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Paper 35
Entered: August 18, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHICAGO MERCANTILE EXCHANGE, INC.,
Petitioner,

v.

5th MARKET, INC.,
Patent Owner.

Case CBM2014-00114
Patent 7,024,387 B1

Before KALYAN K. DESHPANDE, MICHAEL R. ZECHER, and GEORGIANNA W. BRADEN, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

I. BACKGROUND

A. Introduction

Petitioner, Chicago Mercantile Exchange, Inc. ("CME"), filed a Petition requesting a review under the transitional program for covered business method patents of claims 1, 2, 4, 6–8, and 10 of U.S. Patent No. 7,024,387 B1 ("the '387 patent," Ex. 1001). Paper 2 ("Pet."). Patent Owner, 5th Market, Inc. ("5th Market"), timely filed a Preliminary Response. Paper 8 ("Prelim. Resp."). Taking into account the arguments presented in 5th Market's Preliminary Response, we determined that the information presented in CME's Petition establishes that claims 4, 6–8, and 10 are more likely than not unpatentable under 35 U.S.C. § 103(a). We determined, however, that the information presented in the Petition does not establish that claims 1 and 2 are more likely than not unpatentable. Pursuant to 35 U.S.C. § 324,[1] we instituted this proceeding on October 9, 2014, only as to claims 4, 6–8, and 10 of the '387 patent. Paper 9 ("Dec. to Inst.").

During the course of trial, 5th Market timely filed a Patent Owner Response (Paper 19, "PO Resp."), and CME timely filed a Reply to the Patent Owner Response (Paper 23, "Pet. Reply"). 5th Market filed a Motion to Exclude seeking to exclude one of the references that serves as the basis of the ground of unpatentability ("ground") instituted in this proceeding, as

[1] *See* section 18(a) of the Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284, 329 (2011) ("AIA"). Section 18(a)(1) of the AIA provides that the transitional program for covered business method patents will be regarded as a post-grant review under Chapter 32 of Title 35 United States Code and will employ the standards and procedures of a post-grant review, subject to certain exceptions.

well as certain portions of the Declarations of Craig Pirrong, Ph.D. Paper 25 ("Mot. to Exclude"). CME filed an Opposition to 5th Market's Motion to Exclude. Paper 29 ("Exclude Opp."). 5th Market filed a Reply to CME's Opposition. Paper 31 ("Exclude Reply"). An oral hearing was held on May 18, 2015, and a transcript is of record. Paper 34 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(c). This decision is a Final Written Decision under 35 U.S.C. § 328(a) as to the patentability of claims 4, 6–8, and 10 of the '387 patent. For the reasons discussed below, CME has demonstrated by a preponderance of the evidence that these claims are unpatentable under § 103(a). We also deny 5th Market's Motion to Exclude.

B. Related Matters

The '387 patent is already the subject of the following two proceedings between CME and 5th Market: (1) an *inter partes* reexamination proceeding titled Reexamination Control No. 95/002,032 ("the '032 reexamination), in which another panel of the Board entered a decision affirming-in-part the Examiner's confirmation of a certain subset of claims of the '387 patent on June 24, 2015; and (2) Case CBM2015-00061, in which this panel instituted a covered business method patent review as to claims 1 and 2 of the '387 patent on July 16, 2015. *See* Pet. 2; Paper 6, 2. In addition to the Petition filed in this proceeding and the Petition filed in Case CBM2015-0061, CME filed a Petition challenging the patentability of claims 1–23 and 41–49 of U.S. Patent No. 6,418,419 ("the '419 patent"), which is a parent patent of the '387 patent. *Chicago Mercantile Exch., Inc. v. 5th Mkt., Inc.*, Case CBM2013-00027, Paper 3 (PTAB June 18, 2013). Another panel of the Board instituted a covered business method patent

review as to claims 1–23 of the '419 patent as being indefinite under 35 U.S.C. §112 ¶ 2, as well as to claims 1–23 and 41–49 of the '419 patent as being unpatentable under § 103(a). Ex. 1008. In a Final Decision, the Board determined that claims 1–23 of the '419 patent are indefinite under §112 ¶ 2, and the claims 1–4, 6–23, and 41–49 of the '419 patent are unpatentable under § 103(a). Case CBM2013-00027, Paper 33 (PTAB Dec. 17, 2014) (Ex. 1020). The Board also denied 5th Market's Motion to Amend. *Id.* In a Decision on 5th Market's Request for Rehearing, the Board granted-in-part 5th Market's Motion to Amend only as to proposed, substitute dependent claim 54. Case CBM2013-00027, Paper 38 (PTAB Mar. 23, 2015).

C. Standing

Section 18 of the AIA governs the transitional program for covered business method patent reviews. Section 18(a)(1)(B) of the AIA limits such reviews to persons, or their privies, that have been sued or charged with infringement of a covered business method patent. CME asserts that it has been sued for infringement of the '387 patent and the '419 patent in *Fifth Market, Inc. v. CME Group Inc.*, No. 08-0520 GMS (D. Del.). Pet. 6 (citing Ex. 1012). Based on the record before us, we agree that CME has standing to file its Petition.

D. The '387 Patent

The '387 patent, titled "Automated System for Conditional Order Transactions in Securities or Other Items in Commerce," issued April 4, 2006, from U.S. Patent Application No. 09/695,828, filed on October 26, 2000. Ex. 1001, at [54], [45], [21], [22]. The '387 patent is both a

continuation-in-part of U.S. Patent Application No. 09/359,686, filed on July 23, 1999—now the '419 patent—and a continuation of application No. PCT/US00/19567, filed on July 24, 2000. *Id.* at [63].

The '387 patent generally relates to the conditional trading of securities, such as convertible bond "swaps," risk arbitrage, and combinations thereof in both listed and over-the-counter markets, via one or more electronic networks. Ex. 1001, 1:10–16. According to the '387 patent, there is no computer network that links participants involved in convertible securities in a transaction-oriented format. *Id.* at 1:33–34. Virtually every transaction is through verbal private negotiations, i.e., almost every bid, offer, or trade is made verbally and is transmitted only to the participants involved. *Id.* at 1:34–37. The '387 patent discloses that this problem can be solved by creating an anonymous auction market, instead of a negotiated market, that displays prices to all participants and saves the trade information for later use. *Id*. at 1:37–42.

Figure 1 of the ’387 patent, reproduced below, illustrates a conditional order transaction system. Ex. 1001, 4:36–38.

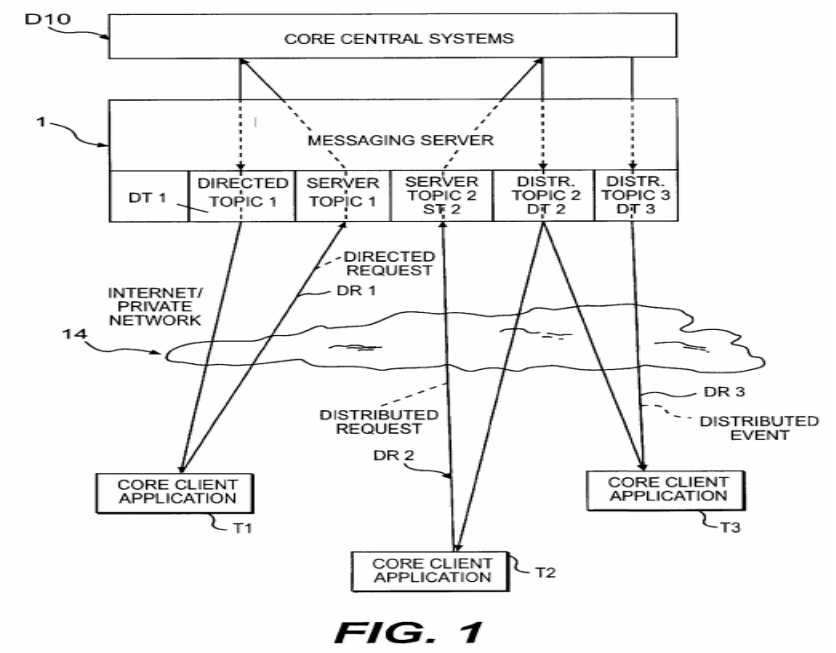

FIG. 1

As shown in Figure 1 of the ’387 patent, there are three scenarios that use a conditional order routing exchange (“CORE”). *Id.* at 5:14–16. The first scenario includes CORE client program T1, which formats and transmits a client/subscriber/trade request with a directed response; the second scenario includes CORE client program T2, which formats and transmits a client request whose response is disseminated to various interested parties; and the third scenario involves CORE client program T3, which receives data from some external source and, subsequently, redistributes it to all interested parties. *Id.* at 5:23–59.

Figure 2 of the ’387 patent, reproduced below, illustrates the processing of a match order using the conditional order transaction system of Figure 1. Ex. 1001, 4:42–43, 6:36–37.[2]

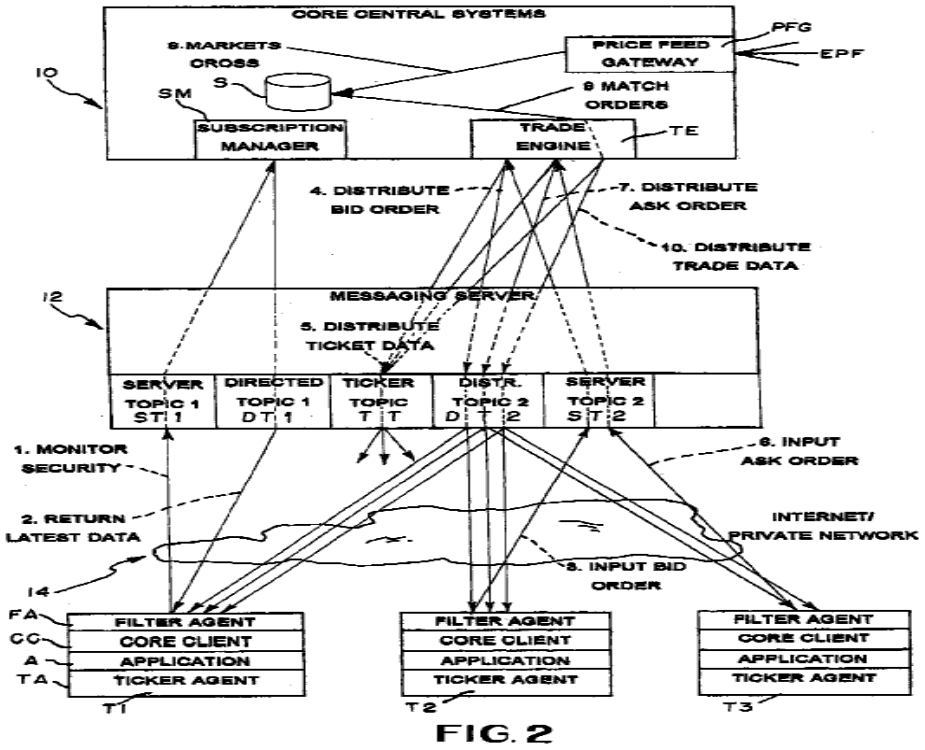

FIG. 2

As shown in Figure 2 of the ’387 patent, a first client requests to be informed about events relating to a given security, a second client places a

[2] A comparison of Figure 3 of the ’419 patent and Figure 2 of the ’387 patent reveals that these Figures are identical. *Compare* the ’419 patent, Fig. 3, *with* Ex. 1001, Fig. 2. In addition, we note that, although the specification of the ’387 patent indicates that Figure 3 illustrates the processing steps of a match order using the system of Figure 1 (*see e.g.*, Ex. 1001, 4:42–43, 6:36–37), it is clear after reviewing both Figures 2 and 3 of the ’387 patent that these processing steps are illustrated in Figure 2—not Figure 3. We, therefore, presume that the specification of the ’387 patent mistakenly references Figure 3 when it intends to describe the ten processing steps for matching an order illustrated in Figure 2.

bid for that security, and a third client places an ask for the same security. *Id.* at 6:37–41. The processing steps for matching an order illustrated in Figure 2 of the '387 patent are listed as follows: (1) Monitor Security; (2) Return Latest Data; (3) Input Bid Order; (4) Distribute Bid Order; (5) Distribute Ticker Data; (6) Input Ask Order; (7) Distribute Ask Order (also Distribute Ticker Data); (8) External prices converge making orders cross; (9) Crossed order are matched; and (10) Distribute Trade Details. *Id.* at 6:44–54.

E. Illustrative Claim

Claim 7 is the only remaining claim that is an independent claim. Claims 4 and 6 directly depend from independent claim 3, which is not challenged in this proceeding; claim 8[3] directly depends from independent claim 7; and claim 10 directly depends from independent claim 9, which also is not challenged in this proceeding. Independent claim 7 is illustrative of the challenged claims and is reproduced below:

> 7. A computer program embodied on a computer-readable medium for matching or comparing buy and sell orders for a plurality of items based upon conditions set forth

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[3] Dependent claim 8 recites, in relevant part, "[t]he computer program of claim wherein." Ex. 1001, 29:45. It is evident from this recitation that dependent claim 8 issued without reference to a specific independent claim. We note that claim 7 is the only independent claim that recites "[a] computer program product." *Id.* at 29:11. We, therefore, presume that issuing dependent claim 8 without reference to a specific independent claim was a typographical error and, as a consequence, we treat claim 8 as depending directly from independent claim 7. *See Novo Indus., L.P. v. Micro Molds Corp.* 350 F.3d 1348, 1354 (Fed. Circ. 2003) (holding obvious errors in a claim can be corrected in construing the claim).

> within the order, including a price represented as an algorithm with constraints thereon, a source code for the program having a plurality of segments comprising:
>
> a segment for processing data from a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is a dependent variable of the algorithm within the constraints and dynamically changing price of another item is an independent variable, the price as the dependent variable being continuously changeable responsive to changes in price of the independent variable, the algorithm representing a buy or sell order; and
>
> a segment for a controlling a computer coupled to each of the trader terminals over a communications network and receiving as inputs,
>
> a) each algorithm with its corresponding constraints, and
> b) an external price feed depicting prices of various items and contracts from external multiple data sources which may be used as an independent variable of the algorithm or an input to a constraint variable, the source code further comprising,
>
> a segment for matching or comparing, in accordance with the constraints and conditions, algorithmic buy/sell orders with algorithmic or non-algorithmic sell/buy orders through the use of the external multiple data sources, and
>
> a segment for simultaneously executing a trade of said items in the same or diverse equity markets as a single electronically matched trade.

Ex.1001, 29:11–44.

F. Covered Business Method Patent

Upon considering the information presented by CME in its Petition, as well as the arguments presented by 5th Market in its Preliminary Response, we determined that the ’387 patent is a covered business method patent, as

defined in section 18(a)(1)(E) of the AIA and 37 C.F.R. § 42.301, because at least one claim of the '387 patent is directed to a covered business method. Dec. to Inst. 9–12. Consequently, we concluded that the '387 patent is eligible for a covered business method patent review. *Id.*

When analyzing whether the '387 patent is eligible for a covered business method patent review in the Decision to Institute, we noted that the definition of a "covered business method patent" in section 18(d)(1) of the AIA does not include patents for "technological inventions." Dec. to Inst. 11. When determining whether a patent is for a technological invention, we consider the following factors: "[(1)] whether the claimed subject matter as a whole 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).

In its Patent Owner Response, 5th Market contends that the challenged claims of the '387 patent fall within the purview of the technological invention exception set forth in 37 C.F.R. § 42.301(b). PO Resp. 42. 5th Market relies upon the legislative history of the AIA to support this argument. *Id.* According to 5th Market, examples of subject matter that should not be subject to the transitional program for covered business method patents include "'novel software tools and graphical user interfaces that are used by the electronic trading industry workers to implement trading or asset allocation strategies.'" *Id.* at 42–43 (quoting 157 CONG. REC. S5433 (daily ed. Sept. 8, 2011) (statement of Sen. Durbin)) (emphasis omitted). 5th Market then asserts that the challenged claims of the '387 patent, viewed as a whole, fall squarely within the technological

invention exception because they are directed to "[t]he combination of internal and external trades, matched via an automatic trade engine based on an external price feed[, which] provide[s] increased speed and efficiency in the electronic trading technology." *Id.* at 43.

5th Market, however, does not explain adequately how the challenged claims of the '387 patent encompass novel software tools and graphical user interfaces, nor does 5th Market provide sufficient or credible evidence to support its assertion. Consequently, we maintain our initial determination that CME has demonstrated that the '387 patent is not for a technological invention and, therefore, is eligible for a covered business method patent review. Dec. to Inst. 9–12.

G. Prior Art Relied Upon

CME relies upon the following prior art references:

Lupien US 5,101,353 Mar. 31, 1992 (Ex. 1004)

Memorandum from the Commodity Futures Trading Commission on the New York Mercantile Exchange's ("NYMEX") Proposal to Implement the NYMEX ACCESS Trading System (Dec. 7, 1992) (on file with the Commodity Futures Trading Commission) (Ex. 1003,[4] "CFTC").

H. Instituted Ground

We instituted this proceeding based on the asserted ground set forth in the table below.

[4] Although CFTC is marked in the bottom right-hand corner as "CME Exhibit 1002," it is referenced by CME in its Petition as Exhibit 1003 (Pet. 6) and labeled in the Patent Review Processing System as Exhibit 1003. We, therefore, presume that CME intended to refer to CFTC as Exhibit 1003.

References	Basis	Claims Challenged
CFTC and Lupien	§ 103(a)	4, 6–8, and 10

II. ANALYSIS

A. Claim Construction

In a covered business method patent review, claim terms are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.300(b); *see also In re Cuozzo Speed Techs., LLC*, No. 2014-1301, 2015 WL 4097949, *7–*8 (Fed. Cir. July 8, 2015) (In considering the broadest reasonable interpretation standard for post-grant review proceedings, the Federal Circuit determined that "Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA," and "the standard was properly adopted by [Patent and Trademark Office] regulation."), *reh'g en banc denied*, _F.3d_, 2015 WL 4100060 (Fed. Cir. July 8, 2015). Under the broadest reasonable interpretation standard, and absent any special definitions, claims terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art, in the context of the entire disclosure. *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. Claim Phrases Construed in the Decision to Institute

In its Petition, CME proposed a construction for each of the following claim phrases: (1) "external price feed"; (2) "external data sources"; and (3) "external multiple data sources." Pet. 14–17. In its Preliminary Response, 5th Market did not propose alternative constructions for these claim phrases. *See generally* Prelim. Resp. 1–17. In the Decision to

Institute, we adopted CME's proposed constructions for each claim phrase identified by CME in its Petition because they were consistent with the ordinary and customary meaning of the term "external," as would be understood by one with ordinary skill in the art, in light of the specification of the '387 patent. Dec. to Inst. 14–16.

In its Patent Owner Response, 5th Market accepts our construction of the claim phrases that we construed in the Decision to Institute. PO Resp. 6. In its Reply, CME does not propose an alternative claim construction for the claim phrases that we construed in the Decision to Institute. *See generally* Pet. Reply 1–15. Given 5th Market's acceptance, as well as CME's acquiescence, of our constructions of each claim phrase in the Decision to Institute, we discern no reason to address or alter those constructions for the purposes of this Final Written Decision. For convenience, those claim constructions are reproduced in the table below.

Claim(s)	**Claim Phrase**	**Claim Construction**
7	"external price feed"	"price data received from outside the conditional order transaction network"
4, 8, and 10	"external data sources"	"sources of price data that are outside of the conditional order transaction network"
7 and 9	"external multiple data sources"	"sources of price data that are outside of the conditional order transaction network"

2. Remaining Constructions Proposed by 5th Market in the Patent Owner Response

In its Patent Owner Response, 5th Market proposes a construction for each of the following claim phrases: (1) "device for matching or

comparing" (claim 4); (2) "single electronically matched trade" (claim 4 via its dependency from independent claim 3); (4) "segment for combining . . . to execute said single electronically matched trade" (claims 8 and 10); (5) "sorter that resequences the orders" (claim 6); and (6) "segment for matching or comparing . . . through the use of the external multiple data sources" (claim 7). PO Resp. 7–14 (citing Ex. 2009 ("Declaration of Dr. Terry Richard") ¶¶ 27–31, 52, 56). In its Reply, CME contends that 5th Market's proposed constructions for these claim phrases are overly narrow, are not consistent with the specification of the '387 patent, and, as a result, do not constitute the broadest reasonable interpretation. *See, e.g.*, Pet. Reply 1, 3–4.

We are not persuaded that 5th Market's proposed constructions for the claim phrases identified above constitute the broadest reasonable interpretation because these constructions disregard general claim construction principles. Under the broadest reasonable interpretation standard, "claims should *always* be read in light of the specification and teachings in the underlying patent." *In re Suitco Surface, Inc.* 603 F.3d 1255, 1260 (Fed. Cir. 2010) (citation omitted) (emphasis added); *see also In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011) (claim construction "cannot be divorced from the specification and the record evidence"). This same principle holds true even under the district court standard for claim construction. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) (stating that the specification is "the single best guide to the meaning of a disputed term"). In this case, 5th Market does not reference the specification of the '387 patent once throughout the roughly eight pages

of its claim construction section in the Patent Owner Response. *See generally* PO Resp. 7–14. Although 5th Market provides multiple citations to the Declaration of Dr. Rickard that purportedly support its proposed constructions (*see, e.g.*, Ex. 2009 ¶¶ 27–31, 52, 56), none of the cited paragraphs in this Declaration discuss the specification of the '387 patent.

Notwithstanding that 5th Market and Dr. Rickard do not address how the constructions proposed in the Patent Owner Response are consistent with the specification of the '387 patent, we cannot discern how these constructions add any clarity to the claim phrases themselves, which, in our view, are self-explanatory. We, therefore, conclude that no explicit constructions are necessary beyond their ordinary and customary meaning.

3. "simultaneously executing a trade" (Claims 4, 8, and 10)

By virtue of their dependency from independent claims 3, 7, and 9, claims 4, 8, and 10 require "simultaneously executing a trade of said items in the same or diverse equity markets as a single electronically matched trade." Ex. 1001, 28:29–31, 29:42–44, 30:16–18. The parties do not dispute that "a trade" in the context of these claims of the '387 patent encompasses a spread order. Instead, the parties dispute whether the combination of CFTC and Lupien teaches a "single electronically matched trade." *See* PO Resp. 16–28; Pet. Reply 2–7. This dispute, however, first requires us to construe the claim term "simultaneously" in the context of executing a spread order.

Neither CME nor 5th Market provides an explicit construction for the limitation "simultaneously executing a trade." The claim term "simultaneously" appears outside the claims in the specification of the '387 patent on the following three occasions: (1) in the Table disclosing

examples of orders displayed in the Order Book (Ex. 1001, 19:29–67) ("Sholodge; Registered 7½% May 15, 203; Trade; $95,000 face amount; Price = 103.27XXX; Traded simultaneously with the common stock of Sholodge at 23 1."); (2) in "Example 1—Corporate Bonds" (*id.* at 24:66–25:4) ("A corporate bond trader wishes to advertise that he would like to purchase 500M Citicorp 5% Jan. 1, 2001, bonds at a spread to the two-year-treasury of +65 basis points and simultaneously sell 500M of the two-year-treasury . . ."); and (3) in "Example 11—Options" (*id.* at 25:48–52) ("another example could easily be derived from a grain elevator company with empty elevators where they would contract to purchase grain (in the market) in May, and simultaneously wish to sell the grain in one or more contract months in the future"). These cited disclosures in the specification of the '387 patent merely provide examples of orders processed by the disclosed trading system, and do not provide an explicit definition for the claim term "simultaneously." Absent an explicit definition, we must accord this claim term its ordinary and customary meaning, as would be understood by one of ordinary skill in the art, in the context of the entire disclosure. *Translogic*, 504 F.3d at 1257.

There is sufficient intrinsic evidence that indicates the claim term "simultaneously," in light of the '387 patent and, in particular, in the context of executing a spread order, does not apply to executing just one leg of the spread order simultaneously, but instead applies to executing multiple legs of the spread order simultaneously. In response to a question posed by CME's counsel, 5th Market's expert witness, Dr. Rickard, testifies that the "simultaneous execution of a trade" associated with, for example, dependent

claim 4 does not involve a specific time period. Ex. 1021, 30:9–15. Dr. Rickard further testifies that, in the context of spread trading functionality, "simultaneous execution of a trade" refers to executing "both [] or multiple legs [of the spread order] as required within the constraints on the differential price." *Id.* In addition, throughout his cross-examination testimony, Dr. Rickard suggests that one of ordinary skill in the art could program an exchange to execute a spread order based on a set of priority rules, e.g., first matching or filling one leg of the spread order and then later matching or filling another leg of the spread order. Ex. 1021, 11:10–12, 22:16–23:7, 30:9–31:3. These cited portions of Dr. Rickard's cross-examination testimony amount to credible evidence that one of ordinary skill in the art would have understood that, once each leg of the spread order is matched or filled, the exchange may be programmed to execute each leg of the spread order simultaneously.

Applying the broadest reasonable interpretation standard in light of the '387 patent, we construe the limitation "simultaneously executing a trade" in the context of executing a spread order as "simultaneously executing multiple legs of a spread order."

B. There is Sufficient Evidence in the Record Before Us to Demonstrate That CFTC Qualifies as a Prior Art Printed Publication Within the Meaning of 35 U.S.C. § 102(b)

In its Petition, CME contends that CFTC is dated December 7, 1992, and, therefore, qualifies as prior art to the '387 patent under § 102(b). Pet. 6. In the same vein, CME argues that CFTC qualifies as prior art because it predates the '387 patent. *Id.* at 1, 18. On its face, CFTC includes the

following indicia: (1) the date of December 7, 1992, along with the marking of "PUBLIC COPY"; and (2) a stamp from the Agency that is the Commodity Futures Trading Commission ("CFTC Agency") indicating that CFTC was received for public record on December 18, 1992. Ex. 1003, title page.

In its Patent Owner Response, 5th Market contends that CME fails to meet its burden of establishing that CFTC qualifies as a prior art printed publication within the meaning of § 102(b). PO Resp. 43–44. 5th Market argues that CME fails to demonstrate that CFTC was disseminated to the relevant public before the earliest effective filing date of the '387 patent and, given that CFTC is labeled as a "memorandum," actual public dissemination cannot be presumed. *Id.* at 45. With its Patent Owner Response, 5th Market submits the Declaration of Jonathan C. Wheeler (Ex. 2011), a paralegal at the CFTC Agency, which was provided to 5th Market by CME in the related district court case. *Id.* 5th Market then argues that, even if CME were to rely upon various statements made by Mr. Wheeler in his Declaration, they fall short of establishing that CFTC was accessible publicly before the earliest effective filing date of the '387 patent. *Id.* at 45–46. 5th Market further argues that the Declaration of Mr. Wheeler should be accorded little, if any, weight because it was drafted by CME's counsel and includes numerous gaps and omissions. *Id.* at 46–50.

In its Reply, CME contends that CFTC was applied as a prior art reference against the claims in both the '387 patent and its parent patent, the '419 patent, in three prior proceedings before the United States Patent and Trademark Office ("Office"). Pet. Reply 12. CME argues that, in those

proceedings before the Office, 5th Market did not dispute that CFTC qualifies as a prior art printed publication to the '387 patent and the '419 patent. *Id.* CME, therefore, asserts that 5th Market should be estopped from arguing that CFTC is not a prior art printed publication in this proceeding because it had a full and fair opportunity to do so in the prior proceedings before the Office, yet it choose not to present such arguments. *Id.* at 13. CME then turns to the Declaration of Mr. Wheeler and argues that Exhibit A-3 attached to his Declaration is a certified copy of CFTC that was made available publicly as early as December 18, 1992. *Id.* at 13 (citing Ex. 2011 ¶¶ 14, 16). CME directs us to the Rebuttal Declaration of Dr. Pirrong as evidence that the version of CFTC attached to the Declaration of Mr. Wheeler (Ex. 2011, Exhibit A-3) is essentially the same as the version of CFTC submitted by CME in this proceeding (Ex. 1003). *Id.* at 14–15 (citing Ex. 1026 ¶¶ 9–12).

We look to the underlying factual determinations to make a legal conclusion as to whether a reference is a printed publication. *Suffolk Techs., LLC v. AOL Inc.*, 752 F.3d 1358, 1364 (Fed. Cir. 2014). The conclusion of whether a given reference qualifies as a prior art "printed publication" 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). The key inquiry is whether the reference was made "sufficiently accessible to the public interested in the art" before the critical date. *In re Cronyn*, 890 F.2d 1158, 1160 (Fed. Cir. 1989); *In re Wyer*, 655 F.2d 221, 226 (CCPA 1981). "A given reference is 'publicly accessible' upon a satisfactory showing that such document has been 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." *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006) (citation omitted).

We are not persuaded by 5th Market's arguments that CME fails to meet its burden of establishing that CFTC qualifies as a prior art printed publication. Instead, we determine that there is sufficient evidence in the record before us demonstrating that CFTC is printed publication with the meaning of § 102(b) and, therefore, qualifies as prior art to the '387 patent. As an initial matter, CME correctly notes that CFTC was applied as a prior art reference in three prior proceedings before the Office—namely, (1) two previous reexamination proceedings, one involving the '387 patent and the other involving the '419 patent; and (2) one previous covered business method patent review proceeding involving the '419 patent. *See, e.g.*, Exs. 1008–10, 1020. CME also correctly notes that, in those proceedings before the Office, 5th Market did not dispute that CFTC qualifies as a prior art printed publication to either the '387 patent or the '419 patent. *See id.* Although we are not aware of a statutory or regulatory provision that precludes 5th Market from presenting arguments in this proceeding as to the public accessibility of CFTC, it is unclear to us why such arguments were not brought in the prior proceedings before the Office, especially given their potential to be dispositive.

Putting aside that the timing of 5th Market's arguments as to the public accessibility of CFTC is a bit unusual, we now turn to the evidence submitted by 5th Market with its Patent Owner Response. In its Patent

Owner Response, 5th Market contends that CME fails to meet its burden of establishing that CFTC qualifies as a prior art printed publication within the meaning of § 102(b), yet it submits evidence in the form of the Declaration of Mr. Wheeler that supports CME's position that CFTC is, in fact, a prior art printed publication. We note that between the time period starting when 5th Market entered the Declaration of Mr. Wheeler into the record and ending with the oral argument, 5th Market did not request authorization to depose Mr. Wheeler.[5] Instead, 5th Market attempts to undermine Mr. Wheeler's testimony by presenting attorney argument unsupported by factual evidence. *See, e.g.*, PO Resp. 47–49.

It is well-settled that an "attorney's argument . . . cannot take the place of evidence." *In re Pearson*, 494 F.2d 1399, 1406 (CCPA 1974) (citation omitted). Absent sufficient evidence presented by 5th Market that undermines Mr. Wheeler's testimony, we have no reason to question his credibility. With this in mind, we address the Declaration of Mr. Wheeler, and then turn to the Rebuttal Declaration of Dr. Pirrong.

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[5] During oral argument, we inquired why 5th Market did not seek authorization to depose Mr. Wheeler. Tr. 62:17–63:14. Counsel for 5th Market indicated that it wasn't aware there was a protocol at the Board for requesting authorization to depose Mr. Wheeler, but suggested that we stay this proceeding pending a motion to apply for a subpoena at a United States District Court to seek his deposition. *Id.* at 64:19–65:16. We explained that, given the constraints of the statutory time period for issuing a Final Written Decision in this case, we are not inclined to grant such a belated request unless it qualifies as an extraordinary circumstance. *Id.* at 65:17–66:2. 5th Market did not pursue further its suggestion that we stay this proceeding pending a motion to apply for a subpoena at a United States District Court to seek a deposition of Mr. Wheeler.

Mr. Wheeler is a paralegal specialist at the CFTC Agency whose duties include "maintaining and researching records of the CFTC maintained by the Office of Secretariat, including in connection with the maintenance and indexing of public documents filed with the CFTC [Agency]." Ex. 2011 ¶ 1. Mr. Wheeler testifies that he is familiar with the file and record keeping procedures at the CFTC Agency, including "the recording, processing, and indexing, and maintenance of documents made available for public inspection." *Id.* ¶ 2. Mr. Wheeler further testifies that Exhibit A-3 attached to the Wheeler Declaration is a certified copy of CFTC, dated December 7, 1992, and marked "PUBLIC COPY." *Id.* ¶ 14. Mr. Wheeler attests that, through the ordinary course of business and record keeping at the CFTC Agency, Exhibit A-3 was made available publicly by December 18, 1992, or within a few days thereafter. *Id.* ¶ 16.

To support that the version of CFTC attached to the Declaration of Mr. Wheeler (Ex. 2011, Exhibit A-3) is essentially the same as the version of CFTC submitted by CME in this proceeding (Ex. 1003), CME relies upon the Rebuttal Declaration of Dr. Pirrong. *See* Ex. 1026 ¶¶ 9–12. Dr. Pirrong testifies that the version of CFTC that is Exhibit A-3 and the version of CFTC that is Exhibit 1003 "are substantively identical." *Id.* ¶ 9. Dr. Pirrong further testifies that the only notable difference between the two documents is that Exhibit A-3 includes pages 347–350, whereas Exhibit 1003 does not include those pages. *Id.* ¶ 11. During the oral argument, we inquired whether Dr. Pirrong was cross-examined as to the testimony he provided in his Rebuttal Declaration. Tr. 58:23–24. CME represented that Dr. Pirrong was available, but 5th Market decided not to cross-examine him. *Id.* at

59:1–2; *see also* Ex. 1029 (email correspondence from counsel for 5th Market to counsel for CME indicating that "[5th Market] has decided to forgo the second deposition of Dr. Pirrong"). We, therefore, have no reason to question the veracity of Dr. Pirrong's testimony in the Rebuttal Declaration.

In summary, the aforementioned testimony of both Mr. Wheeler and Dr. Pirrong amounts to credible evidence supporting a determination that CFTC was made sufficiently accessible to the public interested in the art at or around December 18, 1992. Consequently, we conclude that CFTC is a printed publication with the meaning of § 102(b) and, therefore, qualifies as prior art to the '387 patent.

C. Obvious Ground Based on the Combination of CFTC and Lupien

In its Petition, CME contends that claims 4, 6–8, and 10 are unpatentable under § 103(a) over the combination of CFTC and Lupien. Pet. 23–52. In support of this asserted ground, CME explains how the proffered combination teaches the subject matter of each challenged claim (*id.* at 34–39, 44–47, 49–52), and relies upon the Declaration of Dr. Pirrong to support its positions (Ex. 1002 ¶¶ 75–120). In its Patent Owner Response, 5th Market presents arguments that focus on the following claim groupings: (1) dependent claims 4, 8, and 10; (2) dependent claim 6; and (3) independent claim 7. PO Resp. 14–41.

We begin our analysis with the principles of law that generally apply to a ground based on obviousness, followed by our determination regarding the knowledge level of a person with ordinary skill in the art, proceeded by

brief discussions of CFTC and Lupien, and then we address the parties' arguments directed to the challenged claims in turn.

1. Principles of Law

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter 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 to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We also recognize that prior art references must be "considered together with the knowledge of one of ordinary skill in the pertinent art." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)). We analyze this ground based on obviousness with the principles identified above in mind.

2. Level of Skill in the Art

In determining the level of skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962

(Fed. Cir. 1986)). There is evidence in the record before us that reflects the knowledge level of a person with ordinary skill in the art. CME's expert witness, Dr. Pirrong, attests that a person with ordinary skill in the art would be an individual who possesses the following: (1) a bachelor's degree in computer science, or another quantitative field such as mathematics, statistics, economics, or finance; (2) two to five years of work experience in any one of the aforementioned areas; and (3) an understanding of the operation of markets for financial instruments, including computerized or electronic markets. Ex. 1002 ¶ 48.

5th Market's expert witness, Dr. Rickard, offers testimony as to the knowledge level of a person with ordinary skill in the art that is essentially the same as Dr. Pirrong's assessment. Ex. 2009 ¶ 8. Dr. Rickard attests that a person with ordinary skill in the art would be an individual who possesses any one of the following: (1) at least two years of work experience with trading software on one or more securities exchanges or private securities markets, and the ability to describe algorithmic trading to programmers with at least two years of programming experience in a securities exchange or private securities market; or (2) a computer programmer with at least two years of programming experience in the area of trading on a securities exchange or private securities marketplace, as well as a general knowledge of the details of algorithmic trading and the characteristics of data from other marketplaces external to his/her work environment. *Id.*

In addition, we note that the prior art of record in this proceeding—namely, CFTC and Lupien—is indicative of the level of ordinary skill in the

art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *GPAC*, 57 F.3d at 1579; *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

3. CFTC

CFTC generally relates to NYMEX proposed rules and rule amendments necessary to implement NYMEX American Computerized Commodity Exchange System and Services ("NYMEX ACCESS"). Ex. 1003, 3.[6] NYMEX ACCESS is an electronic order matching system that may be used by NYMEX members, as well as customers trading through NYMEX members, to trade futures and options contracts after NYMEX's regular trading hours. *Id.* In addition to the trade execution function, NYMEX ACCESS provides trade reporting and quotation information for NYMEX ACCESS contracts traded via the system. *Id.* at 3–4.

CFTC discloses a NYMEX ACCESS trade matching host that accepts limit orders, i.e., orders to buy or sell a particular number of futures or option contracts in a given commodity and month at a specified price, and spread orders entered at a differential. Ex. 1003, 19. NYMEX ACCESS terminal operators enter orders into the NYMEX ACCESS system using a trader work station. *Id.* at 4, 9. The NYMEX ACCESS trade matching host is coupled to these trader work stations over a network and, therefore, is capable of receiving the orders entered at each station. *Id.* at 4. Orders cannot be entered into the NYMEX ACCESS system for a customer unless the customer provides the following information: (1) Commodity;

[6] All references to the page numbers in CFTC are to the page numbers located in the top, middle of each page.

(2) Contract Month; (3) Buy or Sell; (4) Account Number; (5) Quantity; (6) Limit Price; (7) Clearing Member; (8) Strike Price and Put or Call; and (9) any precondition for entry into the matching system. *Id.* at 20–21.

CFTC discloses at least one example where the price of one security is dependent on the price of another security being traded. For instance, the NYMEX ACCESS system may generate implied spread bids and offers by calculating spread differentials based on the current, best prices for each component in the order. Ex. 1003, 28. CFTC also may generate conditional bids and offers only if they better the best bids or offers currently in the market. *Id.* at 28–29. These conditional bids and offers would adjust as the underlying markets move. *Id.* at 29. If a conditional bid or offer was taken, the NYMEX ACCESS system immediately completes the transaction by buying or selling the number of contracts of securities in accordance with the conditions and constraints entered as part of the order. *Id.*

4. Lupien

Lupien generally relates to an automated system for trading securities in financial markets that increases liquidity and depth in such markets by trading portions of normally dormant portfolios, including those with numerous and diverse securities. Ex. 1004, 1:6–11. When discussing the on-line storage devices associated with the automated securities trading system, Lupien discloses that external data is available to clients from securities information vendors. *Id.* at 6:20–22. The external data from securities information vendors may include quote and trade feeds covering current external quotes, trades, and other market data. *Id.* at 9:53–54.

Lupien also discloses that traders using its system have the ability to view information pertaining to all pending orders, as well as information pertaining to their own executed and cancelled orders, ranked by various criteria in numerous display screen formats. Ex. 1004, 7:15–19, Figs. 2–6. The bottom portion of a trader's display screen contains prompts that enable each prospective trader to change the way data is displayed or ranked, to move to other display screens, to alter orders, or to respond to the orders of other systems or market participants. *Id.* at 7:39–41.

For instance, Figure 2 of Lupien illustrates a trader's display screen that allows the trader to view its orders ranked by size, nearness to execution, price move for a day, symbol, etc. Ex. 1004, 7:48–50; Fig. 2. In addition, Figure 6 of Lupien illustrates information displayed on a trader's screen relevant to a single order. *Id.* at 8:52–53; Fig. 6. The bottom portion of the trader's screen displays the best and next best bid and ask residing on the system, along with the best bids and offers represented by the other markets and exchanges as reported by the trader's securities information vendor. *Id.* at 8:57–61.

5. Independent Claim 7

Independent claim 7 recites, in relevant part:

> *an external price feed depicting prices of various items and contracts from external multiple data sources* which may be uses an independent variable of the algorithm or an input to a constraint variable, the source code further comprising, a segment [of a computer program] for matching or comparing, in accordance with the constraints and conditions, algorithmic buy/sell orders with algorithmic or non-algorithmic sell/buy orders *through the use of the external multiple data sources*.

Ex. 1001, 29:32–41 (emphases added).

In its Petition, CME relies upon CFTC to teach all the limitations recited in independent claim 7, except "an external price feed depicting prices of various items and contracts from external multiple data sources." Pet. 40–41. CME then turns to Lupien's trading system that includes an external price feed to teach this limitation. *Id.* at 41–42, 45–46 (citing Ex. 1004, 4:32–36, 6:20–22, 6:37–40, 9:53–54; Ex. 1002 ¶ 91).

According to CME, it would have been obvious to one of ordinary skill in the art to modify CFTC's NYMEX ACCESS system to include Lupien's external price feed. Pet. 42. To support combining the teachings of CFTC and Lupien, CME asserts that "'[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.'" *Id.* (quoting *KSR*, 550 U.S. at 416). In addition, CME contends that one of ordinary skill in the art would have had a sufficient reason to include an external price feed in CFTC's NYMEX ACCESS system. *Id.* (citing Ex. 1002 ¶ 108). For instance, CME asserts that using external market data, such as external prices, enables a trading system to avoid processing and infrastructure costs associated with price discovery, which, in turn, may result in lower transaction costs to a prospective trader. *Id.* (citing Ex. 1007, 20;[7] Ex. 1002 ¶ 110).

In its Patent Owner Response, 5th Market presents numerous patentability arguments directed to independent claim 7. PO Resp. 32–40.

[7] All references to the page numbers in Exhibit 1007 are to the page numbers located in the top, right-hand corner of each page.

Given the similarities that exist between 5th Market's arguments, we group the arguments that share a common theme and address them in turn.

a. The Combination of CFTC and Lupien Teaches Using an External Price Feed to Match and Compare Orders in the Manner Required by Independent Claim 7

In its Patent Owner Response, 5th Market contends that neither CME nor its expert witness, Dr. Pirrong, adequately explain how CFTC and Lupien teach what is recited in independent claim 7—namely

> that a trading engine that executes multi-legged trades (by matching/comparing orders) receives an external price feed, and **uses** that price feed as an independent variable of the algorithm or an input to a constraint variable to an algorithm executing on the trading engine (as matching or comparing is performed using a "price presented as an algorithm with constraints thereon").

PO Resp. 32–33. 5th Market then focuses its arguments solely on Lupien. *Id.* at 37–40. After providing excerpts of certain disclosures in Lupien, some of which are relied upon by CME in its Petition, 5th Market asserts that Lupien does not use an external price feed for "*matching or comparing* [by a segment of a computer program] in accordance with the constraints and conditions, algorithmic buy/sell orders with algorithmic or non-algorithmic sell/buy orders *through the use of the external multiple data sources*," as recited in independent claim 7. *Id.* at 39; *see also id.* at 40 (repeating the same).

In its Reply, CME contends that CFTC's NYMEX ACCESS system is capable of comparing and matching express spread orders with other express spread orders, as well as matching and comparing express spread orders with

two individual legs, via implied spread orders. Pet. Reply 11 (citing Ex. 1003, 28; Ex. 1021, 47:21–48:7). CME further argues that Lupien discloses a trading system that executes some trades internally and some trades externally. *Id.* CME then turns back to CFTC and argues that its NYMEX ACCESS system will adjust dynamically the conditional implied spread orders as corresponding legs move, e.g., prices change. *Id.* at 12 (citing Ex. 1003, 29, Ex. 1021, 49:18–50:9). CME asserts that this functionality performed by CFTC's NYMEX ACCESS system would work substantially the same when modified to include an external price feed that dynamically adjust prices or, alternatively, when modified to execute part of a trade externally, e.g., one leg of a spread order, as taught by Lupien. *Id.*

We are not persuaded by 5th Market's individual attacks on Lupien. When assessing obviousness, the test is what the combined teachings of the references would have taught or suggested to one with ordinary skill in the art. *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991). In its Petition, CME does not rely solely upon Lupien to teach the claimed features recited in independent claim 7. Instead, CME relies upon the combined teachings of CFTC and Lupien. That is, CME takes the position that the spread trade functionality provided by CFTC's NYMEX ACCESS system (Ex. 1003, 27–34), in conjunction with Lupien's disclosure of searching external data sources to match orders that otherwise could not be matched internally (Ex. 1004, 11:44–60, 12:55–57, 13:14–18, 16:23–28, 17:36–38, 17:46–54, Fig. 7), collectively teaches using an external price feed from multiple external data sources to match or fill multiple legs of a spread order in the manner required by independent claim 7.

To the extent 5th Market argues that independent claim 7 requires that the external price feed be used as an independent variable of the algorithm or an input to a constraint variable of the algorithm, we disagree. Independent claim 7 recites, in relevant part, "an external price fee . . . *may* be used as an independent variable of the algorithm or an input to a constraint variable." Ex. 1001, 29:32–36 (emphasis added). This recitation in independent claim 7 includes permissive language, such as "may," which indicates the claim language that follows is optional and, therefore, is not required when affording this claim its broadest reasonable interpretation. *See In re Johnston*, 435 F.3d 1381, 1384 (Fed. Cir. 2006) ("[O]ptional elements do not narrow the claim because they can always be omitted."). Accordingly, these features in independent claim 7—specifically, whether the price feed is used as "an independent variable of the algorithm or an input to a constraint variable to an algorithm"—are not entitled to patentable weight.

b. CME Provides a Sufficient Rationale to Combine the Teachings of CFTC and Lupien

In its Patent Owner Response, 5th Market contends that CME's rationale to combine the teachings of CFTC and Lupien is ambiguous with no guidance as to how these prior art reference would be combined to account for each limitation recited independent claim 7. PO Resp. 33–35 (citing Pet. 41–42, 46). 5th Market further argues that the supporting testimony of Dr. Pirrong provides not additional guidance, but instead offers blanket assertions for combining the teachings of CFTC and Lupien. *Id.* at 35 (citing Ex. 1002 ¶¶ 108, 109). 5th Market asserts that, at best, Dr. Pirrong's supporting testimony indicates that Lupien's external price feed

could be used as either a ticker or for price discovery, both of which do not account properly for the features recited in independent claim 7. *Id.* at 36–37 (citing Ex. 1002 ¶¶ 78, 110; Ex. 2009 ¶¶ 60–66).

In its Reply, CME contends that Dr. Pirrong provides an example of how one of ordinary skill in the art would modify CFTC's NYMEX ACCESS system to include Lupien's external price feed. Pet. Reply 10 (citing Ex. 1002 ¶¶ 78, 100). CME argues that, according to Dr. Pirrong, providing external market data helps traders make trading decisions and implement trading strategies for various securities and other items. *Id.* CME further argues that, with more information, a trader is more likely to price the traded security or item. *Id.* In further support of these arguments, CME direct us to the cross-examination testimony of Dr. Pirrong in Case CBM2013-00027. *Id.* (citing Ex. 1027, 102:22–103:1).

As CME correctly points out in its Petition (Pet. 42), the Supreme Court has held that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 550 U.S. at 416. The Court further instructs that:

> [o]ften it will be necessary for a court to look to interrelated teachings of multiple [references]; . . . and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

Id. at 418. The Court also notes that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton," and "will be able to fit the

teachings of multiple [references] together like pieces of a puzzle." *Id.* at 420–21.

As we explained previously, CFTC discloses that its NYMEX ACCESS system possesses spread trading functionality (Ex. 1003, 27–34), and Lupien discloses searching external data sources to match orders that otherwise could not be matched internally (Ex. 1004, 11:44–60, 12:55–57, 13:14–18, 16:23–28, 17:36–38, 17:46–54, Fig. 7). To support CME's rationale to combine these teachings of CFTC and Lupien, Dr. Pirrong testifies that one of ordinary skill in the art would have good reason to incorporate an external price feed into a trading system. *See* Ex. 1002 ¶ 108. Dr. Pirrong supports this assertion by further testifying that traders commonly refer to a ticker as a source of external market data. *Id.* ¶ 110. Dr. Pirrong also testifies that, by referring to external market data reproduced on a ticker, a trading system may avoid processing and infrastructure costs associated with price discovery, which, in turn, results in lower costs to the trader. *Id.* We credit Dr. Pirrong's testimony in this regard because it informs us of the background knowledge possessed by one of ordinary skill in the art prior to the '387 patent.

In addition, we credit the testimony of Dr. Pirrong elicited during his cross-examination in Case CBM2013-00027 because it further informs us of the background knowledge possessed by one of ordinary skill in the art prior to the '387 patent. In response to a question regarding what one with ordinary skill in the art in 1992 would do next to improve CFTC's NYMEX ACCESS system, Dr. Pirrong states that "one of the most important things about trading and traders is information. And so providing more

information to traders and providing information in a more . . . convenient and easy-to-understand format would have been an important consideration." Ex. 1027, 102:22–103:4.

In considering the entirety of the record before us, we agree with CME's assertion that modifying CFTC's NYMEX ACCESS system to include Lupien's external price feed amounts to combining familiar elements according to a known method that does no more than yield a predictable result. *See KSR*, 550 U.S. at 416. In particular, we are satisfied that one with ordinary skill in the art would have recognized that such a modification to CFTC would provide a prospective trader with more information to develop trading strategies and, as a result, provide the trader a better opportunity to successfully complete trades. In that respect, instead of presenting a rationale to combine that is ambiguous in nature as asserted by 5th Market, CME has provided an articulated reason with a rational underpinning to justify the legal conclusion of obviousness.

c. Summary

Based on the record before us, we conclude that CME has demonstrated by a preponderance of the evidence that independent claim 7 would have been obvious over the combination of CFTC and Lupien.

6. Dependent Claims 4, 8, and 10

Dependent claim 4 recites:

> wherein said device for matching and comparing establishes prices at which the buy/sell orders potentially match during a matching cycle, establishes unmatched remainder data at such established prices; searches the external data sources for additional buy and sell data available to match the remainder

> data; combines the matched remainder data with the potentially matching orders for creating a completed match according to accepted match criteria in order to execute said single electronically matched trade.

Ex. 1001, 28:31–40. Dependent claims 8 and 10 recite similar limitations. *Id.* at 29:45–55, 30:19–29.

In its Petition, CME accounts for the features recited in dependent claim 4 by contending that CFTC discloses the NYMEX ACCESS system partially fills spread orders and creates unfilled portions within the system to be filled later. Pet. 31–32 (citing Ex. 1003, 4, 28–29 n.37; Ex. 1002 ¶ 93). CME further contends that, similar to the aforementioned disclosure in CFTC, Lupien discloses that buy and sell orders that remain unexecuted after internal comparing and matching are offered to external markets or exchanges to be compared and matched. *Id.* at 32–33, 36 (citing Ex. 1004, 11:44–60, 12:55–57, 13:14–18, 16:23–28, 17:36–38, 17:46–54, Fig. 7 (steps 40, 42, 44, 46, 48)). According to CME, it would have been obvious to modify CFTC's NYMEX ACCESS system to compare and match unfilled portions of internal spread orders with external markets to execute trades for the unfilled portions on those external markets, as taught by Lupien. *Id.* at 33. To support combining these teachings of CFTC and Lupien, CME asserts that "'[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.'" *Id.* (quoting *KSR*, 550 U.S. at 416). CME relies upon essentially the same findings and conclusions to support its ground based on

obviousness that was instituted against dependent claims 8 and 10. *Compare* Pet. 31–33, 36, *with* Pet. 42–44, 46–49, 52.

In its Patent Owner Response, 5th Market presents numerous patentability arguments directed to dependent claims 4, 8, and 10. PO Resp. 16–28. Given the similarities that exist between 5th Market's arguments, we group the arguments that share a common theme and address them in turn.

a. CME Relies Upon the Combined Teachings of CFTC and Lupien to Teach Matching of Remainder Data in the Manner Required by Dependent Claims 4, 8, and 10

In its Patent Owner Response, 5th Market contends that CME only relies upon CFTC to disclose the existence of remainder data, but does not assert that CFTC matches the remainder data externally, or that internally matched orders and externally matched orders are combined and executed as a single trade. PO Resp. 17 (citing Pet. 32; Ex. 1002 ¶ 93). 5th Market argues that CME and its expert witness, Dr. Pirrong, relies upon Lupien to teach these features required by dependent claims 4, 8, and 10. *See id.* (citing Pet. 36; Ex. 1002 ¶ 92).

In its Reply, CME contends that 5th Market mischaracterizes the instituted ground of obviousness based on the combination of CFTC and Lupien. Pet. Reply 5. CME argues that both the Petition and the Declaration of Dr. Pirrong cite to, and rely upon, the teachings of CFTC and Lupien to demonstrate how these references collectively teach all the features recited in dependent claims 4, 8, and 10. *Id.* (citing Pet. 31–34, 42–44, 47–49; Ex. 1002 ¶¶ 93–95, 112–14, 117–19). For instance, CME argues that, although it relies upon Lupien to teach searching external data sources

and matching external orders, it also relies upon CFTC to teach the simultaneous execution of a multiple legs of a spread order as a single matched trade. *See id.* (citing Pet. 32–33). CME asserts that it is the collective teachings of CFTC and Lupien that the Board initially found satisfied the "more likely than not" threshold standard for instituting a covered business method review as to dependent claims 4, 8, and 10. *Id.* at 5–6 (citing Dec. to Inst. 23–25).

We agree with CME that 5th Market mischaracterizes the instituted ground of obviousness based on the combination of CFTC and Lupien. Contrary to 5th Market's assertion, CME does not rely solely on the teachings of Lupien to disclose matching the remainder data externally, or that internally matched orders and externally match orders are combined and executed as a single trade. Instead, CME relies upon the combined teachings of CFTC and Lupien. *See Young*, 927 F.2d at 591. That is, CME takes the position that CFTC's NYMEX ACCESS system, which is capable of filling one leg of a spread order by matching internal orders (Ex. 1003, 29 n.37), in conjunction with Lupien's disclosure of searching external data sources to match orders that otherwise could not be matched internally (Ex. 1004, 11:44–60, 12:55–57, 13:14–18, 16:23–28, 17:36–38, 17:46–54, Fig. 7), collectively teaches combining and executing unmatched remainder data from the spread order with potentially matching external orders as a single trade in the manner required by dependent claims 4, 8, and 10. *See* Pet. 31–33, 42–44, 46–49, 52.

b. CME Relies Upon the Combined Teachings of CFTC and Lupien to Teach A Single Electronically Matched Trade in the Manner Required by Dependent Claims 4, 8, and 10

In its Patent Owner Response, 5th Market contends that Lupien does not teach a device for matching or comparing that "combines the [externally] matched remainder data with the [internally matched] potentially matching orders . . . in order to execute a single electronically matched trade," as recited in dependent claim 4, 8, and 10. PO Resp. 17 (citing Ex. 2009 ¶ 46) (emphasis omitted). 5th Market argues that, because Lupien deals with orders for individual securities, the trading system in Lupien matches an internal purchase and sale as a single trade, and then sends separate orders (in the same security) for any remainder to one or more external markets. *Id.* at 18. 5th Market asserts that the outcome of the external orders disclosed in Lupien are separate and independent from the outcome of the internal orders executed within its trading system. *Id.* at 18–19. 5th Market also asserts that, based on the serial operations illustrated in Figure 7 of Lupien, the potential execution of the external orders disclosed in Lupien occurs later in time than the execution of the internal orders. *Id.* at 19–21 (citing Ex. 1004, Fig. 7 (steps 40, 42, 44, 46, 48); Ex. 2009 ¶¶ 43, 44).

In its Reply, CME contends that it is the combined teachings of CFTC and Lupien that account for a "single electronically matched trade," as required by dependent claims 4, 8, and 10. Pet. Reply 6. CME argues that CFTC's NYMEX ACCESS system executes both legs of a spread trade internally, where each leg of the spread comes from separate order books. *Id.* at 6–7 (citing Pet. 32; Ex. 1021, 47:21–52:2). CME further argues that,

although Lupien does not disclose spread trading functionality, it discloses executing trades both internally and externally. *Id.* at 7 (citing Pet. 10, 24–25; Ex. 1002 ¶¶ 80, 81). According to CME, modifying CFTC's NYMEX ACCESS system with the identified teachings in Lupien provides a spread trade where, instead of executing both legs of the spread order internally, one leg of the spread order is executed internally and the other leg of the spread order is executed externally. *Id.* (citing Ex. 1027, 177:1–178:2; Ex. 1020, 34).

Similar to our analysis above regarding the matching of remainder data (*see supra* II(C)(6)(a)), we do not share 5th Market's view that CME relies solely upon Lupien to teach a "single electronically matched trade," as required by dependent claims 4, 8, and 10. *See Young*, 927 F.2d at 591. Instead, we agree with CME's contention that CFTC's NYMEX ACCESS system, which is capable of filling one leg of a spread order by matching internal orders (Ex. 1003, 29 n.37), in conjunction with Lupien's disclosure of searching external data sources to match orders that otherwise could not be matched internally (Ex. 1004, 11:44–60, 12:55–57, 13:14–18, 16:23–28, 17:36–38, 17:46–54, Fig. 7), collectively teaches filling the second leg of the spread order by combining and executing unmatched remainder data with potentially matching external orders in order to complete a single trade in the manner required by dependent claims 4, 8, and 10. *See* Pet. 31–33, 42–44, 46–49, 52.

In addition, 5th Market contends that, even if it assumes for the sake of argument that CME relies upon CFTC to teach a "single electronically matched trade," as required by dependent claims 4, 8, and 10, the supporting

testimony from Dr. Pirrong is inconsistent with the teachings of CFTC and is not commensurate in scope with the features required by these claims. PO Resp. 26 (citing Ex. 1002 ¶ 93). 5th Market argues that Dr. Pirrong's statement in the cited paragraph of his Declaration that the unfilled portions of CFTC's spread order are "later fill[ed]" constitutes an admission that the initially filled portion of CFTC's spread order and the "later fill[ed]" portion of that spread order are executed separately. *Id.* at 26–27. 5th Market then asserts that these separately executed trades cannot constitute a "single electronically matched trade," as required by dependent claims 4, 8, and 10. *Id.* at 27.

We do not share 5th Market's view that Dr. Pirrong's testimony regarding unfilled portions in CFTC being "later fill[ed]" (Ex. 1002 ¶ 93) is inconsistent with the teachings of CFTC. For convenience, the relevant portion of Dr. Pirrong's testimony is reproduced below:

> CFTC discloses a system that partially fills spread orders and creates unfilled portions within the system to be filled later. In my opinion, these unfilled portions correspond to unmatched remainder data as set forth in [dependent] claim 4. And when the CFTC system later fills these unfilled portions, this corresponds to a completed match to execute a single electronically matched trade.

Ex. 1002 ¶ 93. CFTC discloses that, although the NYMEX ACCESS system is capable of filling one portion or leg of a spread order by matching internal orders and leaving the remaining, unfilled portion or leg of the spread order for execution (Ex. 1003, 29 n.37), the system treats the execution of each leg of the spread order as "a single event" (*id.* at 29).

Therefore, contrary to 5th Market's assertion, Dr. Pirrong's testimony regarding unfilled portions in CFTC being "later fill[ed]" is consistent with the teachings of CFTC that it is the completed match of each portion or leg of the spread order and their simultaneous execution that constitutes a single trade.

We also do not share 5th Market's view that Dr. Pirrong's testimony regarding unfilled portions in CFTC being "later fill[ed]" (Ex. 1002 ¶ 93) is not commensurate in scope with the features required by dependent claims 4, 8, and 10. As we explained above in the claim construction section, in order to determine whether the combination of CFTC and Lupien properly accounts for a "single electronically matched trade," we first must construe the claim term "simultaneously" in the context of executing a spread order. *See supra* Section II(A)(3). Upon reviewing the specification of the '387 patent, as well as the cross-examination testimony of Dr. Rickard, we construe the limitation "simultaneously executing a trade" in the context of executing a spread order as "simultaneously executing multiple legs of a spread order." *Id.*

Contrary to 5th Market's assertion, the aforementioned testimony of Dr. Pirrong is commensurate in scope with the features required by dependent claims 4, 8, and 10—namely, the simultaneous execution of multiple legs of a spread order as a "single electronically matched trade." 5th Market narrowly focuses on the portion of Dr. Pirrong's testimony regarding unfilled portions in CFTC being "later fill[ed]," and either ignores or overlooks that Dr. Pirrong follows up this testimony by clarifying it is the completed match of each portion or leg of the spread order and their

simultaneous execution that results in the claimed "single electronically matched trade." Ex. 1002 ¶ 93. Accordingly, Dr. Pirrong's cited testimony is consistent with our claim construction of the limitation "simultaneously executing a trade" in the context of executing a spread order.

c. 5th Market Narrowly Focuses on the Cross-Examination Testimony of CME's Expert Witness, Dr. Pirrong, and the Statements of CME's Counsel

5th Market contends that CME's expert witness, Dr. Pirrong, confirmed during his cross-examination testimony that Lupien's internal and external trades are outcome-independent and, therefore, cannot be combined and executed as a "single electronically matched trade," as required by dependent claims 4, 8, and 10. PO Resp. 21–24 (citing Ex. 2008, 19:6–11, 21:12–18, 22:2–17). In particular, 5th Market argues that Dr. Pirrong's cross-examination testimony acknowledging that there is a possibility that Lupien's remainder data may not be matched external, coupled with its' disclosure of definitively executing an internal order, demonstrates that the internal and external orders are not combined and executed as a "single electronically matched trade," as claimed. *Id.* at 24 (citing Ex. 2009 ¶¶ 45–47).

We are not persuaded by 5th Market's argument because it focuses on Dr. Pirrong's cross-examination testimony as though it was articulated and relied upon by CME in its Petition. Regardless whether Dr. Pirrong confirms during his cross-examination testimony that Lupien's internal and external trades are outcome-independent, he was simply responding to questions posed by 5th Market's counsel. As we discussed previously, CME

provides sufficient evidence to support a finding that the combined teachings of CFTC and Lupien account for a "single electronically matched trade," as required by dependent claims 4, 8, and 10. *See supra* Section II(C)(6)(b). We did not rely upon the aforementioned portions of Dr. Pirrong's cross-examination testimony when determining whether the combined teachings of CFTC and Lupien properly account for this disputed limitation. 5th Market's attempt to distinguish the testimony elicited from Dr. Pirrong during cross-examination from a "single electronically matched trade," as required by dependent claims 4, 8, and 10, does not undermine the evidence presented and developed by CME in its Petition, or otherwise render Dr. Pirrong's supporting testimony provided in the Declaration accompanying the Petition less persuasive.

5th Market further contends that, during oral argument in Case CBM2013-00027, CME's counsel represented that Lupien does not mix and match its internal and external trades. PO Resp. 24–25 (citing Ex. 2017, 51:8–52:3). 5th Market then argues that, given this purported admission by CME's counsel, Lupien does not teach combing internally matched orders with externally matched orders to execute a "single electronically matched trade," as required by dependent claims 4, 8, and 10. *See id.* at 26.

Similar to our analysis above, we are not persuaded by 5th Market's argument because it focuses on the statements of CME's counsel as though they were articulated and relied upon by CME in its Petition. Regardless whether CME's counsel admitted during oral argument in Case CBM2013-00027 that Lupien does not mix and match internal and external trades, she was simply responding to a question posed by one of the Administrative

Patent Judges presiding over that case. As we discussed previously, CME provides sufficient evidence to support a finding that the combined teachings of CFTC and Lupien account for a "single electronically matched trade," as required by dependent claims 4, 8, and 10. *See supra* Section II(C)(6)(b). We did not rely upon the statements made by CME's counsel during oral argument in Case CBM2013-00027 when determining whether the combined teachings of CFTC and Lupien properly account for this disputed limitation. 5th Market's attempt to distinguish the statements made by CME's counsel during oral argument in Case CBM2013-00027 from a "single electronically matched trade," as required by dependent claims 4, 8, and 10, does not undermine the evidence presented and developed by CME in its Petition.

d. Summary

Based on the record before us, we conclude that CME has demonstrated by a preponderance of the evidence that dependent claims 4, 8, and 10 would have been obvious over the combination of CFTC and Lupien.

7. Claim 6

Dependent claim 6 recites, in relevant part:

> a plurality of trader workstations for trading and negotiating prospective trades for instruments referenced in buy and sell orders . . . each workstation comprising . . . a sorter that resequences the orders in real-time in the display field as each order is received to reflect changes in the relative favorability of the orders responsive to changes in price of said another item as is the independent variable.

Ex. 1001, 28:54–29:10.

In its Petition, CME relies upon the combined teachings of CFTC and Lupien to account for these features recited in dependent claim 6. Pet. 33, 37–39. In particular, CME argues that CFTC discloses entering orders into a trader work station, which includes a trading screen that allows a prospective trader to configure how incoming order information, such as best bids, best offers, and last trade prices, are displayed. *Id.* at 39 (citing Ex. 1003, 4, 28, 58). Similarly, CME argues that Lupien discloses "[a] sorting function [that] allows the user to concentrate on the most important orders according to the selected criteria." *Id.* (quoting Ex. 1004, 7:19–22). CME further argues that Lupien discloses that "[t]he bottom portion of all screens contains prompts that enable the user to change the way the data is displayed or ranked." *Id.* (quoting Ex. 1004, 7:39–41). According to CME, Lupien's display screen is capable of showing all orders, purchases, and sales in the system by using a "Sort" function to rank them in descending order. *Id.* (citing Ex. 1004, Fig. 5).

In its Patent Owner Response, 5th Market presents two patentability arguments directed to dependent claim 6. PO Resp. 28–32. We address each argument in turn.

a. CME Relies Upon the Combined Teachings of CFTC and Lupien to Teach a Trader Workstation That Includes a Sorter, as Required by Dependent Claim 6

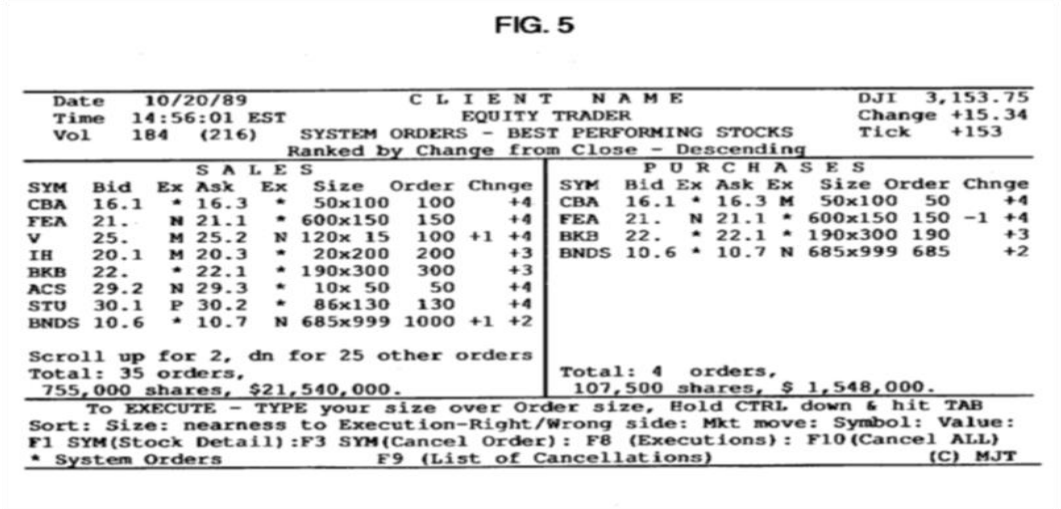
In its Patent Owner Response, 5th Market contends that CFTC and Lupien each do not teach a trader workstation that includes a sorter, as required by dependent claim 6. PO Resp. 29, 31. 5th Market argues that both CFTC and Lupien provide sorting functionality via a trade engine or

central processing unit ("CPU")—not via a trader workstation. *Id.* at 31. According to 5th Market, there is simply no teaching in either CFTC or Lupien of a trader workstation that includes a sorter, as claimed. *Id.*

In its Reply, CME contends that Lupien discloses a trader workstation that includes a display device and a sorter. Pet. Reply 7–8 (citing Ex. 1004, 6:22–24, 6:26–27, 6:33–37, 7:39–41, Figs. 2–6). According to CME, Lupien's system allows prospective traders to rank, sort, and otherwise arrange data, such as order data, on their respective workstations. *Id.* at 8 (citing Ex. 1004, 7:15–59). CME also asserts that Lupien's trader workstation includes a "Sort" prompt on the display screen. *Id.* (citing Ex. 1005, 7:43–46, Fig. 5).

We agree with CME that Lupien's trader workstation includes a sorter, as required by dependent claim 6. Lupien discloses that traders using its system have the ability to view information pertaining to all pending orders, as well as information pertaining to their own executed and cancelled orders, ranked by various criteria in numerous display screen formats. Ex. 1004, 7:15–19, Figs. 2–6. The bottom portion of a trader's display screen contains prompts that enable each prospective trader to change the way data is displayed or ranked, to move to other display screens, to alter orders, or to respond to the orders of other systems or market participants. *Id.* at 7:39–41. For instance, Figure 5 of Lupien, reproduced below with annotation added, includes a reproduction of data shown on a trader's display screen relating to all orders in the system. *Id.* at 5:46–47, 8:33–51.

FIG. 5



As shown above in this annotated version of Figure 5, the trader's display screen includes a "Sort" prompt in the bottom, left-hand corner. *See* Ex. 1004, Fig. 5.

Based on the aforementioned disclosures in Lupien, one of ordinary skill in the art would have recognized that the "Sort" prompt illustrated in Figure 5 is associated with a "sorter" located at the trader workstation, rather than the "sorter" located at the controller CPU. 5th Market's expert witness, Dr. Rickard, appears to acknowledge as much during his cross-examination. In response to a question posed by CME's counsel concerning whether reorganizing or re-sorting by a trader on his/her workstation would affect the order or rank in the book kept at Lupien's controller CPU, Dr. Rickard stated that "[w]hat is displayed would not affect the ordering or ranking in the book, no.") Ex. 1021, 37:1–14. In addition, we credit Dr. Pirrong's testimony that providing sorting functionality at a trader's workstation is a common way to show the trader other resting orders that are in the system,

and further enables the trader to make sense of the other orders and other trading possibilities. Ex. 1002 ¶ 103.

b. 5th Market Narrowly Focuses on the Cross-Examination Testimony of CME's Expert Witness, Dr. Pirrong

In its Patent Owner Response, 5th Market contends that Dr. Pirrong concedes that the sorting functionality occurs at Lupien's controller CPU. PO Resp. 30–31 (citing Ex. 2008, 26:21–27:8, 30:9–13). 5th Market then argues that, given this concession from Dr. Pirrong, there would be no reason to add redundant sorting functionality to Lupien's trader workstation. *Id.* at 32 (citing Ex. 2009 ¶ 55).

In its Reply, CME acknowledges that, when Dr. Pirrong was questioned about the sorting and matching performed by Lupien's trading system, Dr. Pirrong explained that Lupien's controller CPU also includes a sorter. Pet. Reply 8 (citing Ex. 2008, 26:21–27:8). CME argues, however, that Dr. Pirrong's testimony in this regard was in the context of how Lupien's trading system matches and executes trades on a price-time priority basis, and does not contradict his testimony provided in the Declaration accompanying the Petition that Lupien's trader workstation includes a sorter. *Id.* (citing Ex. 2008, 23:3–27:8; Ex. 1002, App'x C (p. 95)).

We are not persuaded by 5th Market's argument because it focuses on Dr. Pirrong cross-examination testimony as though it was articulated and relied upon by CME in its Petition. Regardless whether Dr. Pirrong confirms during his cross-examination testimony that Lupien's controller CPU includes a sorter, he was simply responding to questions posed by 5th Market's counsel. As we discussed previously, CME provides sufficient

evidence to support a finding that Lupien's trader workstation also includes a sorter, as required by dependent 6. *See supra* Section II(C)(7)(a). We did not rely upon the aforementioned portions of Dr. Pirrong's cross-examination testimony when determining whether Lupien properly accounts for this disputed limitation. 5th Market's attempt to distinguish the testimony elicited from Dr. Pirrong during cross-examination from a trader workstation with a sorter, as required by dependent claim 6, does not undermine the evidence presented and developed by CME in its Petition, or otherwise render Dr. Pirrong's supporting testimony provided in the Declaration accompanying the Petition less persuasive.

c. Summary

Based on the record before us, we conclude that CME has demonstrated by a preponderance of the evidence that dependent claim 6 would have been obvious over the combination of CFTC and Lupien.

D. 5th Market's Motion to Exclude

In its Motion to Exclude, 5th Market seeks to exclude the following evidence: (1) CFTC, itself, because it is not authenticated properly under Federal Rule of Evidence ("FRE") 901, and lacks relevance, presumably under FRE 403, at least because it does not qualify as a prior art printed publication within the meaning of § 102(b); (2) the stamps or markings on the title page of CFTC because they are inadmissible hearsay under FREs 801 and 803; (3) certain portions of the Declaration of Dr. Pirrong accompanying the Petition (Ex. 1002) because they lack foundation under FRE 702; and (4) certain portions of the Rebuttal Declaration of Dr. Pirrong (Ex. 1026) as exceeding the permissible scope of reply testimony. Mot. to

Exclude 1–15. In its Opposition, CME counters with the following arguments: (1) CFTC is self-authenticating under FREs 902(4)–(5) and 901(b)(8), and 5th Market's argument that CFTC lacks relevance under FRE 403 is not a proper subject for a motion to exclude; (2) the stamps or markings on the title page of CFTC are not hearsay under FRE 801(d)(2)(B) or, alternatively, are admissible under any one of the hearsay exceptions set forth in FREs 806(6), (8), (16); and (3) the relevant portions of the Rebuttal Declaration of Dr. Pirrong do not exceed the permissible scope of reply testimony. Exclude Opp. 1–15. In its Reply, 5th Market contends that CFTC is not self-authenticating under FREs 902(4)–(5) and 901(b)(8). Exclude Reply 1–5. For the reasons discussed below, 5th Market's Motion to Exclude is denied.

1. There is Sufficient Evidence in the Record Before Us to Support a Finding That CFTC is Relevant Evidence That is Self-Authenticating

At the outset, we address 5th Market's arguments that CFTC lacks relevance, presumably under FRE 403, at least because it does not qualify as a prior art printed publication within the meaning of § 102(b). To support this assertion, 5th Market relies upon essentially the same arguments it presented in its Patent Owner Response. *Compare* PO Resp. 43–50, *with* Mot. to Exclude 6–13. In response, CME contends that the issue of whether there is sufficient evidence in the record before us to demonstrate that CFTC qualifies as a prior art printed publication within the meaning of § 102(b) is not a proper subject for a motion to exclude, but instead must be presented in the patent owner response. Exclude Opp. 13–14 (citing *Office Patent Trial Practice Guide*, 77 Fed. Reg. 48,756, 48,767 (Aug. 14, 2012)).

We agree with CME that a motion to exclude is not the proper vehicle to challenge the sufficiency of the evidence used to demonstrate that CFTC qualifies as a prior art printed publication within the meaning of § 102(b). Whether a reference qualifies as a printed publication within the meaning of § 102(b) is a legal conclusion based on underlying factual determinations. *Suffolk Techs.*, 752 F.3d at 1364. Therefore, the issue of whether there is sufficient evidence in the record before us to demonstrate that CFTC is a printed publication within the meaning of § 102(b) should be presented in the patent owner response—not a motion to exclude. As we explained previously, the unrebutted testimony of Mr. Wheeler and the rebuttal testimony of Dr. Pirrong amounts to credible evidence supporting a determination that CFTC was made sufficiently accessible to the public interested in the art at or around December 18, 1992. *See supra* Section II(B). Consequently, we conclude that CFTC is printed publication with the meaning of § 102(b) and, therefore, qualifies as prior art to the '387 patent. *Id.*

We note, however, that addressing the admissibility of evidence, e.g., authenticity or hearsay, underlying the factual determinations of whether CFTC is a prior art printed publication may be the subject of a motion to exclude. *See Office Patent Trial Practice Guide*, 77 Fed. Reg. at 48,767 ("A motion to exclude must explain why the evidence is not admissible (e.g., relevance or hearsay) but may not be used to challenge the sufficiency of the evidence to prove a particular fact."). With this in mind, we turn to 5th Market's arguments that CFTC should be excluded because it is not authenticated properly under FRE 901.

5th Market contends that CFTC does not constitute evidence that is self-authenticating under FRE 902 because it does not satisfy any of the categories of self-authenticating documents. Mot. to Exclude. 3. In particular, 5th Market argues that CFTC does not qualify as an "official publication" by a public authority under FRE 902(5). *Id.* 5th Market also argues that CFTC does not satisfy the ancient document rule under FRE 901(8), which requires, among other things, that the document in question be "in a place where, if authenticate, it would likely be." *Id.* at 4. 5th Market asserts that CFTC is not an ancient document because CME does not provide credible or sufficient evidence as to where it obtained CFTC. *Id.*

In response, CME contends that CFTC qualifies as a self-authenticating official publication under FRE 902(5) because it is an internal memorandum of an independent agency of the United States Government that was made available publicly at or around December 18, 1993. Exclude Opp. 2–3 (citing Ex. 1003, title page; Ex. 2011 ¶¶ 3, 6, 10, 11). In addition, CME contends that CFTC qualifies as a self-authenticating ancient document under FRE 901(b)(8) for the following reasons: (1) there is nothing in the record that calls into question the authenticity of CFTC; (2) Mr. Wheeler testifies that, through the ordinary business and established record keeping procedures of the CFTC Agency, essentially the same version of CFTC was filed and indexed with the CFTC Agency; and (3) CFTC was at least 20 years old when offered as evidence in this proceeding. *Id.* at 5–6 (citing Ex. 1003, title page; Ex. 2011 ¶¶ 9–12, 15, 16).

In its Reply, 5th Market contends that CFTC is not a self-authenticating "official publication" of the CFTC Agency under FRE 902(5)

because it is labeled as an internal memorandum, and CME provides no persuasive authority to support its assertion that an internal memorandum qualifies as a book, a pamphlet, or any other type of official publication. Exclude Reply 1–2. 5th Market further argues that, contrary to CME's assertion, Mr. Wheeler's testimony does not indicate that CFTC was published, but rather only indicates that it was made available to the public. *Id.* at 2–3 (citing Ex. 2011 ¶¶ 6, 16). In addition, 5th Market contends that CFTC is not an ancient document under FRE 901(b)(8) because CME does not provide credible or sufficient evidence that indicates where it found CFTC, which, in turn, prevents CME from demonstrating that CFTC was found "in a place where, if authentic, it would likely be." *Id.* at 4 (quoting FRE 901(b)(8)).

Despite 5th Market's contentions, we agree with CME that CFTC is a self-authenticating document under at least FREs 902(5) and 901(b)(8). With respect to FRE 902(5), it is undisputed that the CFTC Agency is an executive agency of the United States Government that constitutes a public authority. The parties' dispute, therefore, centers on a whether CFTC qualifies as one of the "official publications" identified in FRE 902(5)—namely, "a book, pamphlet, or other publication." FRE 902(5). Taking into account the testimony of Mr. Wheeler, the rebuttal testimony of Dr. Pirrong, and the document itself, there is sufficient evidence in the record before us to suggest that CFTC falls within the purview of "other publication[s]."

Mr. Wheeler testifies that the version of CFTC that is Exhibit A-3 is "a true and accurate CFTC certified copy of the Division of Trading and Markets memorandum submission in response to the Notice of Proposed

Rules and Rule Amendments to Implement the NYMEX ACCESS Electronic Trading System dated December 7, 1992, and marked 'PUBLIC COPY' ('memorandum')." Ex. 2011 ¶ 14. In his Rebuttal Declaration, Dr. Pirrong corroborates that the version of CFTC that is Exhibit A-3 is essentially the same as the version of CFTC that is Exhibit 1003. *See* Ex. 1026 ¶¶ 9–12. As we explained above, because 5th Market did not seek authorization to depose Mr. Wheeler, and declined to cross-examine Dr. Pirrong regarding the testimony offered in his Rebuttal Declaration, we have no reason to question the veracity of the statements made by each declarant. *See supra* Section II(B). In summary, CFTC has been authenticated properly under FRE 902(5) because it is a publication issued by the CFTC Agency.

With respect to FRE 901(b)(8), there is no dispute between the parties that CFTC was 20 years old when offered as prior art in this proceeding. FRE 901(b)(8)(C) (requiring evidence that a document "is at least 20 years old when offered"). Indeed, on its face, CFTC includes a stamp from the CFTC Agency that indicates it was received for public record on December 18, 1992. Pet. 6; Ex. 1003, title page. Mr. Wheeler's testimony further supports that CFTC was made available publicly on or around December 18, 1992. *See* Ex. 2011 ¶¶ 15, 16. The parties' dispute, therefore, centers on whether CFTC "is in a condition that creates no suspicion about its authenticity," and "was in a place where, if authentic, it would like be." FRE 901(b)(8)(A)–(B). Taking into account the testimony of Mr. Wheeler, the rebuttal testimony of Dr. Pirrong, and the document itself , there is sufficient evidence in the record before us to suggest that there is no reason

to question the authenticity of CFTC because it was obtained from the CFTC Agency.

Mr. Wheeler testifies that "[f]ollowing the [CFTC Agency's] ordinary business and established record keeping procedures for the intake and maintenance of publicly available documents, [the version of CFTC that is] Exhibit A-3 was filed and indexed with the CFTC as document 'NC 2,' as evinced by Exhibit A-1." Ex. 2011 ¶ 15. Mr. Wheeler further testifies that "those having ordinary skill in the subject matter or art, exercising reasonable diligence, would have been able to locate [the version of CFTC that is Exhibit A-3] as of December 18, 1992[,] or within a few days thereafter." *Id.* at ¶ 16. Similar to our analysis above, Dr. Pirrong corroborates that the version of CFTC that is Exhibit A-3 is essentially the same as the version of CFTC that is Exhibit 1003. *See* Ex. 1026 ¶¶ 9–12. Once again, we have no reason to question the veracity of the statements made by these declarants. *See supra* Section II(B). In summary, CFTC has been authenticated properly under FRE 901(b)(8) because the Declaration of Mr. Wheeler and the Rebuttal Declaration Dr. Pirrong identify where and when CFTC was obtained, the Declaration of Mr. Wheeler provides a brief description of the place where CFTC was maintained, and the indicia on the title page of CFTC indicate it was at least 20 years old when offered.

For the foregoing reasons, we determine 5th Market has not presented a sufficient basis to exclude CFTC as lacking relevance or as unauthenticated evidence.

2. The Stamps or Markings on the Title Page of CFTC are Admissible as an Exception to the Rule Against Hearsay Under FREs 803(6) and 803(16)

5th Market contends that the stamps or markings on the title page of CFTC, such as "RECEIVED FOR PUBLIC RECORD," the date of "DEC 18 320PM '92," "PUBLIC COPY," and the date of "December 7, 1992," are each inadmissible hearsay under FREs 801 and 803. Mot to. Exclude 5. In response, CME contends that these stamps and markings are not hearsay under FRE 801(d)(2)(B) or, alternatively, are admissible because they qualify as an exception to the rule against hearsay under FREs 803(6) and 803(16). Exclude Opp. 6–9, 11. In its Reply, 5th Market does not address the contentions presented by CME in its Opposition. *See generally* Exclude Reply 1–5.

We agree with CME that the stamps and markings on the title page of CFTC are admissible because they qualify as an exception to the rule against hearsay under FRE 803(6). The Declaration of Mr. Wheeler and the Rebuttal Declaration of Dr. Pirrong lay the necessary foundation to establish the following: (1) these stamps and markings were made at or near the time CFTC was submitted to the CFTC Agency; (2) they were kept in the course of the regularly conducted business activity; (3) making these stamps and markings was a regular practice of that activity; (4) all the conditions are shown by the cited testimony of Mr. Wheeler and Dr. Pirrong; and (5) 5th Market does not demonstrate adequately that the cited testimony of Mr. Wheeler or Dr. Pirrong lacks trustworthiness. *See* Ex. 2011 ¶¶ 14–16; Ex. 1026 ¶¶ 9–12. In addition, we agree with CME that, because CFTC is

an ancient document under FRE 901(b)(8) (*see supra* Section II(D)(1)), the stamps and markings on the title page are admissible as an exception to the rule against hearsay under FRE 803(16).

Accordingly, we determine that 5th Market has not presented a sufficient basis to exclude the stamps and markings on the title page of CFTC as impermissible hearsay.

3. The Declaration of Dr. Pirrong Accompanying the Petition Does Not Lack Foundation Under FRE 702

5th Market contends that the Declaration of Dr. Pirrong accompanying the Petition relies upon CFTC in claim charts on pages 85–124 and in the following paragraphs: 52, 53, 60, 64, 66–75, 83, 84, 91–93, 95–97, 104–07, 111, 112, 114–17, 119, 120, 127–30, 132, 134–37, 139–41, 148, and 149. Mot. to Exclude. 14. 5th Market asserts that these portions of the Declaration of Dr. Pirrong should be excluded as lacking foundation under FRE 702. *Id.* We disagree.

5th Market's argument in this regard is predicated on the notion that CFTC should be excluded because it has not been authenticated properly. As we explained above, CFTC has been authenticated properly under at least FREs 902(5) and 901(b)(8). *See supra* Section II(D)(1). Accordingly, we determine that 5th Market has not presented a sufficient basis to exclude the aforementioned portions of the Declaration of Dr. Pirrong as lacking foundation.

4. The Rebuttal Declaration of Dr. Pirrong Does Not Exceed the Permissible Scope of Reply Testimony

5th Market contends that the Rebuttal Declaration of Dr. Pirrong—specifically, paragraphs 8 and 13—exceed the permissible scope of reply testimony. Mot. to Exclude 14 (citing *Office Patent Trial Practice Guide*, 77 Fed. Reg. at 48,767). 5th Market argues that, because Dr. Pirrong states in his Rebuttal Declaration that the testimony in his Declaration accompanying the Petition is supported by reliance on the Declaration of Mr. Wheeler, a document which was purportedly in CME's possession at the time it filed its Petition, CME could have relied on that document earlier, yet it chose not to. *Id.* 5th Market asserts that the late reliance on the Declaration of Mr. Wheeler is improper and warrants the exclusion of the aforementioned paragraphs in the Rebuttal Declaration of Dr. Pirrong. *Id.* at 14–15. In response, CME contends that the Rebuttal Declaration of Dr. Pirrong properly responds to 5th Market's arguments in its Patent Owner Response directed to the public accessibility of CFTC. Exclude Opp. 11–13.

As an initial matter, a motion to exclude is not a proper vehicle for a party to raise the issue of testimony in a rebuttal declaration exceeding the permissible scope of reply testimony. *See Vibrant Media Inc. v. General Electric Co.*, Case IPR2013-00170, slip op. at 31 (PTAB June 26, 2014) (Paper 56) ("Whether a reply contains arguments or evidence that are outside the scope of a proper reply under 37 C.F.R. § 42.23(b) is left to our determination."). In any event, based on our review of the arguments presented by 5th Market in its Patent Owner Response, as well as the relevant portions of the Rebuttal Declaration of Dr. Pirrong, we agree with

CME that Dr. Pirrong's testimony is responsive to 5th Market's argument directed to the public accessibility of CFTC. *Compare* PO Resp. 43–50, *with* Ex. 1026 ¶¶ 8, 13. In other words, Dr. Pirrong's testimony concerning the Declaration of Mr. Wheeler, particularly Exhibit A-3 attached thereto, falls within the purview of 37 C.F.R. § 42.23(b), which provides that a petitioner's reply may only respond to arguments or evidence raised in the patent owner response.

Accordingly, we determine that 5th Market has not presented a sufficient basis to exclude paragraphs 8 and 13 in the Rebuttal Declaration of Dr. Pirrong.

5. Summary

For the foregoing reasons, 5th Market's Motion to Exclude the CFTC reference, certain portions of the Declaration of Dr. Pirrong accompanying the Petition, and certain portions of the Rebuttal Declaration of Dr. Pirrong is denied.

III. CONCLUSION

CME has demonstrated by a preponderance of the evidence that claims 4, 6–8, and 10 of the '387 patent are unpatentable under § 103(a) over the combination of CFTC and Lupien.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that claims 4, 6–8, and 10 of the '387 patent are determined to be unpatentable;

FURTHER ORDERED that 5th Market's Motion to Exclude is DENIED; and

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

CBM2014-00114
Patent 7,024,387 B1

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