previously, including accumulating and using newly-available, behavior-based information about potential threats. *Finjan*, 879 F.3d at 1305.

That is not the case here. To the extent that Appellant contends that the claimed invention is directed to such improvements in computer capabilities (*see* Appeal Br. 15), there is no persuasive evidence on this record to substantiate such a contention.

We reach the same conclusion regarding Appellant's reliance on *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018). Appeal Br. 15. There, the court held eligible claims reciting a computing device that could display an application summary window that was not only reachable directly from the main menu, but could also display a limited list of selectable functions while the application was in an un-launched state. *Core Wireless*, 880 F.3d at 1360–63. Upon selecting a function, the device would then launch the application and initiate the selected function. *Id.* at 1360. In reaching its eligibility conclusion, the court noted that the claimed invention was directed to an improved user interface

for computing devices that used a particular manner of summarizing and presenting a limited set of information to the user, unlike conventional user interface methods that displayed a generic index on a computer. *Id.* at 1362–63.

That is not the case here. To the extent that Appellant contends that the claimed invention is directed to such improvements in computer capabilities (*see* Appeal Br. 15), there is no persuasive evidence on this record to substantiate such a contention.

Appellant’s reliance on *Trading Technologies International, Inc. v. CQG, Inc. et al.*, 675 F. App’x 1001 (Fed. Cir. 2017) (non-precedential) (Appeal Br. 18), is likewise unavailing, at least because the decision is non-precedential. Moreover, in *Trading Technologies*, the Federal Circuit affirmed the district court’s holding that the claims were not directed to an abstract idea because the claims required “a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface’s structure that is addressed to and resolves a specifically identified problem in the prior state of the art.” *Trading Techs.*, 675 F. App’x at 1004. Here, the claims do not recite a graphical user interface and, therefore, are readily distinguishable from the claims in *Trading Technologies*. As discussed above, a generic computer system is used to implement the steps, and there is no indication that claim 1 improves the functioning of the processor, makes it operate more efficiently, or solves a technological problem with a solution rooted in computer technology.

Accordingly, the claim as a whole does not integrate the abstract idea into a practical application because the claim limitations do not impose any meaningful limits on practicing the abstract idea. Stated differently, the

claims do not (1) improve the functioning of a computer or other technology, (2) are not applied with any particular machine (except for generic computer components), (3) do not effect a transformation of a particular article to a different state, and (4) are not applied in any meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim, as a whole, is more than a drafting effort designed to monopolize the exception. *See* MPEP §§ 2106.05(a)–(c), (e)–(h).

Inventive Concept

Because we determine that claim 1 is “directed to” an abstract idea, we next consider whether claim 1 recites an “inventive concept.” The Examiner determined that claim 1 does not recite an inventive concept because the additional elements in the claim do not amount to “significantly more” than an abstract idea. *See* Ans. 13, 14.

We agree with the Examiner’s determination in this regard. *See* Ans. 13, 14. Using generic computer components to perform abstract ideas does not provide the necessary inventive concept. *See Alice*, 573 U.S. at 223 (“[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”). Thus, the elements of claim 1 do not amount to “significantly more” than the abstract idea itself.

Preemption is a driving concern when determining patent eligibility. *See Alice*, 573 U.S. at 216–17. Patent law cannot inhibit further discovery by improperly tying up the future use of the building blocks of human ingenuity. *See id.* (citing *Mayo*, 566 U.S. at 85–86). Although preemption is characterized as a driving concern for patent eligibility, preemption itself is not the test for patent eligibility. “Where a patent’s claims are deemed only

to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). “While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Id.*

To the extent Appellant contends that the recited limitations, including those detailed above in connection with *Alice* step one, add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two (*see* Appeal Br. 15, 16), these limitations are not *additional* elements *beyond* the abstract idea, but rather are directed to the abstract idea as noted previously. *See* 2019 Revised Guidance, 84 Fed. Reg. at 56 (instructing that *additional* recited elements should be evaluated in *Alice/Mayo* step two to determine whether they (1) *add* specific limitations that are not well-understood, routine, and conventional in the field, or (2) simply *append* well-understood, routine, and conventional activities previously known to the industry (citing MPEP § 2106.05(d)). These elements form part of the recited abstract ideas and thus are not “additional elements” that “transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78); *see also* 2019 Revised Guidance, 84 Fed. Reg. at 55 n.24 (“USPTO guidance uses the term ‘additional elements’ to refer to claim features, limitations, and/or steps that are recited in the claim *beyond the identified judicial exception.*” (Emphasis added)).

To the extent Appellant contends that the claimed invention is rooted in technology because it is ostensibly directed to a technical solution (*see*

Appeal Br. 16, 17), we disagree. Even assuming, without deciding, that the claimed invention can conduct a clock auction of one or more types of items among users faster than before, any speed increase comes from the capabilities of the generic computer components—not the recited process itself. *See FairWarning IP*, 839 F.3d at 1095 (citing *Bancorp Servs.*, 687 F.3d at 1278 (“[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”)); *see also Erie Indemnity Co.*, 711 F. App’x at 1017 (“Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer ‘do[] not materially alter the patent eligibility of the claimed subject matter.’”). Like the claims in *FairWarning*, the focus of claim 1 is not on an improvement in computer processors as tools, but on certain independently abstract ideas that use generic computing components as tools. *See FairWarning*, 839 F.3d at 1095 (citations and quotation marks omitted).

As recognized by the Federal Circuit in *Ultramercial*, 772 F.3d at 715–16, *Bilski*’s “machine-or-transformation” test can also provide a “useful clue” in the second step of the *Alice* framework. *See In re Bilski*, 545 F.3d 943, 954 (Fed. Cir. 2008) (en banc). Under *Bilski*’s test, a claimed process is patent-eligible under 35 U.S.C. § 101 if: (1) it is tied to a particular machine or apparatus; or (2) it transforms a particular article into a different state or thing. *Bilski*, 545 F.3d at 954 (citing *Benson*, 409 U.S. at 70). However, Appellant’s claims are neither sufficiently “tied to a particular machine or

apparatus” nor involved in any type of transformation of any particular article.⁵

Limiting an abstract concept of conducting a clock auction to a general purpose computer having generic components, such as the “computer system” recited in Appellant’s claims, does not make the abstract concept patent-eligible under 35 U.S.C. § 101. As recognized by the Supreme Court, “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223; *see id.* at 225 (concluding claims “simply instruct[ing] the practitioner to implement the abstract idea of intermediated settlement on a generic computer” are not patent eligible); *see also Ultramercial*, 772 F.3d at 715–16 (claims merely reciting abstract idea of using advertising as currency as applied to particular technological environment of the Internet are not patent eligible); *Accenture*, 728 F.3d at 1344–45 (claims reciting “generalized software components arranged to implement an abstract concept [of generating insurance-policy-related tasks based on rules to be completed upon the occurrence of an event] on a computer” are not patent eligible); *Dealertrack*, 674 F.3d at 1333–34 (“Simply adding a ‘computer aided’ limitation to a claim covering an abstract concept, without more, is insufficient to render [a] claim patent eligible” (internal citation omitted)).

With regard to Appellant’s argument that the pending claims are patent eligible because there are no obviousness or novelty rejections of the claims, (*see* Reply Br. 4–5), Appellant improperly conflates the

⁵ *Alice* also confirmed that, if a patent’s systems claims are no different in substance from its method claims, they will stand or fall together. *Alice*, 573 U.S. at 226. The same was true of the *Alice* patent’s media claims. *Id.*

requirements for eligible subject matter (§ 101) with the independent requirements of novelty (§ 102) and non-obviousness (§ 103). “The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89; *see also Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016) (stating that, “under the *Mayo/Alice* framework, a claim directed to a newly discovered law of nature (or natural phenomenon or abstract idea) cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility”).

Accordingly, we sustain the Examiner’s rejection of claims 1–17 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.

Claims 18–51

Appellant addresses claims 18–51 as a group, and we treat claim 18 as representative. *See* Appeal Br. 10. Independent claim 18 is a method claim, and independent claim 35 is a computer readable medium storing a sequence of instructions. *See* Claims App’x.

Claim 18 is directed to an abstract idea because it is directed to a fundamental economic practice, which is one of certain methods of organizing human activity, as discussed below. The steps of claim 18, include, with italics:

transmitting first prices for one or more types of items
from said first computer to said communication system;
receiving, at one or more computers of said computer
system, *one or more bids* from said communication system,
said bids indicating quantities of items that a user wishes to
transact based on said first prices;

determining, at one or more computers of said computer system, based on received bids, whether the auction should continue or terminate;

transmitting from said first computer second prices for one or more types of items, responsive to a determination to continue the auction, said second prices differing from the first prices for at least one type of item;

receiving, at one or more computers of said computer system, further bids, said further bids indicating intra-round prices, each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating a quantity of items that a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price;

testing, at one or more computers of said computer system, whether the received further bids satisfy one or more constraints and applying only those further bids that satisfy the constraints; and

determining, at one or more computers of said computer system, based on applied further bids, whether the auction should continue or terminate.

Appellant's claimed invention is directed to transmitting prices for one or more types of items, receiving one or more bids, determining whether an auction should continue or terminate, transmitting second prices for one or more types of items responsive to a determination to continue the auction, receiving further bids indicating intra-round prices, testing whether the received further bids satisfy constraints and applying only those further bids that satisfy the constraints, and determining based on applied further bids if the auction should continue or terminate.

The italicized steps of claim 18 fall under the umbrella of economic practices and mental steps, as discussed in more detail below.

Under Supreme Court precedent, claims directed purely to an abstract idea are patent ineligible. As set forth in the 2019 Revised Guidance, which extracts and synthesizes key concepts identified by the courts, abstract ideas include (1) mathematical concepts, (2) certain methods of organizing human activity, and (3) mental processes. Among those certain methods of organizing human activity listed in the 2019 Revised Guidance are fundamental economic practices, such as the concept of intermediated settlement in *Alice*, and the concept of hedging in *Bilski*. Like those concepts, claim 18 also recites a fundamental economic practice.

Specifically, the italicized steps fall under the umbrella of economic practices, because the italicized steps, would ordinarily take place in clock auctions, which occur in our system of commerce. *See* Spec. ¶ 6 (“This provides the advantage of improving the economic efficiency of the auction design over the prior art. The present invention usefully enables a seller or buyer to efficiently auction multiple types of goods or services, and to efficiently auction items with complex possibilities for substitution.”).

In *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015), an advertisement taking into account the time of day and tailoring the information presented to the user based on that information was considered another “fundamental . . . practice long prevalent in our system.” In *Credit Acceptance Corporation*, patent claims directed to a system and method for providing financing to allow a customer to purchase a product selected from an inventory of products maintained by a dealer were considered patent ineligible as directed to the abstract idea of

processing an application for financing a purchase, an economic practice long prevalent in commerce. Like the claims at issue in *Intellectual Ventures I* and *Credit Acceptance*, the claimed “method for conducting a clock auction of one or more types of items among a plurality of users” is “a fundamental economic practice long prevalent in our system of commerce.” *Credit Acceptance*, 859 F.3d at 1054.

Appellant argues, without support, that “[o]ffering a bid is not a commercial interaction.” Reply Br. 5. We disagree because offering a bid is an offer to purchase an item, which is a part of a commercial interaction. Thus, we conclude claim 18 recites a fundamental economic practice, which is one of certain methods of organizing human activity identified in the 2019 Revised Guidance, and thus an abstract idea.

Additionally, claim 18 is similar to claims that courts have concluded recite a mental process. *See Symantec Corp.*, 838 F.3d at 1318 (“[W]ith the exception of generic computer-implemented steps, there is nothing in the claims themselves that foreclose them from being performed by a human, mentally or with pen and paper.”), *quoted in* 2019 Revised Guidance, 84 Fed. Reg. at 52 n.14; *Mortg. Grader*, 811 F.3d at 1324 (holding that computer-implemented method for “anonymous loan shopping” was an abstract idea because it could be “performed by humans without a computer”); *quoted in* 2019 Revised Guidance, 84 Fed. Reg. at 52 n.14.

A person can perform the above-quoted steps of claim 18 by using his or her mind (or pen and paper) in the claimed manner. For example, a person can “transmit[] first prices for one or more types of items,” using pen and paper. A person can “receiv[e] one or more bids, . . . said bids indicating quantities of items that a user wishes to transact based on said first prices”

using pen and paper. A person can determine “*based on received bids, whether the auction should continue or terminate,*” via his or her mind or via pen and paper. A person can transmit “*second prices for one or more types of items, responsive to a determination to continue the auction, said second prices differing from the first prices for at least one type of item*” using pen and paper. A person can receive “*further bids, said further bids indicating intra-round prices, each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating a quantity of items that a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price,*” using pen and paper. A person can, via pen and paper, or his or her mind, test “*whether the received further bids satisfy one or more constraints and apply[] only those further bids that satisfy the constraints.*” A person can determine “*based on applied further bids, whether the auction should continue or terminate,*” using his or her mind, or pen and paper. *Cf. CyberSource*, 654 F.3d at 1372–73 (noting that a recited step that constructed a map of credit card numbers could be performed by merely writing down a list of credit card transactions made from a particular IP address.); *see also In re Grams*, 888 F.2d at 837 n.1 (“Words used in a claim operating on data to solve a problem can serve the same purpose as a formula.”); *Elec. Power Grp.*, 830 F.3d at 1354 (noting that analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, are essentially mental processes within the abstract idea category); *Digitech*, 758 F.3d at 1351 (“Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent

eligible.”); *Benson*, 409 U.S. 63 (holding ineligible claims involving a mathematical algorithm and directed to converting binary-coded-decimal (BCD) numerals into pure binary numerals for use with a computer). *Accord CyberSource*, 654 F.3d at 1375 (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in [*Benson*].”). Therefore, the limitations fall squarely within the mental processes category of the agency’s guidelines and, therefore, recite an abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52.

In accordance with the 2019 Revised Guidance, and looking to MPEP §§ 2106.05(a)–(c) and (e)–(h), we determine that the additional elements of claim 18, both individually and as an ordered combination, do not integrate a judicial exception, in this case the abstract idea of a fundamental economic practice or a mental process, into a practical application. Claim 18 is directed to the implementation of the abstract idea on a generic computer system.

Here, the the recited “computer,” “communication system,” and “computer system” are the only recited elements beyond the abstract idea, but these additional elements do not integrate the abstract idea into a practical application when reading claim 18 as a whole. These elements are generic components. *See, e.g.*, Spec. Fig. 1, ¶¶ 29–31 (“In one embodiment, each of the systems are personal computers or workstations.”).

We are not persuaded that the claimed invention improves the “computer,” “communication system,” and “computer system” or their components’ functionality or efficiency, or otherwise changes the way those devices function, at least in the sense contemplated by the Federal Circuit in

Enfish, despite Appellant’s argument to the contrary (Appeal Br. 10). The claimed self-referential table in *Enfish* was a specific type of data structure designed to improve the way a computer stores and retrieves data in memory. *Enfish*, 822 F.3d at 1339. To the extent Appellant contends that the claimed invention uses such a data structure to improve a computer’s functionality or efficiency, or otherwise change the way that device functions (Appeal Br. 18), there is no persuasive evidence on this record to substantiate such a contention.

To the extent Appellant contends that the claimed invention is rooted in technology because it is ostensibly directed to a technical solution, we disagree. Even assuming, without deciding, that claimed invention can conduct a clock auction faster than doing so manually, any speed increase comes from the capabilities of the generic computer components—not the recited process itself. *See FairWarning*, 839 F.3d at 1095 (citing *Bancorp Servs.*, 687 F.3d at 1278 (“[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”)); *see also Erie Indemnity Co.*, 711 F. App’x at 1017 (“Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer ‘do[] not materially alter the patent eligibility of the claimed subject matter.’”). Like the claims in *FairWarning*, the focus of claim 18 is not on an improvement in computer processors as tools, but on certain independently abstract ideas that use generic computing components as tools. *See FairWarning*, 839 F.3d at 1095 (citations and quotation marks omitted).

As recognized by the Supreme Court, “the mere recitation of a generic computer cannot transform a patent ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223; *see id.* at 225 (concluding claims “simply instruct[ing] the practitioner to implement the abstract idea of intermediated settlement on a generic computer” are not patent eligible); *see also Ultramercial*, 772 F.3d at 715–16 (claims merely reciting abstract idea of using advertising as currency as applied to particular technological environment of the Internet are not patent eligible); *Accenture*, 728 F.3d at 1344–45 (claims reciting “generalized software components arranged to implement an abstract concept [of generating insurance-policy-related tasks based on rules to be completed upon the occurrence of an event] on a computer” are not patent eligible); *Dealertrack*, 674 F.3d at 1333–34 (“Simply adding a ‘computer aided’ limitation to a claim covering an abstract concept, without more, is insufficient to render [a] claim patent eligible” (internal citation omitted)).

Appellant’s reliance on *Finjan* (Appeal Br. 15) is likewise unavailing, here, the court held eligible claims directed to a behavior-based virus scanning system. In reaching this conclusion, the court noted that the claimed invention employed a new kind of file that enabled a computer security system to do that which could not be done previously, including accumulating and using newly-available, behavior-based information about potential threats. *Finjan*, 879 F.3d at 1305.

That is not the case here. To the extent that Appellant contends that the claimed invention is directed to such improvements in computer capabilities (*see* Appeal Br. 15), there is no persuasive evidence on this record to substantiate such a contention.

We reach the same conclusion regarding Appellant’s reliance on *Core Wireless*. Appeal Br. 15. There, the court held eligible claims reciting a computing device that could display an application summary window that was not only reachable directly from the main menu, but could also display a limited list of selectable functions while the application was in an un-launched state. *Core Wireless*, 880 F.3d at 1360–63. Upon selecting a function, the device would then launch the application and initiate the selected function. *Id.* at 1360. In reaching its eligibility conclusion, the court noted that the claimed invention was directed to an improved user interface for computing devices that used a particular manner of summarizing and presenting a limited set of information to the user, unlike conventional user interface methods that displayed a generic index on a computer. *Id.* at 1362–63.

That is not the case here. To the extent that Appellant contends that the claimed invention is directed to such improvements in computer capabilities (*see* Appeal Br. 15), there is no persuasive evidence on this record to substantiate such a contention.

Appellant’s reliance on *Trading Technologies International* (Appeal Br. 18), is likewise unavailing at least because the decision is non-precedential. Moreover, in *Trading Technologies*, the Federal Circuit affirmed the district court’s holding that the claims were not directed to an abstract idea because the claims required “a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface’s structure that is addressed to and resolves a specifically identified problem in the prior state of the art.” *Trading Techs.*, 675 F. App’x at 1004. Here, the claims do not recite a graphical user

interface and, therefore, are readily distinguishable from the claims in *Trading Technologies*. As discussed above, a generic computer system is used to implement the steps, and there is no indication that claim 1 improves the functioning of the processor, makes it operate more efficiently, or solves a technological problem with a solution rooted in computer technology.

Accordingly, the claim as a whole does not integrate the abstract idea into a practical application because the claim limitations do not impose any meaningful limits on practicing the abstract idea. Stated differently, the claims do not (1) improve the functioning of a computer or other technology, (2) are not applied with any particular machine (except for generic computer components), (3) do not effect a transformation of a particular article to a different state, and (4) are not applied in any meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that the claim, as a whole, is more than a drafting effort designed to monopolize the exception. *See* MPEP §§ 2106.05(a)–(c), (e)–(h).

Inventive Concept

Because we determine that claim 18 is “directed to” an abstract idea, we next consider whether claim 18 recites an “inventive concept.” The Examiner determined that claim 18 does not recite an inventive concept because the additional elements in the claim do not amount to “significantly more” than an abstract idea. *See* Ans. 13, 14.

We agree with the Examiner’s determination in this regard. *See* Ans. 13, 14. Using generic computer components to perform abstract ideas does not provide the necessary inventive concept. *See Alice*, 573 U.S. at 223 (“[T]he mere recitation of a generic computer cannot transform a patent-

ineligible abstract idea into a patent-eligible invention.”). Thus, the elements of claim 18 do not amount to “significantly more” than the abstract idea itself.

Preemption is a driving concern when determining patent eligibility. *See Alice*, 573 U.S. at 216–17. Patent law cannot inhibit further discovery by improperly tying up the future use of the building blocks of human ingenuity. *See id.* (citing *Mayo*, 566 U.S. at 85–86). Although preemption is characterized as a driving concern for patent eligibility, preemption itself is not the test for patent eligibility. “Where a patent’s claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot.” *Ariosa*, 788 F.3d at 1379. “While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Id.*

To the extent Appellant contends that the recited limitations, including those detailed above in connection with *Alice* step one, add significantly more than the abstract idea to provide an inventive concept under *Alice/Mayo* step two (*see* Appeal Br. 15, 16), these limitations are not *additional* elements *beyond* the abstract idea, but rather are directed to the abstract idea as noted previously. *See* 2019 Revised Guidance, 84 Fed. Reg. at 56 (instructing that *additional* recited elements should be evaluated in *Alice/Mayo* step two to determine whether they (1) *add* specific limitations that are not well-understood, routine, and conventional in the field, or (2) simply *append* well-understood, routine, and conventional activities previously known to the industry (citing MPEP § 2106.05(d)). These elements form part of the recited abstract ideas and thus are not “additional

elements” that “transform the nature of the claim’ into a patent-eligible application.” *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78); *see also* 2019 Revised Guidance, 84 Fed. Reg. at 55 n.24 (“USPTO guidance uses the term ‘additional elements’ to refer to claim features, limitations, and/or steps that are recited in the claim *beyond the identified judicial exception.*” (Emphasis added)).

To the extent Appellant contends that the claimed invention is rooted in technology because it is ostensibly directed to a technical solution (*see* Appeal Br. 16, 17), we disagree. Even assuming, without deciding, that the claimed invention can conduct a clock auction of one or more types of items among users faster than before, any speed increase comes from the capabilities of the generic computer components—not the recited process itself. *See FairWarning*, 839 F.3d at 1095 (citing *Bancorp Servs.*, 687 F.3d at 1278 (“[T]he fact that the required calculations could be performed more efficiently via a computer does not materially alter the patent eligibility of the claimed subject matter.”)); *see also Erie Indemnity Co.*, 711 F. App’x at 1017 (“Though the claims purport to accelerate the process of finding errant files and to reduce error, we have held that speed and accuracy increases stemming from the ordinary capabilities of a general-purpose computer ‘do[] not materially alter the patent eligibility of the claimed subject matter.’”). Like the claims in *FairWarning*, the focus of claim 1 is not on an improvement in computer processors as tools, but on certain independently abstract ideas that use generic computing components as tools. *See FairWarning*, 839 F.3d at 1095 (citations and quotation marks omitted).

As recognized by the Federal Circuit in *Ulramercial*, 772 F.3d at 715–16, *Bilski*’s “machine-or-transformation” test can also provide a “useful

clue” in the second step of the *Alice* framework. *See In re Bilski*, 545 F.3d at 954. Under *Bilski*’s test, a claimed process is patent-eligible under 35 U.S.C. § 101 if: (1) it is tied to a particular machine or apparatus; or (2) it transforms a particular article into a different state or thing. *Bilski*, 545 F.3d at 954 (citing *Benson*, 409 U.S. at 70). However, Appellant’s claims are neither sufficiently “tied to a particular machine or apparatus” nor involved in any type of transformation of any particular article.⁶

Limiting an abstract concept of “selecting an address, identifying locations based on an address, showing the locations on a map, and plotting a travel path to one of those locations” to a general purpose computer having generic components, such as the “computer” recited in Appellant’s claims, does not make the abstract concept patent-eligible under 35 U.S.C. § 101. As recognized by the Supreme Court, “the mere recitation of a generic computer cannot transform a patent ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223; *see id.* at 225 (concluding claims “simply instruct[ing] the practitioner to implement the abstract idea of intermediated settlement on a generic computer” are not patent eligible); *see also Ultramercial*, 772 F.3d at 715–16 (claims merely reciting abstract idea of using advertising as currency as applied to particular technological environment of the Internet are not patent eligible); *Accenture*, 728 F.3d at 1344–45 (claims reciting “generalized software components arranged to implement an abstract concept [of generating insurance-policy-related tasks based on rules to be completed upon the occurrence of an event] on a

⁶ *Alice* also confirmed that, if a patent’s systems claims are no different in substance from its method claims, they will stand or fall together. *Alice*, 573 U.S. at 226. The same was true of the *Alice* patent’s media claims. *Id.*

computer” are not patent eligible); *Dealertrack*, 674 F.3d at 1333–34 (“Simply adding a ‘computer aided’ limitation to a claim covering an abstract concept, without more, is insufficient to render [a] claim patent eligible” (internal citation omitted)).

With regard to Appellant’s argument that the pending claims are patent eligible because there are no obviousness or novelty rejections of the claims (*see* Reply Br. 4–5), Appellant improperly conflates the requirements for eligible subject matter (§ 101) with the independent requirements of novelty (§ 102) and non-obviousness (§ 103). “The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89; *see also Genetic Techs.*, 818 F.3d at 1376 (stating that, “under the *Mayo/Alice* framework, a claim directed to a newly discovered law of nature (or natural phenomenon or abstract idea) cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility”).

Accordingly, we sustain the Examiner’s rejection of claims 18–51 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.

CONCLUSION

We affirm the rejection of claims 1–51.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-51	101		1-51	

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LAWRENCE M. AUSUBEL

Appeal 2019-005178
Application 13/898,214
Technology Center 3600

Before ERIC S. FRAHM, BETH Z. SHAW, and
MATTHEW J. McNEILL, *Administrative Patent Judges*.

FRAHM, *Administrative Patent Judge*, dissenting.

I fully join the decision as to (i) the means-plus-function interpretation (*see* Maj. Op. 10–16) (i); and (ii) the determination, under Step 2A, Prong One of the 2019 Revised Guidance, that claims 1–51 *recite* a fundamental economic practice (e.g., an clock auction, auction process, commercial or business transaction) that is an abstract idea (*see* Maj. Op. 9–11, 16–18). However, I respectfully disagree with my colleagues’ conclusion that the claims are *directed* to an abstract idea, and thus, ineligible under 35 U.S.C. § 101.

More specifically, I agree with the Majority that “the claims recite a fundamental economic practice, which is one of certain methods of organizing human activity identified in the Revised Guidance, and thus, an

abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52, 53 (listing ‘[c]ertain methods of organizing human activity—fundamental economic principles or practices’ as one of the ‘enumerated groupings of abstract ideas’)” (Maj. Op. 9). Because the claims, in light of the Specification as a whole (*see* Spec. ¶¶ 6–8, 82–92; Figs. 1–4, 9A–C), set forth a complex bidding structure for a clock auction for multiple items, and a computer would be required to perform the recited process, I respectfully do not agree with the Majority that the claims recite a mental process that can be performed in the human mind, or with the aid of pen and paper (*see* Maj. Op. 18–20). Giving claims 1, 18, and 35 the broadest reasonable interpretation consistent with the Specification (*see In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997)), and considering Figures 1–4, 9A, and 9B and paragraphs 6–8, 81, and 82, 87–92 of the Specification, I would conclude that the claimed clock auction process, including the intra-round bidding step, cannot be performed mentally without a computer.

Looking at the “additional elements” for claim features, limitations, or steps that the claim recites beyond the identified judicial exception (*see* 2019 Revised Guidance at 55 n.24), in claims 1, 18, and 35, the additional elements include the steps and/or elements for receiving intra-round bid prices that go beyond just a standard clock auction.

Under Step 2A, Prong Two of the 2019 Revised Guidance, I differ from my colleagues in that I would determine the step of receiving intra-round prices in each of independent claims 1, 18, and 35 to be an additional feature, element, or limitation beyond the abstract idea (i.e., the auction or clock auction), that (i) is not a mental process that can be performed mentally by a human, with or without pen and paper; and (ii) is not directed

to the abstract idea because the intra-round price bidding step is a meaningful feature, element, or limitation that integrates the abstract idea into a practical application of the idea. I also disagree with the Majority that the means for “*receiving further bids, said further bids indicating intra-round prices, each said intra-round price situated between the first price and the second price for a type of item, each said further bid indicating a quantity of items that a user wishes to transact at prices above the intra-round price and a quantity of items that the user wishes to transact at prices below the intra-round price*” (claim 1) “would ordinarily take place in clock auctions, which occur in our system of commerce” (Maj. Op. 16–17 citing Spec. ¶¶ 6, 44). It is precisely this feature that was at the heart of the Notice of Allowability mailed on April 16, 2014, page 4 (*see* Appeal Br. 29, Evidence Appendix), in which the Examiner stated that the prior art, in any combination, “failed to teach or render obvious to one of ordinary skill in the art, the method step of . . . [receiving bids indicating intra-round prices, as set forth in claims 1, 18, and 35].”

According to Appellant, the ability to receive intra-round bids as claimed is precisely the technological improvement and invention (*see* Spec. ¶¶ 74–83), and represents a technological improvement in discrete round dynamic auctions (i.e., clock auctions) (*see* Oral Hr’g Tr. 4:13–15; 5:20–24; 8:10–13, 19–21). And, as stated by Appellant (i) at the Oral Hearing (Oral Hr’g Tr. 6:9–26; 8:10–24; 9:17–10:2); and (ii) in the Appeal Brief (*see* Appeal Br. 3–6) (explaining the support for the intra-round price bid receipt for claims 1, 18, and 35), Figures 9A and 9B, and the accompanying description (*see* Spec. ¶¶ 87–89), provide the algorithm for performing a

dynamic clock auction with a discrete round structure, including receiving intra-round bid prices.

Furthermore, I agree with Appellant's contentions (*see* Appeal Brief 15–17; Reply Br. 6–8; Oral Hr'g Tr. 8:9–24), that the step of receiving intra-round bidding (*see* claims 1, 18, 35) is a meaningful limitation in addition to the abstract idea that is an improvement to clock auctions, and integrates the abstract idea (i.e., a clock auction) into a practical application (*see* Spec. ¶¶ 6, 81, 82, 92; Oral Hr'g Tr. 5:3–26) (explaining the usefulness of such an improvement). Considering each of claims 1, 18, and 35 as a whole, and in light of the Specification (*see* at least Spec. ¶¶ 6, 82, 92), the intra-round bidding step applies or uses the abstract idea (e.g., clock auctions) in a meaningful way such that the claims as a whole are more than a drafting effort designed to monopolize the exception (e.g., clock auctions).

The claims (1) improve the functioning of a computer or other technology (e.g., the field of clock auctions with discrete round bidding), and (2) are applied in a meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that each of claims 1, 18, and 35, as a whole, is more than a drafting effort designed to monopolize the exception. *See* MPEP §§ 2106.05(b). Thus, I would conclude the abstract idea is integrated into a practical application. Because I would conclude that each of claims 1, 18, and 35 as a whole integrate the abstract idea (e.g., clock auctions) into a practical application (e.g., receiving intra-round bids), I would not sustain the Examiner's rejection under 35 U.S.C. § 101.

In summary, for the reasons discussed, I concur with the Majority's determination that the claims are directed to certain methods

of organizing human activity, i.e. clock auctions or commercial transactions. Certain methods of organizing human activity are identified in the 2019 Revised Guidance as abstract ideas. However, I would further determine the additional claim element(s), and thus the ordered combinations of elements recited in each of claims 1, 18, and 35, integrate the judicial exception into a practical application.

In addition, for similar reasons as already discussed above with regard to a practical application, I would determine the claims recite limitations that amount to significantly more than the abstract idea itself. I would also find that the additional element of receiving intra-round bids is an inventive concept that is not well-understood, routine, or conventional activity in the field

Accordingly, I would not sustain the rejection of independent claims 1, 18, and 35 under 35 U.S.C. § 101 and, for the same reasons, the rejection of dependent claims 2–17, 19–34, and 46–51 depending respectively therefrom.