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Paper 61
Entered: October 17, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IBG LLC,
INTERACTIVE BROKERS LLC,
TRADESTATION GROUP, INC., and
TRADESTATION SECURITIES, INC.,
Petitioner,

v.

TRADING TECHNOLOGIES INTERNATIONAL, INC.,
Patent Owner.

Case CBM2016-00054
Patent 7,693,768 B2

Before SALLY C. MEDLEY, MEREDITH C. PETRAVICK, and JEREMY M. PLENZLER, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Covered Business Method Patent Review
35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

INTRODUCTION

A. Background

IBG LLC, Interactive Brokers, LLC, TradeStation Group, Inc., and TradeStation Securities, Inc. (collectively, "Petitioner"), filed a Petition requesting covered business method ("CBM") patent review of claims 1–23 (the "challenged claims") of U.S. Patent No. 7,693,768 B2 (Ex. 1001, "the '768 patent"). Paper 4 ("Pet."). Petitioner challenges the patentability of claims ("the challenged claims") of the '768 patent under 35 U.S.C. § 101 and § 103.

On October 18, 2016, we instituted a CBM patent review on the following grounds:

References	Basis	Claims Challenged
N/A	§ 101	1–23
TSE[1] and Belden[2]	§ 103	1–13, 15, 16, 18, and 21–23
TSE, Belden, and Cooper[3]	§ 103	14, 17, 19, and 20

Paper 10 ("Institution Decision" or "Inst. Dec.").

Thereafter, Trading Technologies International, Inc. ("Patent Owner") filed a Patent Owner's Response on January 1, 2017 (Paper 21, "PO. Resp.") and Petitioner filed a Reply (Paper 40, "Pet. Reply") to Patent Owner's Response.

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[1] Tokyo Stock Exchange Operation System Division, Futures/Option Purchasing System Trading Terminal Operation Guide (1998) (Ex. 1016). Citations to this reference refer to its English translation (Ex. 1017).
[2] PCT Pub. No. WO 90/11571, pub. Oct. 4, 1990 (Ex. 1012, "Belden").
[3] Alan Cooper, *About Face: The Essentials of User Interface Design* (1995) (Ex. 1022).

Patent Owner filed a Motion for Observations (Paper 52, "PO Mot. for Observations") and Petitioner filed a Response (Paper 54) to Patent Owner's Motion for Observations.

Petitioner filed a Motion to Exclude (Paper 44, "Pet. MTE") and Patent Owner filed an Opposition (Paper 52) to Patent Owner's Motion. Petitioner filed a Reply (Paper 53) in support of its Motion.

Patent Owner filed a Motion to Exclude (Paper 48, "PO MTE") and Petitioner filed an Opposition (Paper 50, "PO MTE Opp.") to Patent Owner's Motion. Patent Owner filed a Reply (Paper 54, "PO MTE Reply") in support of its Motion.

An oral hearing was held on June 23, 2017. Paper 58 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–23 of the '768 patent are unpatentable.

B. Related Proceedings

The parties indicate that the '768 patent is the subject of numerous related U.S. district court proceedings. Pet. 2; Paper 6, 1–5.

The application that issued as the '768 patent ultimately claims, under 35 U.S.C. § 320, the benefit of application 09/590,692, that issued as the '132 patent. The '132 patent was the subject of *Technologies International, Inc., v. CQG, Inc.*, 675 Fed. Appx. 1001 (Fed. Cir. 2017) ("*CQG*"). The Federal Circuit determined that the claims of the '132 patent are patent eligible under 35 U.S.C. § 101.

U.S. Patent No. 6,772,132 ("the '132 patent") was also the subject of petitions for CBM patent review in *TD Ameritrade Holding Corp. v. Trading Technologies International, Inc.*, CBM2014-00135 (PTAB), *CQG, Inc. v. Trading Technologies International, Inc.*, CBM2015-00058 (PTAB), and *IBG LLC v. Trading Technologies International, Inc.*, CBM2015-00182 (PTAB). Trial was instituted, but later terminated due to settlement, for CBM2014-00135. Institution was denied for CBM2015-00058. Institution was granted for CBM2015-00182, and a final written decision issued on February 28, 2017.

Numerous other patents are related to the '768 patent and the related patents are or were the subject of numerous petitions for CBM patent review and reexamination proceedings. Pet. 2; Paper 6, 5–7; Paper 8, 1.

C. The '768 Patent

The '768 patent is titled "Click Based Trading with Intuitive Grid Display of Market Depth" and issued on April 6, 2010. Ex. 1001, (45), (54). The invention of the '768 patent "is directed to the electronic trading of commodities." *Id.* at 1:16–17. The '768 patent discloses a graphical user interface ("GUI"), named the Mercury display, and a method of using the Mercury display to displaying market information and placing trade orders for a commodity on an electronic exchange. *Id.* at 1:17–22, 3:5.

Before turning to a discussion of the Mercury display, a discussion of a conventional method of trading using a GUI is helpful. Figure 2 of the '768 patent is reproduced below.

FIG. 2

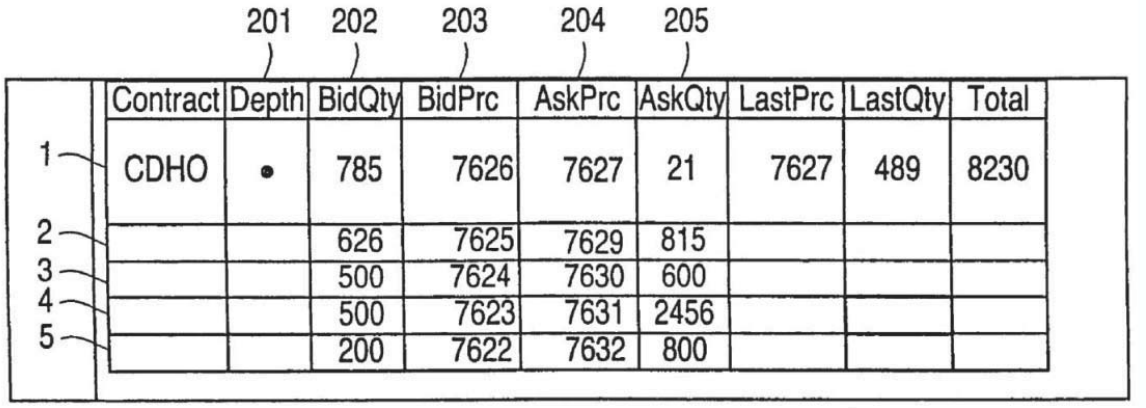

Figure 2 of the '768 patent depicts a common GUI ("the Fig. 2 GUI") that displays market information and is used to place trade orders for a commodity on an electronic exchange. *Id*. at 5:8–12, Fig. 2; *see also* PO Resp. 6–7 (describing the Fig. 2 GUI as "widely used"); Ex. 1018 ¶ 21 (describing the Fig. 3 GUI as a common dynamic screen); Ex. 2169 ¶¶ 61–62, 69 (describing the Fig. 2 GUI as "ubiquitous by the time of the invention" and "prevalent"). As can be seen from the above, the Fig. 2 GUI's screen has a grid having columns and rows. Row 1 shows the inside market. Ex. 1001, 5:14–16. The inside market is the highest bid price and the lowest ask price. *Id*. at 4:56–58. Rows 2–5 show the market depth, which are other bids or asks in the market. *Id*. at 4:52–56, 5:16–20. The market information updates dynamically as the market updates. *Id*. at 5:23–25. The inside market, however, is always displayed in row 1, a fixed location. Ex. 2169 ¶ 54.

Other prior art GUIs, similar to the Fig. 2 GUI, arrange the market information in the grid differently. Patent Owner's declarant Christopher Thomas testifies that similar dynamic GUIs "displayed the locations for the

best bid and ask prices such that the prices were displayed vertically (e.g., with the location for the best ask price being displayed above the location for the best bid price)." Ex. 2169 ¶ 60.

In the Fig. 2 GUI, "the user could place an order by clicking on a location (e.g., a cell) in one of the price or quantity columns." Ex. 2169 ¶¶ 58–59. Patent Owner's declarant Christopher Thomas testifies that "[s]ome of such dynamic screens permitted single action order entry that consisted of a trader pre-setting a default quantity and then click (e.g., using a single-click or a double-click) on a dynamic screen to cause a trade order to be sent to the exchange at the pre-set quantity." Ex. 1008 ¶ 20; *see* Ex. 1031, 7.

Other types of conventional trading GUIs used order entry tickets to send trade orders to an electronic exchange. Ex. 2169 ¶ 50. An order entry ticket is "in the form of a window, with areas for a trader to fill out order parameters for an order, such as the price, quantity, an identification of the item being traded, buy or sell, etc." *Id.*; *see also* Ex. 1001, 2:21–23, 34–36 (describing a trader manually entering trade order parameters).

Figure 3 of the '768 patent is reproduced below.

FIG. 3

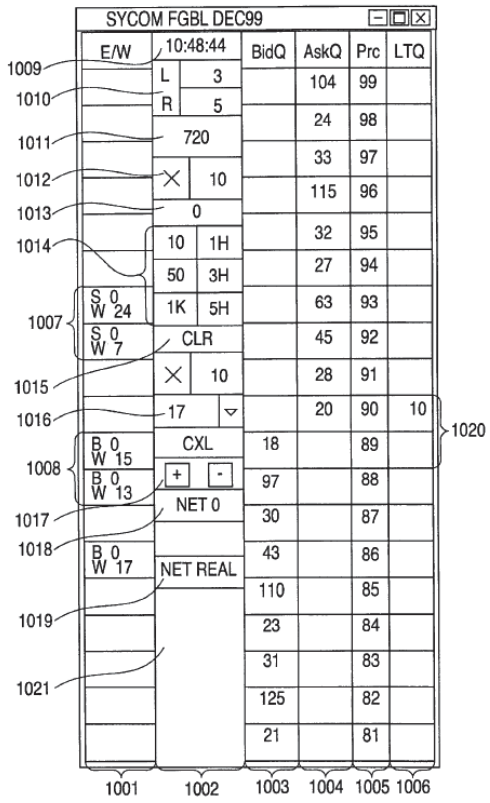

Figure 3 of the '768 patent illustrates an example of the Mercury display with example values for trading a commodity including prices, bid and ask quantities relative to price, and trade quantities. Ex. 1001, 3:41–42, 7:1–3.

The Mercury display is similar to the Fig. 2 GUI in that both display market information in a grid having rows and column and both provide for single action order entry. *See id*. at 6:59–64, 7:32–33, 4:8–18, 9:1–54, Fig. 6, steps 1306–1315. The Mercury display differs from the Fig. 2 GUI in the arrangement of the market information in the grid. In the Mercury display, price values for the commodity are displayed in a price column 1005 (i.e., a price axis). *Id*. The '768 patent explains that the price column does not display whole prices but rather representative ticks. *Id*. at 7:33–36. The

values in the price column of the Mercury display "are static; that is, they do not normally change positions unless a re-centering command is received." *Id*. at 7:42–44. Bid and ask quantities are displayed in columns 1003 and 1004, respectively, and are aligned with the corresponding price value in price column 1005. *See id*. at 7:27–33. The bid quantities and ask quantities move up and down as the market changes, and, thus, the location of the inside market moves up and down. *See id*. at 8:33–43.

Although Figure 3 of the '768 patent displays the market depth, the '768 patent discloses that:

> How far into the market depth the present invention can display depends on how much of the market depth the exchange provides. Some exchanges supply an infinite market depth, while others provide no market depth or only a few orders away from the inside market. The user of the present invention can also cho[o]se how far into the market depth to display on his screen.

Id. at 5:1–7. The '768 patent, thus, indicates that in some instances the screen will display only the inside market (i.e., the highest bid price and the lowest ask price) and not the market depth.

The Mercury display may also display other information. Column 1002 contains various parameters and information used to execute trades, such as the default quantity displayed in cell 1016. *See id*. at 7:65–8:32. The number next to the W in cell 1007 indicates the trader's orders that are in the market and not yet filled. *Id*. at 7:53–58.

D. Illustrative Claim

Claims 1 and 23 are independent. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A method of placing a trade order for a commodity on an electronic exchange using a graphical user interface and a user input device, said method comprising:

receiving data relating to the commodity from the electronic exchange, the data comprising an inside market with a highest bid price and a lowest ask price currently available for the commodity;

dynamically displaying via a computing device a first indicator in one of a plurality of areas in a bid display region, each area in the bid display region corresponding to a price level along a price axis, the first indicator representing a quantity associated with at least one order to buy the commodity at the highest bid price;

dynamically displaying via the computing device a second indicator in one of a plurality of areas in an ask display region, each area in the ask display region corresponding to a price level along the price axis, the second indicator representing a quantity associated with at least one order to sell the commodity at the lowest ask price;

displaying an order entry region comprising a plurality of locations for receiving single action commands to send trade orders, the plurality of location including:

(a) at least one first fixed location corresponding to a first price level along the price axis associated with the highest bid price currently available in the market, wherein upon receipt of new data representing an updated highest bid price currently available for the commodity, the at least one first fixed location continues to correspond to the first price level even if the first price level is no longer associated with the highest bid price currently available in the market; and

(b) at least one second fixed location corresponding to a second price level along the price axis associated with the lowest ask price currently available in the market, wherein upon receipt of new data representing an updated lowest ask price currently available for the commodity, the at least one second fixed

> location continues to correspond to the second price level even if the second price level is no longer associated with the lowest ask price currently available in the market;
>
> updating the display of the first indicator such that the first indicator is moved relative to the price axis to a different area in the bid display region corresponding with a different price level along the price axis in response to receipt of new data representing an updated highest bid price currently available for the commodity;
>
> updating the display of the second indicator such that the second indicator is moved relative to the price axis to a different area in the ask display region corresponding with a different price level along the price axis in response to receipt of new data representing an updated lowest ask price currently available for the commodity; and
>
> setting a plurality of parameters for a trade order relating to the commodity and sending the trade order to the electronic exchange in response to a selection of a particular location of the order entry region by a single action of a user input device.

Ex. 1001, 11:46–12:36.

ANALYSIS

A. Claim Construction

In a covered business method patent review, claim terms are given their broadest reasonable interpretation in light of the specification in which they appear and the understanding of others skilled in the relevant art. *See* 37 C.F.R. § 42.300(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Applying that standard, claim terms are presumed to have their ordinary and customary meaning as would be understood by one of ordinary

skill in the art in the context of the patent's specification. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. "single action"

Claims 1 and 23 both recite "a selection of a particular location of the order entry region by a single action of a user input device." Ex. 1001, 12:34–36, 14:55–57.

Petitioner contends that "single action" should be construed to be "any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device" as defined in the specification of the '768 patent. Pet. 14 (quoting Ex. 1001, 4:14–18).

Patent Owner states that Petitioner's proposed construction "is sufficient for these proceedings so long as the construction is limited to 'an action by a user . . .' or 'one action by a user . . .' because the claim itself specifically identifies that the action be a 'single' action." PO Resp. 10 (emphasis omitted). Patent Owner argues that any other construction would not be reasonable because it would be contrary to the specification and the plain and ordinary meaning. *Id.*

A patentee may rebut the presumption that claim terms have ordinary and customary meaning by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). As Petitioner points out, the '768 patent provides such a definition. Pet. 14. The specification of the '768 patent states:

> the specification refers to a single click of a mouse as a means for user input and interaction with the terminal display as an example of a single action of the user. While thus describes a

> preferred mode of interaction, the scope of the present invention is not limited to the use of a mouse as the input device or to the click of a mouse button as the user's single action. *Rather, any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device, is considered a single action of the user for the purposes of the present invention.*

Ex. 1001, 4:8–18 (emphasis added). As can be seen from the above, the '768 patent defines "single action," with reasonable clarity, deliberateness, and precision, as "any action by a user within a short period of time, whether comprising one or more click of a mouse button or other input device." *Id.* We, thus, construe "single action" according to its definition in the '768 patent. *In re Paulsen*, 30 F.3d at 1480.

Patent Owner's proposed construction is inconsistent with the definition in the '768 patent. The definition explicitly states that more than one click of a mouse button by a user is considered a "single action" for the purposes of the present invention. Ex. 1001, 4:8–18. Further, dependent claim 9 similarly shows that "single action" should not be limited to one action by a user, as it recites that the "single action . . . consists of a double click of the user input device" (Ex. 1001, 12:66–13:8).

For the reasons given above, we construe "single action" to mean "any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device" (Ex. 1001, 4:14–18).

2. Entered Order Indicator

Claim 6 recites "an entered order indicator" and "the entered order indicator represents an order pending at the electronic exchange." Ex. 1001, 12:56–60. Patent Owner argues that "[a person of ordinary skill in the art]

would readily recognize that the entered order indicator must indicate to the user that the user has an order at a particular price level along the price axis" because the specification of the '768 patent discloses "'an entered/working' column (E/W) that 'displays the current status of the trader's order.'" PO Resp. 13 (citing Ex. 1001, 7:50–58, Figs. 3–4; Ex. 2169 ¶ 30).

As Petitioner points out, Patent Owner's argument is inconsistent with the plain language of claim 6, which explicitly states that an "entered order indicator represents an order pending at the electronic exchange." Pet. Reply 2. The plain language does not require the entered order indicator to indicate *to the user that the user* has an order at a particular price level along the price axis. Patent Owner's construction is an attempt to read a limitation from the specification of the '768 patent into the claims. If a feature is not necessary to give meaning to what the inventor means by a claim term, it would be "extraneous" and should not be read into the claim. *Renishaw PLC v. Marposs Societa' Per Azioni,* 158 F.3d 1243, 1249; *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.,* 849 F.2d 1430, 1433 (Fed.Cir.1988).

The plain language of claim 6 state that an "entered order indicator represents an order pending at the electronic exchange." No further construction is required.

3. Other Terms

Patent Owner proposes explicit constructions for other claim terms. *See* PO Resp. 1–4. We do not need to explicitly construe these other claim terms in order to resolve the issues before us. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.,* 200 F.3d 795, 803 (Fed.Cir.1999) (Only terms which are in

controversy need to be construed, and then only to the extent necessary to resolve the controversy.)

B. Covered Business Method Patent

1. Standing

Section 18 of the AIA[4] provides for the creation of a transitional program for reviewing covered business method patents. Section 18 limits review to persons or their privies who have been sued or charged with infringement of a "covered business method patent," which does not include patents for "technological inventions." AIA § 18(a)(1)(B), (d)(1); *see* 37 C.F.R. § 42.302. Petitioner certifies that it was sued for infringement of the '768 patent. Pet. 3 (citing Exs. 1003, 1004). Patent Owner does not dispute this. *See generally* PO Resp.

2. Whether the '768 Patent is a CBM Patent

Under § 18(a)(1)(E) of the AIA, we may institute a transitional review proceeding only for a CBM patent. A CBM patent is a patent that "claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions." AIA § 18(d)(1); *see also* 37 C.F.R. § 42.301 (defining "[c]overed business method patent" and "[t]echnological invention"). To determine whether a patent is eligible for a covered business method patent review, the focus is on the claims. *Secure Axcess, LLC v.*

[4] Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284, 329 (2011) ("AIA").

PNC Bank N.A., 848 F.3d 1370, 1379 (Fed. Cir. 2017) ("It is the claims, in the traditional patent law sense, properly understood in light of the written description, that identifies a CBM patent."). One claim directed to a CBM is sufficient to render the patent eligible for CBM patent review. *See id.* at 1381 ("[T]he statutory definition of a CBM patent requires that the patent have a claim that contains, however phrased, a financial activity element.").

In our Institution Decision, we determined that the Petitioner had shown that the '768 patent is a CBM patent. Inst. Dec. 9–12. Patent Owner urges us to reconsider our determination and find that the '768 patent is not eligible for CBM review. *See* PO Resp. 63–65. We, however, are not apprised of any sufficient reason to change our original determination.

a. Method or Corresponding Apparatus for Performing Data Processing or Other Operations Used in the Practice, Administration or Management of a Financial Product or Service"

The statute defines a "covered business method patent" as "[a] patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service." AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). A covered business method patent can be broadly interpreted to encompass patents claiming activities that are financial in nature. Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention, 77 Fed. Reg. 48734, 48735 (Aug. 14, 2012); *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1338–41 (Fed. Cir. 2016) (determining that a patent was a covered business method patent because it claimed activities

that are financial in nature); *Unwired Planet, LLC v. Google, Inc.*, 841 F.3d 1376, n. 5 (Fed. Cir. 2016) (stating that "we endorsed the 'financial in nature' portion of the standard as consistent with the statutory definition of 'covered business method patent' in *Blue Calypso*"), *Versata Development Group, Inc. v. SAP America, Inc.*, 793 F.3d 1306, 1324–25 (Fed. Cir. 2015) ("[The statute] on its face covers a wide range of finance-related activities.").

A patent need have only one claim directed to a covered business method to be eligible for review. 77 Fed. Reg. at 48,736 (Response to Comment 8). We take claim 1 as representative.

Petitioner asserts that claim 1 is directed to a covered business method because it recites a method of placing a trade order for a commodity on an electronic exchange including the steps of displaying market information and sending a trade order, which are financial in nature. Pet. 4–5. As Petitioner points out, claim 1 recites displaying market information, including indicators of a highest bid and a lowest ask in the market, and sending a trade order to an electronic trading exchange. Pet. 4; Ex. 1001, 11:46–12:34.

Displaying market information and sending a trade order to an electronic exchange are activities that are financial in nature. A method for placing a trade order for a commodity on an electronic exchange is a method for performing data processing or other operations used in the practice, administration, or management of a financial product or service.

Patent Owner does not dispute that the '768 patent claims a method used for a financial product or service, but does dispute that the '768 patent claims data processing. PO Resp. 90–91. Patent Owner's argument is based

upon the assumption that "data processing" in the statute is interpreted according to the definition of "data processing" found in the glossary for class 705 of the United States Patent Classification System. *See id*. Patent Owner, however, does not sufficiently explain why this definition is controlling, as opposed to the plain meaning of "data processing." We, thus, are not persuaded that "data processing" as recited by the statute precludes data processing for the purpose of displaying the data. The '768 patent discloses processing market information for display on a client terminal and for sending an order to an exchange. *See e.g*., Ex. 1001, 4:60–61 ("The present invention processes this information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program . . .). We, thus, are not persuaded that the '768 patent does not claim "performing data processing . . . used in the practice, administration, or management of a financial product or service" (AIA § 18(d)(1)).

In any event, the statute does not limit CBM patents to only those that claim methods for performing data processing used in the practice, administration, or management of a financial product or service. It includes methods for performing "other operations" used in the practice, administration, or management of a financial product or service. The statute states that the "other operations" are those that are "used in the practice, administration, or management of a financial product or financial service." AIA § 18(d)(1). There appears to be no disagreement that the claimed method steps are operations used in the practice, administration, or management of a commodity or trading a commodity on an electronic exchange, e.g., a financial service. *See generally* PO Resp. 90–91. The '768 patent, therefore, at least claims "other operations used in the practice,

administration, or management of a financial product or financial service" (AIA § 18(d)(1)).

Patent Owner contends that the Legislative History confirms that the claimed invention is not a covered business method because "it specifically states that GUI tools for trading are not the types of inventions that fall within CBM jurisdiction." PO Resp. 92 (citing Ex. 2126, S5428, S5433).

Although the legislative history includes certain statements that certain novel software tools and graphical user interfaces that are used by the electronic trading industry worker are not the target of § 18 of the AIA (*see* Ex. 2126, S5428, S5433), the language of the AIA, as passed, does not include an exemption for user interfaces for commodities trading from covered business method patent review. Indeed, "the legislative debate concerning the scope of a CBM review includes statements from more than a single senator. It includes inconsistent views . . . ." *Unwired Planet*, 841 F.3d at 1381. For example, in contrast to the statements cited by Patent Owner, the legislative history also indicates that "selling and trading financial instruments and other securities" is intended to be within the scope of covered business method patent review. *See* Ex. 2126, S5432 (statements of Sen. Schumer); *see also id*. at S54636–37 (statements of Sen. Schumer expressing concern about patents claiming "double click"), 157 Cong. Rec. S1360 at S1364 (Mar. 8, 2011) (statements of Sen. Schumer explain that "method or corresponding apparatus" encompasses "graphical user interface claims" and "sets of instructions on storage media claims.") "[T]he legislative history cannot supplant the statutory definition actually adopted. . . . The authoritative statement of the Board's authority to conduct a CBM review is the text of the statute." *Unwired Planet*, 841 F.3d at 1381. Each

claimed invention has to be evaluated individually to determine if it is eligible for a CBM patent review. A determination of whether a patent is eligible for a CBM patent review under the statute is made on a case-by-case basis. 37 C.F.R. § 42.301(b).

For the reasons stated above, we are persuaded by Petitioner that the '768 patent "claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service" and meets that requirement of § 18(d)(1) of the AIA.

3. Exclusion for Technological Inventions

Even if a patent includes claims that would otherwise be eligible for treatment as a covered business method, review of the patent is precluded if the claims cover only "technological invention[s]," as defined by 37 C.F.R. §42.301(b). The definition of "covered business method patent" in § 18(d)(1) of the AIA does not include patents for "technological inventions." To determine whether a patent is for a technological invention, we consider the following: "whether the claimed subject matter as a whole [(1)] recites a technological feature that is novel and unobvious over the prior art; and [(2)] solves a technical problem using a technical solution." 37 C.F.R. § 42.301(b). Both prongs must be satisfied in order for the patent to be excluded as a technological invention. *See Versata*, 793 F.3d at 1326–7; *Apple Inc. v. Ameranth, Inc.,* 842 F.3d 1229, 1240 (Fed. Cir. 2016). The following claim drafting techniques, for example, typically do not render a patent a "technological invention":

> (a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software,

> memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.
>
> (b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.
>
> (c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,763–64 (Aug. 14, 2012). The Federal Circuit has held that a claim does not include a "technological feature" if its "elements are nothing more than general computer system components used to carry out the claimed process." *Blue Calypso*, 815 F.3d at 1341; *see also Versata*, 793 F.3d at 1327 ("the presence of a general purpose computer to facilitate operations through uninventive steps does not change the fundamental character of an invention").

With respect to the first prong, Petitioner contends that rather than reciting a technical feature that is novel or unobvious over the prior art, the claims of the '768 patent generally recite trading software that is implemented on a conventional computer. Pet. 5–7. When addressing "whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art," Patent Owner alleges that "Petitioners fail to address whether the claims recite a technical feature that is novel and unobvious." PO Resp. 91. That is incorrect. *See* Pet. 5–7; Inst. Dec. 11 (discussing Petitioner's contention).

We are persuaded by Petitioner's contentions that at least claim 1 of the '768 patent does not recite a novel and non-obvious technological feature. Pet. 5–7 (citing Ex. 1007 ¶¶ 73–74). The specification of the '768

patent treats as well-known all potentially technological aspects of the claims. For example, the '768 patent discloses that its system can be implemented "on any existing or future terminal or device" (Ex. 1001, 4:4–7), each of which is known to include a display, and discloses that the input device can be a mouse (*id*. at 4:9–11), which is a known input device. The '768 patent further discloses that "[t]he scope of the present invention is not limited by the type of terminal or device used." *Id*. at 4:7–9. The '768 patent also describes the programming associated with the GUI as insignificant. *See, e.g.*, *id*. at 4:60–66 (explaining that the "present invention processes [price, order, and fill] information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program" and "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art"). That at least claim 1 of the '768 patent does not recite a novel and non-obvious technological feature is further illustrated by our comparison of the Fig. 2 GUI to the Mercury display above (*see* Pet. 5) and by our discussion of that claim being unpatentable under § 103 below. Accordingly, we are persuaded that at least claim 1 does not recite a technological feature that is novel and unobvious over the prior art.

With respect to the second prong, Petitioner contends that the claims of the '768 patent do not fall within § 18(d)(1)'s exclusion for "technological inventions" because the '768 patent does not solve a technical problem using a technical solution. Pet. 8–9. Petitioner notes that "[a]ccording to the '768 patent, the 'problem' with prior art trading GUIs was that the market price could change before a trader entered a desired order, causing the trader to 'miss his price.'" *Id*. at 8 (citing Ex. 1001, 2:50–

63). Petitioner contends that "the '768 patent's solution is not technical" because Patent Owner "simply [] rearrange[d] how known and available market data is displayed on a GUI" and "did not design a more accurate mouse or a computer that responded faster." *Id*. at 9.

Patent Owner argues that the '768 patent provides a technical solution to a technical problem. PO Resp. 91–92. Specifically, Patent Owner argues that "the '768 claims provide a new GUI construction that improves prior GUIs because it address the problem of a user missing their intended price." *Id*. at 92. Patent Owner points to *CQG* for support. *Id*. at 91–92.

We are persuaded that the '768 patent does not solve a technical problem with a technical solution. Pet. 8–9. The '768 patent purports to solve the problem of a user missing an intended price because a price level changed as the user tried to click to send an order at an intended price level in a GUI tool. *See* Ex. 1001, 2:3–62. As written, claim 1 requires the use of only known technology. Given this, we determine that at least claim 1 does not solve a technical problem using a technical solution and at least claim 1 does not satisfy the second prong of 37 C.F.R. § 42.301(b).

The '768 patent describes the problem it solves as follows:

> [A]pproximately 80% [of the total time it takes to place an order] is attributable to the time required for the trader to read the prices displayed and to enter a trade order. The present invention provides a significant advantage during the slowest portion of the trading cycle—while the trader ***manually enters his order.*** . . .
>
> In existing systems, multiple elements of an order must be entered prior to an order being sent to market, which is time consuming for the trader. Such elements include the commodity symbol, the desired price, the quantity and whether a buy or sell order is desired. The more time a trader takes entering an order, the more likely the price on which he wanted to bid or offer will change or not be available in the market. . . . In such liquid

> markets, the prices of the commodities fluctuate rapidly. On a trading screen, this results in rapid changes in the price and quantity fields within the market grid. If a trader intend to enter an order at a particular price, but misses the price because the market prices moved before he could enter the order, he may lose hundreds, thousands, even millions of dollars. The faster a trader can trade, the less likely it will be that he will miss his price and the more likely he will make money.

Ex. 1001, 2:35–62 (emphasis added). "The inventors have developed the present invention which overcomes the drawbacks of the existing trading systems and dramatically reduces the time it takes for a trader to place a trade when electronically trading on an exchange." *Id*. at 2:66–3:2.

As can be seen from the above, a problem disclosed in the '768 patent is the time it takes for a trader to *manually* enter trader orders on a market or exchange that is rapidly changing, so as to make a profit. This is a financial issue or a business problem, not a technical problem. *See* Pet. 5–7. If the market or exchange did not rapidly change, then there would be no need for a trader to enter orders rapidly.

The '768 patent also describes that "the present invention ensure[s] fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuate." Ex. 1001, 3:5–9. Claim 1, however, does not require displaying the market depth. *See id*. at 11:46–12:36. Claim 1 only requires displaying a first indicator that represents a quantity associated with the highest bid price and a second indicator that represents a quantity associated with the lowest ask price. *Id*. In other words, claim 1 only requires displaying indicators that correspond to the inside market. *See also id*. at 5:1–7 (disclosing displaying on the

inside market and not the market depth). The subject matter of claim 1, thus, does not require the alleged technical solution to the problem of ensuring fast and accurate trades.

Patent Owner's reliance on *CQG* is misplaced. *CQG* addressed the claimed subject matter of the '134 patent and U.S. Patent No. 6,766,304. The decision relied upon a feature not required by claim 1 of the '768 patent— a *static* price axis. *See* Tr. 44–60 (discussing the differences between the claims at issue in *CQG* and the claims of the '768 patent); Pet. 30. Although claim 1 of the '768 patent requires a price axis, it does not require the price axis to be static. *See* Ex. 1001, 12:23–13:16. It does not preclude the price axis from changing as the market information updates or preclude a price value associated with the order entry location changing as it is selected. *See* Tr. 44–60.

We are persuaded by Petitioner that at least claim 1 does not recite a technological feature that is novel and unobvious over the prior art and does not solve a technical problem using a technical solution. Accordingly, we determine that the '768 patent is not for a technological invention.

4. Conclusion

In view of the foregoing, we conclude that the '768 patent is a covered business method patent under AIA § 18(d)(1) and is eligible for review using the transitional covered business method patent program.

C. Section 101 Patent-Eligible Subject Matter

Petitioner challenges claims 1–23 as directed to patent-ineligible subject matter under 35 U.S.C. § 101. Pet. 15–31.

Under 35 U.S.C. § 101, we must first identify whether an invention fits within one of the four statutorily provided categories of patent-eligibility: "processes, machines, manufactures, and compositions of matter." *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 713–14 (Fed. Cir. 2014).

Initially, we note that Petitioner asserts that claim 23 is "broad enough to encompass a transitory, propagating signal that is encoded, which is not eligible for patenting." Pet. 31 (citing *In re Nuijten*, 550 F.3d 1346, 1357 (Fed. Cir. 2007); *Ex parte Mewherter,* 107 USPQ2d 1857m 1859–60 (B.P.A.I. 2013) (precedential)). Petitioner explains that the specification neither defines this term nor provides examples. *Id.* at 14. Petitioner argues that addition of the phrase "having program code recorded thereon" to "computer readable medium" does not limit the medium to non-transitory media. Petitioner argues that "record" is defined as "to set down in writing" or "to cause (as sound, visual images, or data) to be registered on something (as a disc or magnetic tape) in reproducible form)." *Id.* at 15 (citing Ex. 1041, Merriam-Webster's Collegiate Dictionary definition of record). In our Institution Decision, we made an initial determination that the broadest reasonable interpretation of the "computer readable medium" recited in claim 23 is "any medium that participates in providing instruction to a processor for execution and having program code recorded thereon." Inst. Dec. 8–9.

Patent Owner responds that there is insufficient evidence to support Petitioner's contention that one skilled in the art would have understood "computer readable medium having program code recorded thereon" to encompass a signal at the time of the invention. PO Resp. 89–90. Patent

Owner disputes that the limitation encompasses signals. *Id*. (citing Ex. 2169 ¶ 33, testimony of Mr. Thomas). Patent Owner also argues that *Ex Parte Mewherter* is inapplicable because it addresses the meaning of the term "storage medium" after to 2002 and the effective filing date of the '768 patent predates 2002. *Id*. at 90.

Petitioner responds to Patent Owner's contentions by simply asserting that "the Board should follow the precedential decision in *Ex Parte Mewherter*." Pet. Reply 11.

Petitioner's response is unhelpful. For example, in its Reply, Petitioner cites no evidence to rebut Patent Owner's contentions regarding how one skilled in the art would have understood "computer readable medium having program code recorded thereon," at the time of the invention and does not respond to Patent Owner's contentions regarding the applicability of *Ex Parte Mewherter*. In fact, Petitioner does not even acknowledge those contentions.

Accordingly, on this record, which is absent any further evidence or meaningful argument from Petitioner, we are not persuaded that at the time of the invention one skilled in the art would have understood "computer readable medium having program code *recorded* thereon" as encompassing transitory, propagating signals.

There is no dispute that the remaining claims fit within one of the four statutorily provided categories of patent-eligibility. Claim 1, for example, is directed to a process.

1. Eligibility

Patent-eligible subject matter is defined in § 101 of the Patent Act, which recites:

> 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.

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in § 101: laws of nature, natural phenomena, and abstract ideas. *Alice,* 134 S. Ct. at 2354; *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012). Although an abstract idea, itself, is patent-ineligible, an application of the abstract idea may be patent-eligible. *Alice*, 134 S. Ct. at 2355. Thus, we must consider "the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Id.* (citing *Mayo*, 132 S. Ct. at 1297–98). The claim must contain elements or a combination of elements that are "sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [abstract idea] itself." *Id.* (citing Mayo, 132 S. Ct. at 1294).

Claims 1 and 23 are independent and recite similar limitations. We take claim 1 as representative.

2. Abstract Idea

"The 'abstract idea' step of the inquiry calls upon us to look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter.'" *Affinity Labs*

of Texas v. DirectTV, LLC, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.,* 830 F.3d 1350, 1353 (Fed. Cir. 2016); *see also Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016).

According to Petitioner, the claims are directed to the abstract idea of "placing an order based on observed (plotted) market information, as well as updating market information." Pet. 17. Petitioner contends that "claim 1 could be performed in the human mind or with the aid of pen-and-paper with little difficulty because the claim requires plotting only a few data points" (*id.* at 18) and that the claims are directed to commodity trading which is 'a fundamental economic practice long prevalent in our system of commerce.'" Pet. Reply 5 (citing *Alice*, 134 S. Ct. at 2356). Patent Owner disagrees. *See* PO Resp. 79–87.

Claim 1 of the '768 patent recites "a method of placing a trade order for a commodity on an electronic exchange using a graphical user interface and a user input device." Ex. 1001, 11:46–48. Claim 1 recites steps of displaying market information, bid and ask quantities, in regions along a price axis. *Id.* at 11:53–64. The market information is an indicator of an order to buy at the highest bid price and an indicator of an order to sell at the lowest ask price. *Id.* In other words, the displayed market information is the inside market. Claim 1 does not require displaying the market depth. Claim 1 also recites a step of updating the market information such that it moves relative to the price axis as the market changes. *Id.* at 12:19–31. Claim 1 further recites steps of displaying a first and second fixed location in an order entry region, steps of setting parameters for a trade order, and a step of

sending a trade order to an exchange in response to a single action of a user input device *Id*. at 11:65–67, 12:32–36.

As can be seen from its steps, the focus of claim 1 is placing trade orders based on displayed market information, as well as updating the displayed market information. This focus is consistent with the '768 patent's statement that "[t]he present invention is directed to the electronic trading of commodities. . . . It facilitates the display of and the rapid placement of trade orders. . . ." *Id*. at 1:15–20. The focus of claim 1 is also consistent with the problem disclosed by the '768 patent of a trader missing an intended price because the market changed during the time required for a trader to read the prices displayed and to manually enter an order. *Id*. at 2:35–62.

Claim 1 does not recite any limitation that specifies how the computer implements the steps or functions for using a GUI. For example, claim 1 recites displaying an arrangement of the market information on the GUI. The bid quantity is displayed in the bid region at a location that corresponds to a price along a price axis and the ask quantity is displayed in an ask region at a location that corresponds to a price along the price axis. *Id*. at 11:53–64. Claim 1 does not specify how the computer maps the bid quantities, ask quantities, and price axis to the display. The '768 patent does not disclose an unconventional or improved method of mapping the bid quantities, ask quantities, and price axis to the display. It states that "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art" and that "[t]he present invention is not limited by the method used to map the data to the screen." *Id*. at 4:64–67.

The '768 patent discloses that at least 60 exchanges throughout the world utilize electronic trading and discloses that it is known that electronic trading includes analyzing displayed market information and updated market information to send trade orders to an exchange. *See id*. at 1:26–2:22. Similarly, Mr. Thomas indicates that traders in prior trading systems, including pre-electronic open outcry systems, which have been used for over one hundred years, send trade orders to an exchange based on price, such as the inside market prices or other prices. Ex. 2169 ¶¶ 36, 62, and 63. Mr. Thomas testifies that "[i]n the trading pit, traders utilize shouting and hand signals to transfer information about buy and sell orders to other traders. To avoid confusion, the inside market prices were the focus, and traders could only shout and signal regarding their interest at the best bid/offer or at prices that improves the best bid/offer." *Id*. ¶ 36. The '768 patent discloses that electronic exchanges are known to provide the market depth for display that is the inside market and a few orders away from the inside market. Ex. 1001, 5:3–5. Further, Exhibit 1020 discloses that long before the '768 patent traders maintained books that plotted bids and asks (e.g., the market depth) along a price axis. *See* Ex. 1020, 44–46. Exhibit 1020 states "[s]pecialists enter public orders, that are away from the market, in their books by price and in the order they are received." *Id*. at 44. Figure 4-2 of Exhibit 1020 is reproduced below.

FIGURE 4-2. *A page in the specialist's book.*

BUY		SELL
BKR R - 100	22	
BKR L - 300 BKR A - 500	1/8	
BKR D - 200 BKR E - 300	1/4	
	3/8	
	1/2	
	5/8	BKR F - 300 BKR G - 600
	3/4	BKR B - 100 BKR M - 200
	7/8	BKR S - 400

Figure 4-2 depicts a page of a book of a trader. *Id*. at 44–45. Orders to buy or sell a commodity are plotted along a prices axis. For example, Figure 4–2 shows the best bid at 22¼ and the best ask at 22⅝. *Id*. at 44. Ex. 1020 states: "The NYSE specialist's book is maintained on a CRT and referred to as a *display book*. This electronic book sorts all orders coming to the specialist in time and price sequence . . . ." *Id*. at 46.

Given this, we determine that placing an order based on displayed market information, such as the inside market and few other orders, as well as updating the market information is a fundamental economic and conventional business practice. We are persuaded by Petitioner that the method of claim 1 could be performed in the human mind or with the aid of pen-and-paper with little difficulty because the claim requires plotting only a few data points (i.e., the inside market). *See* Pet. 18 (citing Ex. 1020, 44–46; Ex. 1007 ¶¶ 73–74).

Patent Owner argues that the claims of the '768 patent are not directed to a fundamental economic practice, longstanding commercial practice, or business method. PO Resp. 85–87. Patent Owner contends the "claims did not have a pre-electronic equivalent as electronic trading operates in fundamentally different ways from open outcry. . . . In open outcry, trader could not publish orders away from the inside market, and could pick and choose with whom they wanted to trade." *Id*. at 85 (citations omitted). Patent Owner's arguments are unpersuasive because they are not commensurate with the scope of the claims. For example, claim 1 recites a method of placing a trade order for a commodity on an exchange, which includes steps of displaying the inside market and sending the trade order to the electronic exchange. Ex. 1001, 11:46–12:36. Claim 1 does not recite any steps as to how the electronic exchange matches or fills the order. *See id*. Claim 1 requires publishing the inside market and does not require publishing the market depth. *See id*.; *see also id*. at 5:1–7. Claim 1 does not specify how the order is filled at the electronic exchange or preclude a trader from picking and choosing with whom they want to trade. *See id*. at 11:46–12:36.

The claims at issue here are like the claims at issue in *Affinity Labs*. In *Affinity Labs*, the claim at issue recited an application that enabled a cellular telephone to present a GUI displaying a list of media sources that included selectable items for selecting a regional broadcasting channel. *Affinity Labs*, 838 F.3d at 1255–56. The claim also recited that the cellular telephone was enabled to transmit a request for the selected regional broadcasting channel. *Id*. at 1256. The claims at issue here are also like the claims at issue in *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229 (Fed. Cir.

2016). *See* Pet. Reply 8–9. In *Ameranth*, the claim at issue recited a GUI that displayed menu items in a specific arrangement, a hierarchical tree format. Menu items were selected to generate a second menu from a first menu. *Ameranth*, 842 F.3d at 1234. In both *Affinity Labs* and *Ameranth*, the court determined that the claims were not directed to a particular way of programming or designing the software, but instead merely claim the resulting systems. The court thus determined that the claims were not directed to a specific improvement in the way computers operate. *Affinity Labs,* 838 F.3d at 1260–61; *Ameranth,* 842 F.3d at 1241. Here, the claims also recite the resulting GUI and are not directed to specific improvements in the way the computers operate. "Though lengthy and numerous, the claims [that] do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology" are patent ineligible. *Elec. Power Grp.,* 830 F.3d at 1351. "Generally, a claim that merely describes an 'effect or result dissociated from any method by which [it] is accomplished' is not directed to patent-eligible subject matter." *Ameranth*, 842 F.3d at 1244 (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348 (Fed. Cir. 2015)).

The claims of the '768 patent are unlike the claims at issue in *DDR Holdings, LLC v. Hotels.com, L.P.,* 773 F.3d 1245 (Fed. Cir. 2014) and *Enfish*. *See* Pet. 29–30; Pet. Reply 6. In *DDR Holdings*, the court determined that the claims did not embody a fundamental economic principle or a longstanding commercial practice. The claims at issue in *DDR*

Holdings were directed to retaining website visitors, which the court determined was a problem "particular to the Internet." *DDR Holdings,* 773 F.3d at 1257. The court also determined that the invention was "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks" and that the claimed invention did not simply use computers to serve a conventional business purpose. *Id*. In *Enfish*, the claim at issue was directed to a data storage and retrieval system for a computer memory. *Enfish*, 822 F.3d at 1336–37. The court determined that the claims were directed to an improvement in the functioning of a computer and were not simply adding conventional computer components to well-known business practices. *Id*. at 1338. Here, in contrast, claim 1 is directed to a fundamental economic principle or a longstanding commercial practice and not directed to an improvement in the computer, but simply to the use of the GUI in a method of placing an order based on displayed market information, as well as updating market information. *See* Pet. 29–30.

Patent Owner argues that the GUI disclosed in the '768 patent solves an alleged problem of the Fig. 2 GUI, displaying the inside market at a fixed location, while the displayed prices change as the market changes. *See* PO Resp. 81–83. If a trader was focused on trading at a particular price, the trader could miss its intended price using the Fig. 2 GUI because the price could change as the trader clicked it. *Id*. at 2. Patent Owner contends that the '768 patent solves this problem "by combining a dynamic display of bid and ask indicators that move relative to a price axis." *Id*. at 4. The problem of a price changing just as a trader clicks on the price is not disclosed in the '768 patent. Patent Owner's argument is unpersuasive because it is not

commensurate with the scope of the claim. Claim 1 does not require the price axis to be static. *See* Ex. 1001, 11:46–12:36. It does not preclude the values of the price axis from changing as the market information updates. In other words, the claims allow for a price value associated with the order entry location to change as market information updates and change at the time a trader is selecting a corresponding order entry location. *See* Tr. 44–60. The claimed subject matter does not solve the problem alleged by the Patent Owner.[5]

Further, claim 1 of the '768 patent is unlike the claims at issue in *McRO, Inc. v. Bandai Namco Games America Inc.,* 837 F.3d. 1299 (Fed. Cir. 2016). In *McRO*, the court held that claims that recited "a specific asserted improvement in computer animation" were not directed to an unpatentable abstract idea because they go "beyond merely organizing existing information into a new form or carrying out a fundamental economic practice." *McRO*, 837 F.3d at 135. Here, the claims merely organize existing market information so that it is displayed or plotted along a price axis. Plotting bids and asks along a price axis is not a specific improvement to a functioning of a computer. *See* Ex. 1020, 44–46.

[5] During oral hearing, Patent Owner noted the dissenting opinion in related CBM2015-00181. Tr. 53:14–54:1. Since that time, however, it has become increasingly clear that movement of the price axis is significant. *See, e.g.*, Tr. 60:10–13 (Patent Owner acknowledging that movement of the price axis does not solve the alleged problem). The Federal Circuit's decision addressing eligibility of patents related to the '768 patent focused on solving the problem alleged by Patent Owner. *See Trading Techs. Int'l, Inc. v. CQG, Inc.*, 675 F. App'x 1001, 1004–05 (Fed. Cir. Jan. 18, 2017) (non-precedential).

Patent Owner argues that the claims of the '786 patent are patent eligible under *CQG* because the '786 patent is a continuation of the patents at issue in *CQG*. PO Resp. 78. The claims of the '786 patent, however, are broader in some aspects than the claims of the '132 patent. For example, the claims of the '786 patent do not recite the static price axis feature claimed by the '132 patent. In *CQG*, the Federal Circuit referred to even those narrower claims as on the line between patent eligibility and ineligibility (*CQG* at *4 (noting the "close question[] of eligibility")). Thus, comparing the claims of the patents involved in *Trading Technologies* is not particularly helpful here.

3. Inventive Concept

Next we turn to "the elements of each claim both individually and as an ordered combination" to determine whether the additional elements "transform the nature of the claim" into a "patent-eligible application." *Mayo*, 768 S. Ct. at 1297–98. The additional elements must be more than "well-understood, routine, conventional activity." *Id*. at 1298.

Petitioner contends that claim 1 does not recite an inventive concept. Pet. 20–25; Pet. Reply 7–9. Patent Owner disagrees. PO Resp. 87–89.

First, claim 1 of the '768 patent recites "a method of placing a trade order for a commodity on an electronic exchange using a graphical user interface and a user input device." Ex. 1001, 11:46–48. The '768 patent discloses that its system can be implemented "on any existing or future terminal or device" (*id*. at 4:4–8), which are known to include displays, and discloses that the input device can be a mouse (*id*. at 4:8–18), which is a known input device. A mere recitation of a GUI does not make the claim patent eligible. *See Affinity Labs,* 838 F.3d at 1257–58; *Ameranth*, 842 F.3d

at 1236–1242; *Internet Patent Corp*., 790 F.3d at 1348–1349. A recitation of a generic GUI merely limits the use of the abstract idea to a particular technological environment. "Limiting the field of use of the abstract idea to a particular existing technological environment does not render any claims less abstract." *Affinity Labs,* 838 F.3d at 1258 (citing *Alice,* 134 St. Ct. at 2358; *Mayo*, 132 S. Ct. at 1294).

Second, claim 1 recites steps of displaying indicators representing a quantity associated with a highest order to buy the commodity or lowest order to sell the commodity in a bid display region or ask display region, respectively and moving the indictors upon receipt of market information. Ex. 1001, 11:46–48. Locations in the bid or ask display region correspond to a price level along a price axis. *Id*. Essentially, these limitations require plotting the inside market along a price axis. Plotting information along an axis is a well-understood, routine, conventional, activity. *See* Ex. 1020, 44–46. The Fig. 2 GUI includes regions for displaying indicators of bid and ask quantities and regions for displaying corresponding prices. For example, the Fig. 2 GUI displays the bid quantity in BidQty column 202 at locations that correspond to the bid prices in BidPrc column 203. Ex. 1001, 5:12–25. This is akin to plotting information BidQty and AskQty along a price axis. Further, Mr. Thomas testifies that prior GUIs, which are similar to the Fig. 2 GUI, "displayed the locations for the best bid and ask prices such that the prices were displayed vertically (e.g., with the location for the best ask price being displayed above the location for the best bid price)." Ex. 2169 ¶ 62; *see also* Ex. 1017, 107, Ex. 1011, Fig. 2a (depicting a trading screen having a central order price column and ask and bid orders in adjacent corresponding columns). Displaying the best ask price above a best bid

price would be displaying a common column of price levels. The '768 patent states:

> the physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art. The present invention is not limited by the method used to map the data to the screen display.

Id. at 4:64–67. These steps of claim 1 require merely a rearrangement of market information that was known to be displayed in corresponding columns on a GUI. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011) (holding "[t]he mere collection and organization of data" patent-ineligible).

Third, claim 1 also recites steps of displaying an order entry region for receiving commands to send trade orders, setting trade order parameters, and sending trade orders to the electronic exchange with a single action. *Id*. at 11:65–67, 12:32–36. Methods that permit single action entry of an order, which has preset default parameters, by clicking on a cell in a display of a GUI are known technology. Ex. 2169 ¶¶ 51, 58–59; Ex. 1008 ¶ 20. The additional elements must be more that "well-understood, routine, conventional, activity." *Mayo*, 132 S. Ct. at 1298.

The individual elements of the claim do not transform the nature of the claim into a patent-eligible application. They do not add significantly more to the abstract idea or fundamental economic practice. Contrary to Patent Owner's argument, the claim simply recites the use of a generic GUI with routine and conventional functions. Even considering all of the elements as an ordered combination, the combined elements also do not transform the nature of the claim into a patent-eligible application. Indeed,

as discussed above, the Fig. 2 GUI disclosed in the '768 patent includes a similar combination of elements.

For the reasons discussed above, the claims 1 and 23 of the '768 patent are not directed to patent eligible subject matter under 35 U.S.C. § 101.

4. Dependent Claims

Petitioner contends that the additional elements recited by dependent claims 2–22 do not add significantly more to the abstract idea so as to render the claims patent-eligible. Pet. 25–29. Patent Owner makes no arguments directed to the eligibility of the dependent claims. *See generally* PO Resp. We are persuaded by Petitioner that dependent claims 2–22 patent ineligible under 35 U.S.C. § 101. *See* Pet. 25–29 (citing Ex. 1007).

5. Conclusion

Having considered the information provided in the Petition, we are persuaded that Petitioner has demonstrated claims 1–23 are unpatentable under 35 U.S.C. § 101.

D. Obviousness Challenges

Section 103 forbids issuance of a claim when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103. The ultimate determination of obviousness under § 103 is a question of law based on underlying factual findings. *In re Baxter Int'l, Inc.*, 678

F.3d 1357, 1362 (Fed. Cir. 2012) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1996)). These underlying factual considerations consist of: (1) the "level of ordinary skill in the pertinent art," (2) the "scope and content of the prior art," (3) the "differences between the prior art and the claims at issue," and (4) "secondary considerations" of non-obviousness such as "commercial success, long-felt but unsolved needs, failure of others, etc." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham*, 338 U.S. at 17–18).

Petitioner challenges claims 1–13, 15, 16, 18, and 21–23 as having been obvious over TSE and Belden, claims 14, 17, 19, and 20 as having been obvious over TSE, Belden, and Cooper.

1. TSE Printed Publication Status

Petitioner argues that TSE is prior art under 35 U.S.C. § 102(a). Pet. 11–12. In support of its showing that TSE qualifies as prior art, Petitioner relies on the November 21, 2005, deposition testimony of Atsushi Kawashima taken during litigation between Patent Owner and a third party, eSpeed, Inc. *Id.*; Ex. 1019.

Whether a document qualifies as a printed publication under 35 U.S.C. § 102(a) is a question of law based on underlying findings of fact. *In re Enhanced Sec. Research, LLC*, 739 F.3d 1347, 1354 (Fed. Cir. 2014) (citing *In re Hall*, 781 F.2d 897, 899 (Fed. Cir. 1986)). The Federal Circuit "has interpreted § 102 broadly, explaining that even relatively obscure documents qualify as prior art so long as the public has a means of accessing them." *Id.* (citing *Hall*, 781 F.2d at 899).

> Our leading case on public accessibility is *In re Hall*, 781 F.2d 897 (Fed. Cir. 1986). In *Hall* we concluded that "a single

> cataloged thesis in one university library" constitutes "sufficient accessibility to those interested in the art exercising reasonable diligence." *Id*. at 900. Thereafter, in *Constant v. Advanced Micro–Devices, Inc*., we explained that "[a]ccessibility goes to the issue of whether interested members of the relevant public could obtain the information if they wanted to." 848 F.2d 1560, 1569 (Fed. Cir. 1988). Therefore, "[i]f accessibility is proved, there is no requirement to show that particular members of the public actually received the information." *Id*.

Enhanced Sec. Research, LLC, 739 F.3d at 1354. The determination of whether a document is a "printed publication" under 35 U.S.C. § 102 involves a case-by-case inquiry into the facts and circumstances surrounding its disclosure to members of the public. *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004).

TSE is entitled "Futures/Option Purchasing System Trading Terminal Operation Guide" of the "Tokyo Stock Exchange Operation System Division." Ex. 1017, 1.[6] In the middle of page 5 is the annotation "August, 1998" above the words "Tokyo Stock Exchange Operation System Division." *Id*. at 5. Petitioner argues that TSE is prior art under 35 U.S.C. § 102(a) because it was published in August of 1998 by giving two copies to each of the about 200 participants in the Tokyo Stock Exchange, who were free to do whatever they wanted with their copies of the publication. Pet. 11 (citing Ex. 1019, 12–33).

In support of its arguments regarding TSE as prior art, Petitioner directs us to portions of Mr. Kawashima's testimony. At the time of his testimony, Mr. Kawashima testified that he was employed by the Tokyo Stock Exchange and was so at the time of the TSE manual, August 1998.

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[6] References are to pages located at center bottom of the English translation of TSE (Ex. 1017).

Ex. 1019, 5–11. He further testified that TSE "is the current TSE futures options trading system terminal document, manual" that was prepared August of 1998 by the Tokyo Stock Exchange and that he was in charge of preparing the document. *Id*. at 10–11. Mr. Kawashima also testified that the purpose of the manual was that "in 1998 we replaced the futures options trading system and so this new manual was prepared because there were changes to the way the trading terminals were operating." *Id*. at 12. Kawashima further testified that the manual was distributed to "participants" in August of 1998, who were "securities companies for banks who are able to carry out futures options trading at the TSE" and that the "manual was given to explain those changes" made with respect to the operation of the TSE trading system and terminals. *Id*. at 12, 14. Mr. Kawashima testified that the manual was given to around 200 "participant" companies—all companies that conduct futures option trading on the Tokyo Stock Exchange. *Id*. at 13.[7] According to Mr. Kawashima, two copies were distributed to each company, by having a person from each company come to the Tokyo Stock Exchange operating system section to pick up their copies of the manual, and that there was no restriction on what the participants could do with the 1998 manual once they received it. *Id*. at 14–15. Mr. Kawashima personally distributed the TSE manual to some of the participants. Ex. 2163, 60:13–24.

Notwithstanding Patent Owner's arguments, which we address below, we are persuaded by Petitioner's showing, which we adopt as our own, that

[7] We understand the then "participants" included such companies as Goldman Sachs Securities, Merrill Lynch, and Morgan Stanley. Ex. 2163, 58:5–17; Ex. 2169 ¶ 32.

TSE qualifies as prior art under 35 U.S.C. § 102(a). Petitioner asserts, with supporting evidence, that TSE was distributed to *participants* in the Tokyo Stock Exchange. Pet. 11; Ex. 1019, 12, 14. Based on the evidence before us, the participants were securities companies for banks. The purpose of the distribution of the manual was to alert the securities companies of *changes to the way the trading terminals* of the Tokyo Stock Exchange *operated*. Ex. 1019, 12, 14. Indeed, TSE is a user manual that includes, for example, in Chapter 2, instructions for terminal system configuration to enable a participant, such as a security company to connect to the Tokyo Stock Exchange. Ex. 1017, 10–25. Chapter 15, entitled "Response To A Problem" provides detailed explanations should a problem arise with terminal equipment, communication circuit difficulties, central system recovery difficulties, etc., along with in-house procured terminal problem handling instructions. *Id*. at 5. Thus, TSE is more than a user manual for how to trade on the Tokyo Stock Exchange, but also includes how to electronically connect to the Tokyo Stock Exchange.

The evidence that is before us, both circumstantial and direct, supports a finding that TSE was made accessible to securities companies and all of the personnel in such a company, who would have employed technical support personnel, such as computer scientists or engineers, who would have needed a copy of the TSE manual to configure their own system to electronically communicate, and to continue to trade securities, with the Tokyo Stock Exchange. Thus, the securities companies would have included computer scientists or engineers, as well as traders. We find that all such persons who worked at the securities companies would have been interested members of the relevant public.

2. Patent Owner's Contentions

Patent Owner argues that the evidence fails to prove TSE is prior art. PO Resp. 14–24. We begin by addressing Patent Owner's assertions that Mr. Kawashima's testimony should be given little or no weight because his testimony is not corroborated and he is an interested witness. *Id*. at 22–24. Patent Owner argues that Kawashima's employer—the Tokyo Stock Exchange—challenged Patent Owner's Japanese counterpart to U.S. Patent No. 6,766,304 by providing TSE to the Japanese Patent Office. *Id*. at 24. Patent Owner further argues that the Tokyo Stock Exchange wanted the Japanese Patent Office to rely on "these documents" to prevent Patent Owner from obtaining the Japanese patent. *Id*. (citing Ex. 2163, 39:23–40:20, 42:14–43:10; Ex. 1019, 110:10–14). Patent Owner concludes that because Kawashima's employer tried to use TSE to prevent Patent Owner from obtaining the 6,766,304 patent, Kawashima is not disinterested. *Id*.

We are not persuaded that Kawashima is an interested witness and that his testimony should be given little weight. First, the patent involved here is not the same as the patent involved before the Japanese Patent Office and we do not understand what Patent Owner means by "these documents." In any event, Patent Owner has not shown that what occurred in a proceeding before the Japanese Patent Office involving a different patent is relevant to the facts of this proceeding. Patent Owner has not shown sufficiently that Mr. Kawashima had an interest, himself, regarding the outcome of the Japanese Patent Office proceeding. Even assuming that the Tokyo Stock Exchange had an interest in that earlier proceeding, it does not follow necessarily that Mr. Kawashima himself had an interest in it as well.

We have considered the evidence to which we are directed, but do not find that evidence (passages from Mr. Kawashima's original and cross examination) to support Patent Owner's assertions that Mr. Kawashima is biased. Indeed, when asked if the Tokyo Stock Exchange preferred that vendors like Trading Technologies not have patents on trading screens, Mr. Kawashima testified, that that was "not something I would know." Ex. 2163, 41:6–12. Lastly, Patent Owner has not demonstrated sufficiently that Mr. Kawashima's meetings with Petitioner's attorneys prior to his cross examination is demonstrative of "bias." PO Resp. 24. Patent Owner has not shown why Mr. Kawashima's meeting with Petitioner's counsel prior to his deposition would make him biased. For these reasons, we are not persuaded that Mr. Kawashima is an interested witness.

We also are not persuaded by Patent Owner's argument that because Mr. Kawashima's testimony is uncorroborated we should give it little weight. PO Resp. 22–23. In support of the argument, Patent Owner cites to cases regarding an *interested witness*. *See, e.g., id*. at 22. As explained above, Patent Owner has not shown sufficiently that Mr. Kawashima is an interested witness. The other arguments made, e.g., that there is no evidence of when the manuals were picked up or by whom or what a person did with the document once they received it, are factors to consider when determining whether a document was publically accessible, which we address below.

For all of these reasons, we credit the testimony of Mr. Kawashima. We find that the facts discussed above regarding Mr. Kawashima's testimony (Ex. 1019) are supported by a preponderance of the evidence and

are undisputed.[8] Although Mr. Kawashima was cross-examined, Patent Owner does not direct attention to portions of his cross examination testimony, or any other evidence, that would outweigh Mr. Kawashima's original testimony (Ex. 1019) regarding what the TSE manual was, why it was distributed, how it was distributed, when it was distributed, and to whom it was distributed.

Patent Owner argues that Petitioner has not established that TSE was publically available. PO Resp. 14–16. In particular, Patent Owner argues that there is no evidence that anyone actually received a copy of TSE or whether the receivers of such document were persons of ordinary skill in the art. *Id*. (quoting *Blue Calypso, LLC v. Groupon, Inc*., 815 F.3d 1331, 1348 (Fed. Cir. 2016) (a reference will be considered publicly accessible if it was "disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.'")).

Patent Owner's argument that there is no evidence that anyone actually received a copy of TSE is misplaced. The proponent of a document need not show that particular members of the interested public *actually received* the information. *See, e.g*., *In re Enhanced Sec. Research, LLC*, 739 F.3d 1347, 1354 (Fed. Cir. 2014); *Constant v. Advanced Micro-Devices, Inc*., 848 F.2d 1560, 1569 (Fed. Cir. 1988); *Blue Calypso, LLC v. Groupon, Inc*., 815 F.3d 1331, 1348 (Fed. Cir. 2016). Rather, accessibility goes to the

[8] The burden of showing something by a preponderance of the evidence simply requires the trier of fact to believe that the existence of a fact is more probable than its nonexistence. *Concrete Pipe & Products of California, Inc. v. Construction Laborers Pension Trust for Southern California*, 508 U.S. 602, 622 (1993).

issue of whether persons interested and ordinarily skilled in the subject matter could obtain the information if they wanted to. *Id*. Here, we have before us persuasive evidence that TSE was made publically accessible by providing two copies to each of the about 200 participants (securities companies for banks) in the Tokyo Stock Exchange, who were free to do whatever they wanted with their copies of the publication. Ex. 1019, 12, 14. For these same reasons, we are not persuaded by Patent Owner's implicit argument that Petitioner need show that the two copies of the TSE manual available for pick up by the 200 participant companies actually were picked up. In any event, Mr. Kawashima testified that he personally distributed the TSE manual to some of the participants. Ex. 2163, 60:13–24.

Patent Owner argues that the participants (securities companies for banks) who allegedly received copies of the TSE manual are not persons of ordinary skill in the art, which Patent Owner submits would be GUI designers, and not traders at a stock exchange. PO Resp. 16–17. We are not persuaded by Patent Owner's argument.

The patent before us is a business method patent, the subject matter of which is represented by both the business and technical sides of the spectrum. Here, where the patent is directed to trading commodities on an exchange using a computer, we must consider all interested members of the public, which would include not only technical personnel, but traders as well. Traders of commodities at securities companies for banks would be interested members of the public.

In any event, there is sufficient evidence for us to find that the securities companies for banks also would have employed technical personnel as well, and even a "GUI designer." As explained above, the

purpose of the TSE manual was to alert the securities companies of changes to the way the trading terminals of the Tokyo Stock Exchange *operated*. Ex. 1019, 12, 14. The TSE manual includes information and instructions of how to electronically connect to the Tokyo Stock Exchange. TSE is not simply a "how to trade commodities" user manual as Patent Owner seems to suggest. The strong circumstantial evidence supports finding that TSE was made accessible to securities companies who would have employed technical support personnel, such as computer scientists or engineers, to configure their system to electronically communicate, and to continue to trade securities, with the Tokyo Stock Exchange, based on the changes in operation of the terminals explained in the TSE manual. Thus, the securities companies would have included computer scientists or engineers, as well as traders. Lastly, even assuming that a person of ordinary skill in the art is narrowly limited to a "GUI designer" as Patent Owner asserts, we find that securities companies for banks ("participants") provided their own front-end order entry software, and that such participants would have employed GUI designers to formulate the front-end order entry software to facilitate trading on the Tokyo Stock Exchange. Ex. 2169 ¶ 32.

Patent Owner argues that because participants of the Tokyo Stock Exchange were contractually prohibited from modifying the terminals or software, there was no reason to provide the manual to GUI designers. PO Resp. 17. Patent Owner has not shown sufficiently that such a contractual provision would have prevented persons interested or even ordinarily skilled in the subject matter from receiving copies of TSE. For all of the above reasons, we are persuaded that TSE was publically accessible.

Patent Owner additionally argues that there is no evidence that a person having ordinary skill in the art could have located TSE using "reasonable diligence," because there is no evidence that such a person searching for TSE would find it, such as being placed in a library, indexed, or catalogued, or directions to locate TSE. PO Resp. 20. We determine above, that the record evidence supports a determination that TSE was publically accessible to persons interested and ordinarily skilled in the subject matter. Patent Owner's arguments are premised on the notion that none of the personnel at the securities banks are interested and ordinarily skilled in the subject matter, which we reject. Thus, Patent Owner's argument is moot.

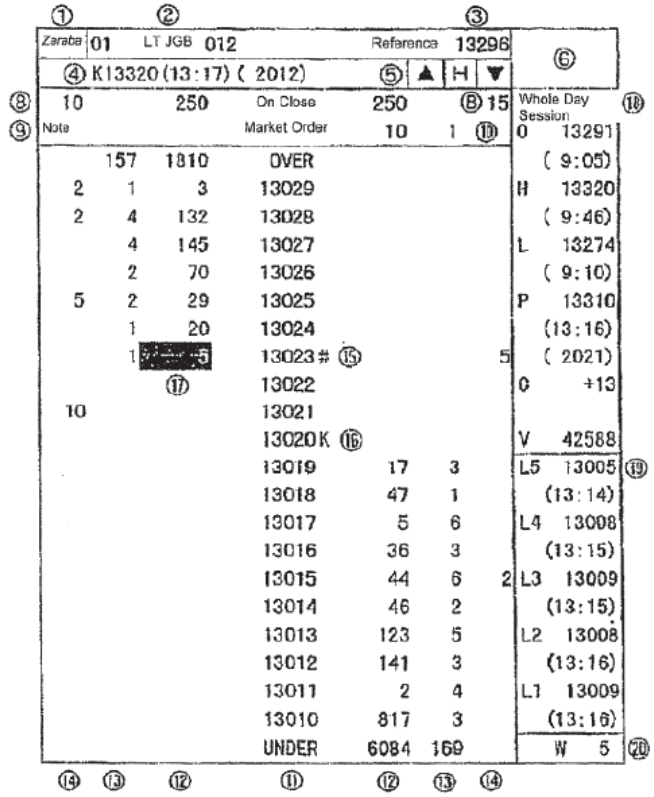
For all of the above reasons, we determine that TSE qualifies as prior art.

3. Claims 1 and 23

With respect to claims 1 and 23, Petitioner cites TSE as teaching the majority of limitations of the claims. Pet. 31–53. Petitioner cites Belden for the "single action" limitation in the claims, including the "setting" and "sending" via the "single action." *See id*. at 41–46, 50–53. Petitioner proposes modifying TSE based on the teachings of Belden. *See id*. at 36–37. The testimony of Petitioner's declarant Kendyl Román supports Petitioner's analysis. *See* Ex. 1007 ¶¶ 77–123.

TSE describes a trading system that facilitates trading with an electronic exchange by receiving bid and offer information, displaying it to a user, and accepting and sending bid and offer orders. Ex. 1017, 6–13, 35. A trading terminal displays a GUI for depicting market information on a Board

Screen, which is shown in the figure reproduced below ("TSE's Board Screen").



The figure reproduced above is illustrated on page 107 of TSE and depicts TSE's Board Screen. The Board Screen includes a central order price at column 11—a price display. *Id*. at 111. The Board Screen can be placed in a "Scrolling Screen" mode where "the price display positions do not change automatically." *Id*. at 115. TSE describes a number of ways to scroll the Board Screen to vertically scroll, including using the up/down scroll buttons, vertically moving the cursor, and pressing the up or down key on the keyboard. *Id*. at 116. To the left and right of order price column 11, at a location corresponding to price, are bid and offer indicators consisting of numbers representing the quantity of orders in respective columns 12, 13, and 14. *Id*. at 112. The Board Screen is automatically updated with new bid

and offer information from a central system every three seconds. *Id*. at 91. TSE explains that "[t]he board information on each Board Screen is automatically updated even if it has been scrolled vertically." *Id*.

Román's FIG. A, reproduced below, illustrates the market information received and displayed in TSE.

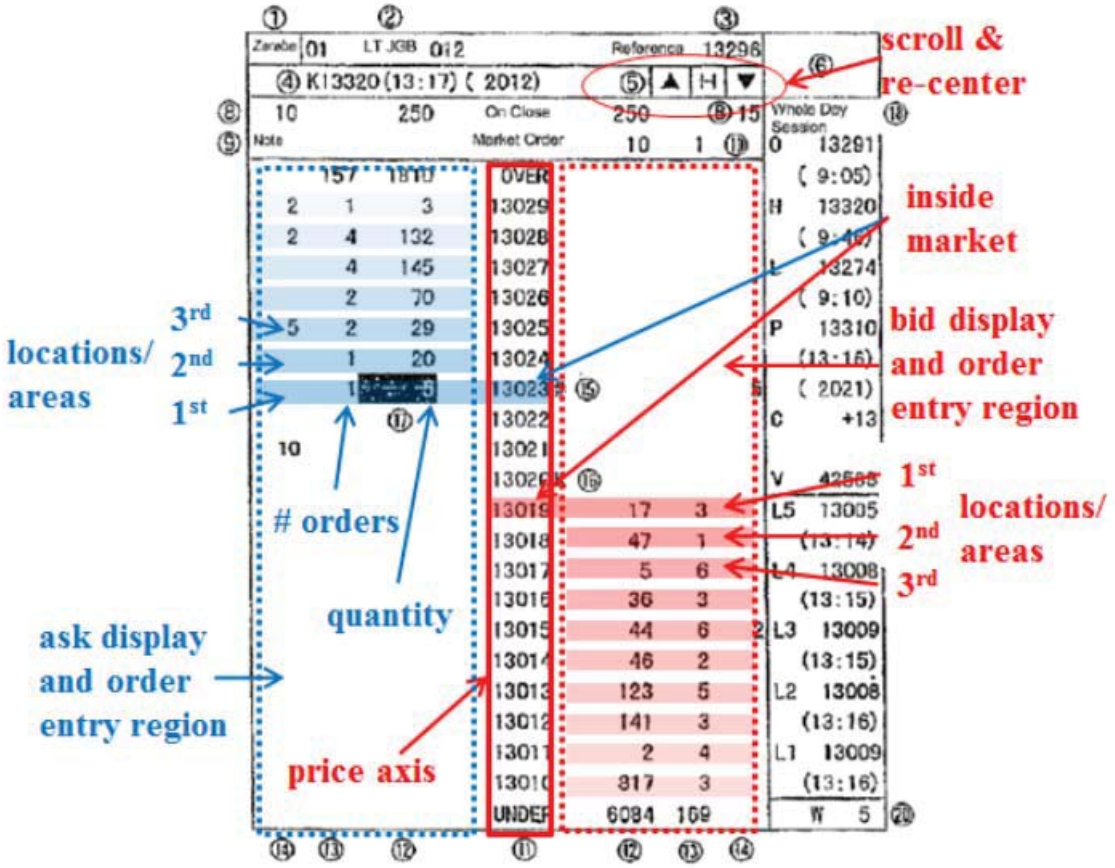
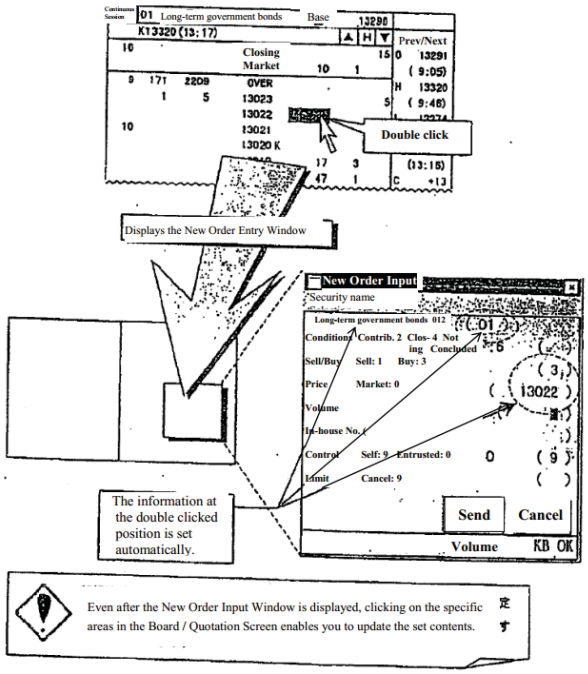


FIGURE A

Román's FIG. A is an annotated version of the figure illustrated on page 107 of TSE depicting a Board Screen, and is found at page 45 of the Román Declaration. Mr. Román's annotations indicate the portions of the Board Screen considered to correspond to various claim elements. The '768 patent

explains that "[f]or a commodity being traded, the 'inside market' is the highest bid price and the lowest ask price." Ex. 1001, 4:60–62. As illustrated above in Román's FIG. A, TSE receives and displays inside market information.

TSE describes a user entering an order by double-clicking at a location along the price axis, which automatically displays a pop-up window displaying the selected price. *Id*. at 134, 137. A Figure appearing on page 137 of TSE is reproduced below.



The Figure appearing on page 137 of TSE depicts the displaying of the pop-up new order entry window. TSE discloses that double-clicking on a specific area of the Board/Quotation Screen displays a new order entry window, which is automatically set with the information from the double-clicked area. Ex. 1017, 133, 139. The new order entry window includes a send button for sending the order to a central system. *Id*. at 137, 143. Clicking the send button sends an order to the exchange. *Id*. at 143.

As Petitioner points out, "TSE does not teach that the claimed 'sending' is achieved 'in response to a selection of a particular location of the order entry region by a single action of a user input device.'" Pet. 34. Petitioner relies upon Belden to teach single-action order entry. *Id*.

Belden is titled "Simulated Live Market Trading System" and published on October 4, 1990. Ex. 1012, (54), (43). Belden discloses an electronic trading system for trading commodities, which has a display with icons representing active trades. *Id*. at 26–27.[9] Belden discloses that "[t]rading is done by using the mouse to move a cursor onto the icon of a trader and pushing a button, i.e., 'clicking' on the icon." *Id*. at 12. Belden discloses that a trader "benefits from the speed with which he can take or liquidate positions." *Id*. at 4.

Petitioner provides rationale for combining the teachings of Belden with that of TSE. Pet. 36–37, 45–46, 52–53. Petitioner reasons that a person skilled in the art "would have been motivated to incorporate Belden's single-action order techniques in TSE's electronic trading system to achieve the predictable and desirable results of reducing the time needed to place an order and reduce operator error." Pet. 37 (citing Ex. 1007 ¶ 90). Petitioner additionally notes that "Belden provides motivation for the combination." Pet. 36 (citing Ex. 1012, 4 (noting the speed benefits)).

Upon review of Petitioner's evidence and analysis and taking into account Patent Owner's arguments and evidence, discussed below, we determine the Petitioner shows by a preponderance of the evidence that claims 1 and 23 are unpatentable under 35 U.S.C. § 103 over TSE and

[9] We refer to the pagination inserted into Exhibit 1012 and not the original pagination.

Belden. In reaching our determination, we considered Patent Owner's argument and evidence of secondary considerations, also discussed below.

Patent Owner disputes that TSE and Belden teaches all the limitations of claims 1 and 23 and argues that Petitioner fails to provide any evidence of motivation to combine Belden and TSE. PO Resp. 24. First, Patent Owner disputes that TSE and Belden teaches the "order entry region" and "single action" limitations. PO Resp. 25–26. Patent Owner argues that "TSE does not include the claimed 'order entry region' because selecting an area along the alleged price axis only opens a separate order entry window, it cannot be used to *send orders*." PO Resp. 35 (citing Ex. 1017, 137). Patent Owner explains that "[b]ecause of the separate order entry window, TSE does not disclose the claimed 'order entry region' and functions of the claimed 'graphical areas' along a price axis." PO Resp. 26 (citing Ex. 2169 ¶ 166). With respect to Belden, Patent Owner argues that Belden does not suggest the order entry region because "it is completely lacking any showing of a price axis and therefore cannot possibly disclose the claimed order entry region." PO Resp. 26. Patent Owner further contends that "even if TSE and Belden were combined in the manner suggested by Petitioners, one still would not arrive at the claimed invention because the suggested combination lacks an 'order entry region' as claimed." *Id*. Patent Owner further contends that "Belden does not show a single action to both set parameters and send an order from an area that correspond to a price level along a price axis." *Id*. at 26–27.

The problem with Patent Owner's response is that it does not address the *combined* teachings of TSE and Belden asserted by Petitioner. *See In re Merck & Co., Inc*. 800 F.2d 1091, 1097 (Fed. Cir. 1986) (Non-obviousness

cannot be shown by attacking references individually when the ground is predicated upon the teachings of a combination of references.) Regardless of whether Belden sends an order message, or executes a trade (as Patent Owner contends), there is no dispute it does this with a single action command received by a graphical area (clicking on an icon). *See*, *e.g.*, Ex. 1012, 12, 33. As noted above, Petitioner's challenge proposes modifying TSE to send its orders based on a "single action," which is taught by Belden as explained above. There is no dispute, and we agree, that TSE teaches sending trade orders. *See* PO Resp. 25–26 (explaining that in TSE, "selecting an area along the price axis only opens a separate order entry window" and "clicking 'send[]' to send the order"). There is also no dispute, and we agree, that TSE teaches automatically setting a price for the trade order. *See* Ex. 1017, 137 ("Depending on the place that is double clicked, the . . . 'Order Price' . . . [is] set automatically."). Petitioner's proposed modification simply eliminates opening the separate window used to send trade orders in TSE and, instead, sends those orders automatically with the single action that was used previously to open the order entry window. The *combined* teachings of TSE and Belden provide an order entry region having the single action features recited in the claims.

Second, Patent Owner disputes that TSE and Belden teaches the claimed first and second fixed locations and updating the display of the first and second indicators. PO Resp. 27–29. Patent Owner argues that "TSE does not disclose that the bid/ask quantity indicators are updated *on the display* in scroll mode." *Id*. at 27–28. Patent Owner also argues that "TSE does not disclose that the user can bring up the new order entry window while in scroll mode" because "the scroll mode does not display updated

market conditions . . . and as such a trader would not want to being the order entry process from a screen that does not accurately convey market conditions." *Id*. at 28–29. Contrary to Patent Owner's argument TSE states that "[t]he principal features relating to the display of board and quotation information are . . . [t]he board information on each Board Screen is automatically update[d] even if it has been scrolled vertically." Ex. 1017, 91; *see also* Ex. 1007 ¶ 102 (testimony of Mr. Román). Patent Owner points to the testimony of Mr. Abilock, a Japanese translator, to assert that "the Japanese version of TSE does not make clear whether this updating occurs in memory only or on screen" and concludes that a person of ordinary skill in the art would have understood that the board information is only updated in memory. PO Resp. 28 (Ex. 2178 ¶¶ 20, 23–26). Mr. Abilock is a translator, and his testimony does not sufficiently support Patent Owner's conclusion as to what would be understood by a person of ordinary skill in the art. *See* Pet. Reply 16, n. 1. We, thus, are not persuaded by Patent Owner that TSE does not permit the user to access the new order entry window in scroll mode. *See* Pet. Reply 16–17.

Third, Patent Owner argues that "Petitioners' purported motivation to combine—that Belden is 'applicable to all markets' . . . is misplaced" and that "'speed' in Belden refers to instantaneous trade-making of open outcry pits." PO Resp. 29–30. Regardless of the specific type of market to which Belden is related, we are persuaded that one skilled in the art would have appreciated that reducing the number of steps required to execute an order would result in a decrease in the amount of time required to place that order, and that users in various types of markets would have appreciated that mitigating the delay between choosing to place an order and placing that

order would be beneficial. Patent Owner also argues that "TSE actually teaches away . . . by instructing the trader to click on the board screen to open an entirely separate new order input window. . . ." PO Resp. 31–32. A reference teaches away from a claimed invention if it "criticizes, discredits, or otherwise discourages" modifying the reference to arrive at the claimed invention. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). A disclosure of instructing the trader to click on the board screen to open an entirely separate new order input window does not discourage modifying TSE to alternatively using single action order entry.

Patent Owner further alleges that Petitioner is using impermissible hindsight to arrive at the claimed invention and not from teachings of Belden or TSE. PO Resp. 32. Patent Owner's argument is not persuasive because it does not address Petitioner's supporting evidence. As discussed above, we determine that Petitioner has shown by a preponderance of the evidence that one of ordinary skill in the art would have combined TSE and Belden. *See* Pet. 36–37 (citing Ex. 1007 ¶ 90; Ex. 1012, 4). Further, Patent Owner's own declarant, Mr. Thomas, indicates that single-action, as taught by Belden, is a known alternative for order tickets. *See* Ex. 1063, 72:7–74:10; Ex. 1008 ¶¶ 19–20.

For the reasons set forth above, we are persuaded that Petitioner has established, by a preponderance of the evidence that claims 1 and 23 are taught by the combination of TSE and Belden, and that one skilled in the art would have combined those teachings.

4. Claims 2–5, 10, 15, 16, 18, and 21–22

Petitioner additionally challenges claims 2–5, 10, 15, 16, 18, and 21–22 as being unpatentable over TSE and Belden. Pet. 73–75, 77–80. We have reviewed Petitioner's challenges to those claims, which Patent Owner does not dispute, as well as the evidence supporting those challenges.

We are persuaded by Petitioner's arguments and evidence, which we adopt, that the features recited in those claims are taught by the combination of TSE and Belden and that one skilled in the art would have combined those teachings. We determine the Petitioner shows by a preponderance of the evidence that claims 2–5, 10, 15, 16, 18, and 21–22 are unpatentable under 35 U.S.C. § 103 over TSE and Belden

5. Claim 6

Claim 6 depends from claim 4 and further recites "dynamically displaying an entered order indicator in association with a price level along the price axis, wherein the entered order indicator represents an order pending at the electronic exchange." Ex. 1001, 12:56–60.

Petitioner points to the figure on page 107 of TSE, reproduced above, as showing an entered order indicator. Pet. 55–56. Petitioner argues that the "ask order for a quantity of 5 at a price level of 13023" is an entered order indictor. *Id*. at 5 (citing Ex. 1007 ¶ 132).

Upon review of Petitioner's evidence and analysis and taking into account Patent Owner's arguments and evidence, discussed below, we determine the Petitioner shows by a preponderance of the evidence that claim 6 is unpatentable under 35 U.S.C. § 103 over TSE and Belden.

Patent Owner disputes that TSE discloses an entered order indicator. PO Resp. 32–33. Patent Owner argues that there is no display in TSE to represent a user's trade order and that "in TSE the bids and asks at each level of the display represent *all of the orders* pending." *Id*. Patent Owner's argument is not persuasive because it is not commensurate with the scope of the claim. As discussed above, claim 6 does not require the entered order indicators to represent *a user's* trade order.

6. Claims 7–9

Claim 7 depends from claim 6 and further recites "sending a message to the electronic exchange to delete the order represented by the entered order indicator in response to a single action of the user input device with a pointer of the user input device positioned over the entered order indicator." Ex. 1001, 12:61–65. Claims 8 and 9 depend from claim 7.

Petitioner argues:

> Each of TSE and Belden teaches that traders interact with a GUI on a client device to "*send[] a message to the electronic exchange to delete*" an order. (TSE at 0006-13 (overview of system, including clients), 0077-80 (clients exchanging messages with central system), 0143 (sending input order to central system), 0155 (canceling orders); Belden 0014-19 (describing interaction between user terminals and host), 0037 (canceling orders).)
>
> Belden further teaches deleting an order "*represented by the entered order indicator in response to a single action of the user input device with a pointer of the user input device positioned over the entered order indicator*." Belden teaches that a trader can cancel an entered order using a mouse by clicking on the order in the trading arena. (Belden at 0037.) For example, "[t]o cancel a bid in MAR89 bonds" using a mouse, "point and

> click on your bid icon for MAR89 bonds with the mouse." (*Id*; *see also id*. at 0038 (canceling all bids).)
>
> Thus, both TSE and Belden teach canceling trade orders. It would have been obvious to a POSA to implement Belden's single-action order canceling in TSE's electronic trading system to achieve the predictable and desirable results of reducing the time needed to cancel an order and of reducing operator error. (Román Decl. ¶ 136; *see also* Shneiderman at 0101-02 (desirable to reduce number of operator actions such as keystrokes).)

Pet. 56–57. Patent Owner disagrees and argues that "the Petition fails to provide any motivation to combine the single-action deletion [of Belden] with TSE." PO Resp. 34.

We are not persuaded by Petitioner's arguments and evidence that the combination of TSE and Belden teaches the limitation of claim 7.[10] "In an *inter partes* review, the burden of persuasion is on the petitioner to prove 'unpatentability by a preponderance of the evidence,' 35 U.S.C. § 316(e), and that burden never shifts to the patentee." *In re Magnum Oil Tools Int'l, Ltd.*, 892 F.3d at 1375 (quoting *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Claim 7 depends from claim 6 and, as discussed above, Petitioner relies upon the buy

[10] As Petitioner notes, we rejected a similar argument by Patent Owner in CBM2015-00181. Pet. Reply 17–18 (citing Ex. 1060, 52–55). U.S. Patent No. 7,676, 411 B2 ("the '411 patent") was the subject of claim of CBM2015-00181. Ex. 1060, 1. Unlike the claims here, the claim 9 of the '411 patent explicitly required that the entered order indicator represented a *user's* trade order. *Id*. at 52. In CBM2015-00181, Petitioner did not cite to TSE's bid and ask quantities to teach the entered order indictor but cited to Belden and argued that it would have been obvious to display the entered order indicator aligned with the price axis in TSE. *See id*. at 52–54. Petitioner does not make this argument here.

and ask quantities on the TSE's Board Screen depicted in the figure on page 107 of TSE to teach the claimed entered order indicator. Pet. 55–5. Petitioner's argument with respect to claim 7 does not sufficiently explain why one of ordinary skill in art would have modified TSE such that an order can be canceled by a single action of the user input device with a pointer of the user input device positioned over the buy and ask quantities on the TSE's Board Screen depicted in the figure on page 107. Mr. Román also does not provide a sufficient explanation. *See* Ex. 1007 ¶ 136. "To satisfy it burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness." *In re Magnum Oil Tools Int'l, Ltd.*, 892 F.3d at 1380 (citing *KSR*, 550 U.S. at 418).

We determine the Petitioner fails to show by a preponderance of the evidence that claims 7–9 are unpatentable under 35 U.S.C. § 103 over TSE and Belden.

7. Claim 11

Claim 11 depends from claim 1 and further recites "wherein the bid and ask display regions are displayed in a window, the method further comprising centering the display of the first and second indicators in the window upon receipt of a centering instruction." Ex. 1001, 13:12–15.

Petitioner contends that selection of the "home button [H]" while in the Scroll Screen in TSE teaches this feature. Pet. 58–60 (citing Ex. 1017, 115–116; Ex. 1007 ¶ 142). Upon review of Petitioner's evidence and analysis and taking into account Patent Owner's arguments and evidence,

discussed below, we determine the Petitioner shows by a preponderance of the evidence that claims 11 is unpatentable under 35 U.S.C. § 103 over TSE and Belden.

Patent Owner argues that "[t]his is not a manual re-centering command because it switches between modes (scroll mode to basic-board mode), also referred to as a modal shift, [and] returns the user to the basic Board screen." PO Resp. 35. Patent Owner contends that "a [person of ordinary skill in the art] would not understand this mode switching to be a re-centering command." *Id*. (citing Ex. 2169 ¶ 170).

Patent Owner's contentions are not persuasive. There is no dispute, and we agree, that TSE teaches manual re-centering by switching between modes. *See* Ex. 1017, 116 (discussing switching from the "Scrolling Screen" to the "Basic Board Screen" by "[u]se the mouse to click the 'H' (Home) button on the Board Screen); *see also id*. at 110 (further explaining operation of the "home button," noting that "[c]licking [the home] button with the mouse after the board information has been scrolled causes the screen to return to the Basic Board Screen, with the board display center price at the center"). The fact that re-centering is achieved by switching between modes does not change the fact that this is a re-centering command. The testimony from Patent Owner's declarant, Mr. Thomas, is also unpersuasive because it, too, is not tied to any requirement in the claims, and instead requires re-centering without changing modes. The claims simply require "re-centering," and are silent as to whether a mode must remain the same. *See* Ex. 2169 ¶ 170.

8. Claims 14, 17, 19, and 20

With respect to dependent claims 14, 17, 19, and 20, Petitioner contends that the combination of TSE and Belden teaches each limitation of the claims except that the first and second locations of the order entry region are within a cell and that the areas in the bid and ask display regions are a cell of a grid. Pet. 67–71. Petitioner contends that TSE suggests that its Board Screen uses a grid of cells because the figures on pages 137 and 138 of TSE depicts a cursor in a rectangular region of price columns 11 and 12 but does not explicitly disclose cells. *Id*. at 67. Petitioner relies upon Cooper to teach that it is well known to use a grid of cells because it allows for objects to neatly line up. *Id*. at 68. Petitioner states:

> it would have been obvious to a POSA to combine a grid of cells (as disclosed by Cooper) with TSE's Board Screen. . . . The combination would have been nothing more than combining prior art GUI elements according to known methods to yield the predictable and desirable result of aligning or arranging the various number in the rows and columns of TSE's Board Screen.

Id. at 68. The testimony of Mr. Román supports Petitioner's analysis. *See* Ex. 1007 ¶¶ 161–166.

We are persuaded by Petitioner's arguments and evidence, which we adopt, that the features recited in these claims are taught by the combination of TSE, Belden, and Cooper and that one skilled in the art would have combined those teachings. We determine the Petitioner shows by a preponderance of the evidence that claims 14, 17, 19, and 20 are unpatentable under 35 U.S.C. § 103 over TSE, Belden, and Cooper.

9. Secondary Considerations

As part of our obviousness analysis, we consider the arguments and corresponding evidence submitted by Patent Owner regarding secondary considerations of non-obviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). To be relevant, evidence of non-obviousness must be commensurate in scope with the claimed invention. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011). There must be a nexus between the merits of the claimed invention and the evidence of secondary considerations. *In re GPAC Inc.,* 57 F.3d 1573, 1580 (Fed. Cir. 1995). "Nexus" is a legally and factually sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in determining non-obviousness. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988).

Patent Owner contends that "there is a mountain of objective indicia of non-obviousness that proves the claimed invention is not obvious." PO Resp. 43.

a. MD Trader

Patent Owner contends that "MD Trader [is] the commercial embodiment of the invention" (PO Resp. 45, 56), and refers to MD Trader throughout its discussion of secondary considerations of non-obviousness (*id.* at 35–78).

"There is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product 'is the invention disclosed and claimed in the patent." *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016).

A patent challenger may rebut the presumption of nexus with evidence that shows the proffered objective evidence was due to extraneous factors other than the patented invention. *Id*.

As Petitioner notes, however, "the [Patent Owner Response] fails to explain how MD Trader embodies the claims." Pet. Reply 20. The only discussion provided in Patent Owner's Response as to how MD Trader includes the features recited in the challenged claims is a general allegation noted above that "MD Trader [is] the commercial embodiment of the invention . . . Ex. 2173, ¶¶ 20–23; Ex. 2169, ¶¶ 97, Ex. 2170, ¶¶ 24–31Ex.2169; Ex.2233 (explaining how each claim element is present in MD Trader)." PO Resp. 56. Such an incorporation by reference is inappropriate, as Patent Owner's Response fails to explain how MD Trader includes the features of the claims. *See* 37 C.F.R. § 42.6(a)(3) ("Arguments must not be incorporated by reference from one document into another document."); Paper 38, 3–4 (explaining that we will not consider any arguments that are not adequately explained in the Patent Owner's Response).

Nevertheless, and as explained below, Patent Owner's contentions regarding secondary considerations fail even if we assume that MD Trader includes the claim elements.

b. Unrecognized Problems

Patent Owner contends that "[t]he inventive GUI tool solved problems presented by conventional GUIs," which "exhibited problems with speed and accuracy." PO Resp. 46. Patent Owner, however, offers no persuasive authority for the proposition that "unrecognized problems" is a secondary consideration of non-obviousness. *See id*. at 47 (citing *Leo Pharm. Prods.*,

Ltd. v. Rea, 726 F.3d 1346, 1353–54, 1357 (Fed. Cir. 2013)). An inventor's discovery of a previously unrecognized problem is generally accounted for in the analysis of the scope of the prior art and a motivation to combine prior art elements, rather than it being a secondary consideration of non-obviousness. *See Leo Pharm. Prods.*, 726 F.3d at 1353–54; *see also S. Alabama Med. Sci. Found. v. Gnosis S.P.A.*, 808 F.3d 823, 827 (Fed. Cir. 2015). We note that Patent Owner's contentions regarding "unrecognized problems" are not tied to any of the asserted references or rationale discussed above with respect to the challenges to claims 1–23 under § 103.

Accordingly, these contentions are not persuasive of non-obviousness.

c. Unexpected Results

Patent Owner contends that "[u]nexpected superior properties from an invention support the conclusion that the invention was not obvious to a [person of ordinary skill in the art]." PO Resp. 48 (citing *Procter & Gamble Co. v. Teva Pharm. USA, Inc.* 566 F.3d 989, 997 (Fed. Cir. 2009); *In re Soni*, 54 F.3d 746, 750 (Fed. Cir. 1995)). As the authority cited by Patent Owner explains,

> [t]he basic principle behind [unexpected results supporting non-obviousness] is straightforward—that which would have been surprising to a person of ordinary skill in a particular art would not have been obvious. The principle applies most often to the less predictable fields, such as chemistry, where minor changes in a product or process may yield substantially different results.

In re Soni, 54 F.3d at 750.

Patent Owner contends that "[a]lthough the invention achieved Brumfield's intended benefit of increasing the likelihood that the user would get his/her desired price, this was not a problem widely appreciated by

others." PO Resp. 48. Patent Owner further contends that "the invention provided several other *unexpected* benefits as well." *Id*. This is not persuasive of "unexpected results."

Patent Owner does not allege that the GUI operated in some unexpected manner. Indeed, it is hard to imagine computer code (i.e., a set of instructions) operating in an unexpected manner, particularly when the '786 patent describes the programming associated with the GUI as insignificant. *See, e.g.*, Ex. 1001, 4:60–67 (explaining that "present invention processes [price, order, and fill] information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program" and "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art").

Accordingly, we are not persuaded by Patent Owner's contentions regarding unexpected results.

d. Initial Skepticism

Patent Owner contends that "MD Trader was received with skepticism by TT's own sales personnel." PO Resp. 52 (citing Ex. 2169 ¶¶ 99–100, 103; Ex. 2211, 715:19–716:18; Ex. 2173 ¶¶ 16–19; Ex. 2170 ¶¶ 22–28; Ex. 2171 ¶¶ 39–40; Ex. 2173 ¶¶ 16–19). Initially, we reiterate that "[a]rguments must not be incorporated by reference from one document into another document" (37 C.F.R. § 42.6(a)(3)) and arguments not made in the Patent Owner's Response will not be considered (Paper 38).

Patent Owner's arguments related to "initial skepticism" are based primarily on the premise that "a [person of ordinary skill in the art] would have rejected outright a price axis with relative movement." PO Resp. 54.

Those contentions are unpersuasive. As noted above, TSE expressly teaches this feature. To the extent the other contentions related to "initial skepticism" are directed to traders simply being resistant to change, generally, those contentions are also unpersuasive. *See*, *e.g.*, *id*. at 54 (discussing profitable traders being hesitant towards *any* type of change because change can alter their confidence). Those contentions are not tied in any meaningful way to the features of the claims.

That traders would have been resistant to accept anything different is not persuasive of non-obviousness.

e. Commercial Success

Patent Owner contends that MD Trader "became a huge commercial success." PO Resp. 56. As noted above, Patent Owner does not explain, in its Patent Owner Response, how MD Trader embodies the claimed invention. Even if MD Trader includes each feature recited in the claims, "[e]vidence of commercial success . . . is only significant if there is a nexus between the claimed invention and the commercial success." *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311–12 (Fed. Cir. 2006). As explained above, the Patent Owner Response is silent as to any nexus between the alleged commercial success and the claimed invention. Petitioner argues there is no presumption of nexus, and that Patent Owner has not established the requisite nexus. Pet. Reply 19–20. We agree with Petitioner.

Patent Owner admits that MD Trader is part of a suite of software and not sold separately. Ex. 1064, 92:11–15. A limited exception to the presumption of nexus exists where the patented invention is only a component of the product to which the asserted objective considerations are

tied. *Demaco*, 851 F.2d at 1392. Here, because MD Trader is a component of a suite of software, Patent Owner enjoys no presumption of nexus. Patent Owner fails to offer any meaningful discussion of nexus in its Patent Owner Response, other than a general assertion at the end of its discussion that "MD Trader was successful due to the patented features." PO Resp. 46. Patent Owner's contentions regarding commercial success fail for this reason alone.

Even if we were to assume nexus, Petitioner persuasively rebuts that presumption. Petitioner responds, for example, that Patent Owner's increase in sales could easily have been the result of increases in the market itself during the relevant time period. Pet. Reply 24. Petitioner explains that "in the U.S., both the trading volume and the number of actively traded commodities contracts exploded in the early-to-mid 2000s" and "[t]rading volume increased six-fold; the number of actively traded contacts increased five-fold." *Id*. (citing Ex. 1072, 35–37). Exhibit 1072 is a document from the Commodity Futures Trading Commission (CFTC), and pages 35–37 support the trading volume increase alleged by Petitioner.

Petitioner also points to several unclaimed features being responsible for the alleged commercial success. Pet. Reply 20–21. In support of this contention, Petitioner cites Patent Owner's own testimony from traders in the industry (Ex. 2223), noting, for example, that "Ryan . . . testified that MD Trader's ability to display multiple trade windows . . . was a reason he used MD Trader," "Grisafi identified one-click re-centering as a key feature" and "McElveen identified speed, precision, and one-click re-centering as [] key features." *Id*. (citing Ex. 2223, 3–4, 22, 40). Patent Owner acknowledges that, "in this industry . . . *anything* that is even remotely

appreciated as providing an edge is tried and spreads quickly if successful." PO Resp. 56 (emphasis added).

Furthermore, Patent Owner does not provide information regarding sales volume or market share as compared to providers of competing products. Rather, Patent Owner only alleges an increase in its own sales, without reference to the market. *See* PO Resp. 56–61. This information, without market share information, is only weak evidence, if any, of commercial success. *See In re Applied Materials* 692 F.3d at 1299.

f. Copying

Patent Owner additionally contends that the invention was widely copied by others. PO Resp. 62–69. "[C]opying requires the replication of a specific product." *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004).

Patent Owner refers to products allegedly including the claimed features, as well as consent judgements where others acknowledged infringement. PO Resp. 62–69. This is not persuasive evidence of copying. *See Iron Grip*, 392 F.3d at 1325 ("Not every competing product that arguably falls within the scope of a patent is evidence of copying. Otherwise every infringement suit would automatically confirm the nonobviousness of the patent.").

Although Patent Owner repeatedly alleges that others copied the invention, there is no explanation, in the Patent Owner Response, to support those alleged copiers attempting to replicate specific products. For example, Patent Owner contends that "Mr. Deux, founder of licensee NinjaTrader, also acknowledged copying of the invention." PO Resp. 64 (citing Ex. 2169

¶¶ 128–130; Ex. 2247, 210:8–212:25). The evidence cited by Patent Owner, however, does not support that contention. For example, the cited portion of Exhibit 2247 is just another example of Patent Owner alleging copying based on the existence of similar products.

Patent Owner has failed to establish widespread copying.

g. Industry Praise

Patent Owner contends that widespread praise in the industry also supports non-obviousness. PO Resp. 69–71. In support of its "widespread praise" contentions, Patent Owner notes, for example, that the invention was characterized as a "unique vision," "ingenious," "paradigm change," "revolutionary… not just an incremental improvement," "outside of the box," "huge innovation," "significant advance," "determining factor in our success," "radically different," "far superior," "very significant departure [from the prior art]," "invaluable tool," "stroke of genius," "so significant that I cannot put a price on its value." *Id*. at 69–70. Patent Owner proceeds to conclude that "[e]ach one of these was directed to the claimed features." *Id*. at 54.

As with commercial success, however, evidence of industry praise is only relevant when it is directed to the merits of the invention claimed. *See Ormco*, 463 F.3d at 1311. Patent Owner offers no sufficient explanation, in its Patent Owner Response, as to how any of the alleged praise is due to specific features that are present in the claims.

h. Industry Acquiescence

Patent Owner contends that non-obviousness is further shown by "widespread acquiescence and acceptance in the industry, with many licenses and consent judgments acknowledging infringement and validity." PO Resp. 71–72. Although licenses taken under the patent in suit may constitute evidence of non-obviousness, only little weight can be attributed to such evidence if the patentee does not demonstrate "a nexus between the merits of the invention and the licenses of record." *In re GPAC Inc.*, 57 F.3d at 1580 (internal quotation and citations omitted). Furthermore, as Petitioner notes, litigation-induced licensing, alone, does not establish non-obviousness. *See* Pet. Reply 26 (citing *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907–8 (Fed. Cir. 1985)).

We note that Patent Owner's contention regarding licensing to traders is more related to commercial success than licensing in the context of secondary considerations of non-obviousness. *See* PO Resp. 71 (discussing traders purchasing software licenses, the MD Trader product).

i. Failure of Others

Patent Owner additionally contends that the alleged failure of others to make the invention supports non-obviousness. PO Resp. 72–75. Patent Owner's contentions on this issue are not directed to any particular attempt and failure of others to make the claimed invention. *See id.* Indeed, it is difficult to image that would be the case with the claimed invention, as the '768 patent explains that there is nothing special about the programming required. Ex. 1001, 4:60–67.

Rather, Patent Owner's contentions are directed to the allegation that the claimed invention did not exist before arrived at by Patent Owner. PO

Resp. 72–75. This does not establish non-obviousness. *Iron Grip*, 392 F.3d at 1325 ("Absent a showing of long-felt need or the failure of others, the mere passage of time without the claimed invention is not evidence of nonobviousness."). Patent Owner does not allege any long-felt need existed. In fact, Patent Owner advances the opposite position, that the problem was not even recognized by others. *See* PO Resp. 74 ("Prior to the invention, [persons of ordinary skill in the art] failed to even appreciate the problems.").

j. Other Evidence

Patent Owner additionally cites another party's attempt to invalidate the '768 patent as evidence of non-obviousness. PO Resp. 75–76. Patent Owner concludes that party's "actions show that experts in the field recognized that prior art, including the TSE, was insufficient to render the invention obvious." *Id*. at 76. We are apprised of no persuasive reason as to why those contentions establish non-obviousness in this proceeding.

k. Weighing Secondary Considerations

As explained above, Patent Owner has not established the majority of its alleged secondary considerations of non-obviousness. Weighing the evidence before us, Patent Owner's contentions regarding secondary considerations of non-obviousness do not outweigh the strong case of obviousness discussed above. For example, as noted above, TSE teaches each feature of claim 1 other than the "single action" setting and sending, which is taught by Belden. As noted above, Belden itself, for example, provides motivation for the proposed modifications to TSE (e.g., increased speed).

Accordingly, we are persuaded that Petitioner has established, by a preponderance of the evidence, that claims 1–6 and 10–23 are unpatentable under 35 U.S.C. § 103.

I. Motions to Exclude

1. Patent Owner's Motion to Exclude

Patent Owner moves to exclude Exhibit 1016 (TSE) and Exhibit 1017 (TSE Translation). Paper 48 ("PO MTE"). Patent Owner seeks to exclude Exhibits 1016 and 1017 because they have not been authenticated per rule 901 of the Federal Rules of Evidence (FRE). PO MTE 1. Patent Owner further argues that Exhibit 1017 should be excluded under FRE 106 and 403 because it is incomplete and misleading. *Id*.

First, Patent Owner argues that Petitioner fails to sufficiently authenticate Exhibits 1016 and 1017 as required by FRE 901. PO MTE 2–5; PO MTE Reply 1–4. Petitioner relies upon the testimony of Mr. Kawashima[11] to authenticate Exhibits 1016 and 1017. PO MTE Opp. 1–10 (citing Exs. 1019, 2163). Patent Owner argues that the November 2005 deposition of Mr. Kawashima (Ex. 1019) does not sufficiently authenticate Exhibits 1016 and 1017 for many of the same reasons discussed above with respect to the public accessibility of TSE.

Patent Owner's argument is not persuasive. Patent Owner has not met its burden to show that either Exhibit 1016 or Exhibit 1017 should be excluded from the record. For the same reasons as discussed above, Patent

[11] Patent Owner argues that the November 2005 deposition testimony of Mr. Kawashima's (Exhibit 1019) is hearsay. MTE 2. Patent Owner, however, does not move to exclude Exhibit 1019.

Owner's arguments are unpersuasive. As Petitioner argues, Mr. Kawashima's testimony sufficiently establishes the authenticity. *See* PO MTE Opp. 3–10.

Accordingly, we *deny* Patent Owner's Motion to Exclude with respect to Exhibits 1016 and 1017.

Second, Patent Owner argues Exhibit 1017 is inadmissible under FRE 106 and 403 because it is incomplete and misleading. PO MTE 5–6; PO MTE Reply 4–5. Patent Owner argues that Exhibit 1017 "omit[s] two translator's notes from Patent Owner's original translation." *Id*. (citing Ex. 2178, 39–40).

Patent Owner's argument is not persuasive. FRE 106 provides that:

> If a party introduces all or part of a writing or recorded statement, an adverse party may require the introduction, at that time, of any other part —or any other writing or recorded statement — that in fairness ought to be considered at the same time.

As Petitioner points out, "rather than providing a basis for excluding evidence, Fed. R. Evid. 106 is a vehicle for entry of additional evidence." Here, the two translator's notes from Patent Owner's original translation already appear in the record. Ex. 2178, 39–40.

FRE 403 provides:

> The court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence.

Patent Owner has not met its burden to show Exhibit 1017 should be excluded from the record under FRE 304. Patent Owner asserts that Exhibit 1017 should be excluded but does not provide a sufficient explanation why

the probative value is substantially outweighed by being misleading. *See* PO MTE 5–6. Here, the two translator's notes from Patent Owner's original translation already appear in the record (Ex. 2178, 39–40) and we are capable of assigning the appropriate weight to Exhibit 1017.

Accordingly, we *deny* Patent Owner's Motion to Exclude with respect to Exhibits 1017 for these additional reasons.

2. Petitioner's Motion to Exclude

Petitioner moves to exclude various ones of Patent Owner's Exhibits. Paper 44. Because the outcome of this trial does not change based on whether or not we exclude those exhibits, we *dismiss* Petitioner's Motion to Exclude as moot.

CONCLUSION

For the foregoing reasons, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1–23 of the '768 patent are unpatentable.

ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–23 of the '768 are *unpatentable*;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence is *denied*;

FURTHER ORDERED that Petitioner's Motion to Exclude Evidence is *dismissed*; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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