UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/676,842	11/14/2012	Bharath Rangarajan	201201204	8763

10782   7590   12/31/2018
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EXAMINER
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ART UNIT	PAPER NUMBER
3623	

NOTIFICATION DATE	DELIVERY MODE
12/31/2018	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte BHARATH RANGARAJAN and LISA ANNE MILLER[1]

_____

Appeal 2017-006704
Application 13/676,842
Technology Center 3600

_____

Before JASON V. MORGAN, JOSEPH P. LENTIVECH, and
MICHAEL M. BARRY, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a final rejection of
claims 1, 2, 4, 5, 7, 9, 10, 12–14, 16–18, and 25, which are all of the pending
claims. Final Act. 1; *see also* App. Br. 22–34 (Claims App'x). We have
jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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Introduction

Appellant's application relates to "assortment pack[s]" that a vendor may use to ship ordered products to a retail store. Spec. ¶ 1. Specifically, as Appellant summarizes, the "disclosure relates to techniques for determining both the contents of assortment packs and the selection of one or more retail stores to which a particular assortment pack is delivered." Spec. ¶ 3.

> A first set of a plurality of assortment packs that include a plurality of different versions of an item to be sold at a plurality of retail stores is determined based at least in part on forecasted sales of the item at each of the plurality of retail stores. Each retail store is associated with an assortment pack based at least in part on the forecasted sales of the item at the retail store such that the plurality of retail stores is grouped into a plurality of clusters of retail stores. The distribution of the different versions of the item of at least one of the plurality of assortment packs is changed based at least in part on the forecasted sales of the item at each retail store of the cluster of retail stores with which the at least one of the plurality of assortment packs has been associated.

Abstract.

Claims 1, 18, and 25 are independent. Claim 1, which is representative of the claims on appeal, is shown here with three disputed limitations in *italics*:

> 1[.] A method comprising:
>
> determining, with a computing device and based on a first set of initial conditions, a first plurality of assortment packs that include different versions of an item to be sold at a plurality of retail stores, wherein each of the first plurality of assortment packs includes a different distribution of the different versions of the item;
>
> for each retail store of the plurality of retail stores, associating, with the computing device, the retail store with one

of the first plurality of assortment packs based at least in part on a comparison of the forecasted sales of the item at the retail store and the distribution of the different version of the item included in the assortment packs such that the plurality of retail stores is grouped into a first plurality of clusters, and such that each cluster of the first plurality of clusters is associated with a different one of the first plurality of assortment packs;

for each cluster of the first plurality of clusters, changing, with the computing device, the distribution of the different versions of the item within the assortment pack associated with the cluster based at least in part on the forecasted sales of the item at each retail store associated with the cluster so as to determine a second plurality of assortment packs;

for each retail store of the plurality of retail stores, associating, with the computing device, the retail store with one of the second plurality of assortment packs based at least in part on the forecasted sales of the item at the retail store such that the plurality of retail stores is grouped into a second plurality of clusters, and such that each cluster of the second plurality of clusters is associated with a different one of the second plurality of assortment packs;

determining, with the computing device and based on a second set of initial conditions, a third plurality of assortment packs that include a plurality of different versions of the item to be sold at the plurality of retail stores, wherein each of the third plurality of assortment packs includes a different distribution of the different versions of the item, and wherein the third plurality of assortment packs is different than the first plurality of assortment packs;

for each retail store of the plurality of retail stores, associating, with the computing device, the retail store with one of the third the plurality of assortment packs based at least in part on a comparison of the forecasted sales of the item at the retail store and the distribution of the different version of the item included in the assortment packs such that the plurality of retail stores is grouped into a second plurality of clusters of retail stores, and such that each cluster of the third plurality of

clusters is associated with a different one of the third plurality of assortment packs;

for each cluster of the third plurality of clusters, changing, with the computing device, the distribution of the different versions of the item within the assortment pack associated with the cluster based at least in part on the forecasted sales of the item at each retail store associated with the cluster so as to determine a fourth plurality of assortment packs;

for each retail store of the plurality of retail stores, associating, with the computing device, the retail store with one of the fourth plurality of assortment packs based at least in part on the forecasted sales of the item at the retail store such that the plurality of retail stores is grouped into a fourth plurality of clusters, and such that each cluster of the fourth plurality of clusters is associated with a different one of the fourth plurality of assortment packs;

wherein values for the first set of initial conditions are different than values for the second set of initial conditions;

comparing, with the computing device, the second plurality of assortment packs and the fourth plurality of assortment packs; and

selecting, with the computing device, one of the second plurality of assortment packs and the fourth plurality of assortment packs that best fit the forecasted sales of the plurality of retail stores based on the comparison.

App. Br. 22–24 (Claims App'x).

Rejections & References

Claim 13 stands rejected as indefinite under 35 U.S.C. § 112, second paragraph. Final Act. 9.

Claims 1, 2, 4, 5, 7, 9, 10, 12–14, 16–18, and 25 stand rejected under 35 U.S.C. § 101 as directed to a judicial exception, e.g., abstract ideas, without reciting significantly more. Final Act. 10–13.

Claims 1, 2, 4, 5, 7, 9, 10, 12–14, 18, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over McMains (US 2012/ 0179505 A1; July 12, 2012) and Ramnath Vaidyanathan, *Retail Demand Management: Forecasting, Assortment planning and Pricing*, Publicly Accessible Penn. Dissertations 434 (2011), available at https://repository.upenn.edu/ edissertations/434/ (last accessed Dec. 21, 2018) ("Vaidyanathan"). Final Act. 14–29, 32–38.

Claim 16 stands rejected under § 103(a) as unpatentable over McMains, Vaidyanathan, Pelegrin (US 2006/0149634 A1; July 6, 2006), and Drenth (US 2010/0222916 A1; Sept. 2, 2010). Final Act. 29–31.

Claim 17 stands rejected under § 103(a) as unpatentable over McMains, Vaidyanathan, Pelegrin, Drenth, and SAS Institute Inc., *SAS/STAT® 9.2 User's Guide*, 2d ed., Cary, NC (Sept. 2009) (available at http://support.sas.com/documentation/cdl/en/statug/63033/HTML/default/ viewer.htm (last accessed Dec. 21, 2018). Final Act. 31–32.

ANALYSIS

We have reviewed the Examiner's rejections in light of Appellant's contentions of reversible error.[2] We disagree with Appellant's conclusions. Instead, as consistent with our discussion below, we adopt the Examiner's findings and reasons as set forth in the Final Office Action from which this appeal is taken and as set forth in the Answer. We highlight the following for emphasis.

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[2] Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2016).

1. The § 112 Rejection

Appellant does not contest the merits of the § 112 indefiniteness rejection. *See* App. Br. 13–14. Accordingly, we summarily affirm that rejection. 37 C.F.R. § 41.37(c)(1)(iv) (2016).

2. The § 101 Rejection

In *Alice Corp. Pty. Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014), the Supreme Court reiterated the analytical two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 79 (2012), "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice*, 134 S. Ct. at 2355. The first step in the analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts," such as an abstract idea. *Id.* If the claims are directed to eligible subject matter, the inquiry ends. *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1349 (Fed. Cir. 2017); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

In considering whether a claim is directed to an abstract idea, we keep in mind that "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Mayo*, 566 U.S. at 71. Accordingly, we look to whether the claim focuses on a specific means or method that improves the relevant technology or is instead directed to a result or effect that itself is the abstract idea and otherwise merely invokes generic processes and machinery. *See Enfish*, 822 F.3d at 1336.

If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims "individually

and 'as an ordered combination'" to determine whether there are additional elements that "'transform the nature of the claim' into a patent-eligible application." *Alice*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 79, 78). In other words, the second step is to "search for an 'inventive concept'—*i.e.*, an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Alice*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 72–73).

We note the two steps of the *Alice* analysis "involve overlapping scrutiny of the content of the claims," and the Federal Circuit has described "the first-stage inquiry" as "looking at the 'focus' of the claims, their 'character as a whole,'" and "the second-stage inquiry (where reached)" as "looking more precisely at what the claim elements add—specifically, whether, in the Supreme Court's terms, they identify an 'inventive concept' in the application of the ineligible matter to which (by assumption at stage two) the claim is directed." *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (citations omitted).

Here, the Examiner determines in the first step of the *Alice* analysis that claim 1 is directed to "selecting product assortments to be sold at retail stores based on the forecasted sales of the products. The idea of selecting product assortments to be sold at retail stores based on the forecasted sales of the products is a fundamental economic practice." Final Act. 10–11. In step two, the Examiner determines the "computing device" limitations in claim 1 "amount to no more than mere instructions to implement the idea on a computer, and recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and

conventional activities previously known to the pertinent industry." Final Act. 11.

Appellant contends the Examiner errs in both the *Alice* step one and step two determinations. App. Br. 14–17.

A. Alice Step One

Appellant argues the Examiner errs in the *Alice* step one analysis because claim 1 is "not directed to a judicial exception" (i.e., an abstract idea). App. Br. 14. Appellant's step one argument is conclusory and unpersuasive. Appellant does not explain how or why the abstract idea identified by the Examiner is erroneous. The only technological feature recited in claim 1 is "a computing device." We discern no error in the determination claim 1 is directed to "selecting product assortments to be sold at retail stores based on the forecasted sales of the products," which is an abstract idea because it "is a fundamental economic practice." Final Act. 10–11. Accordingly, we turn to the second step of the *Alice* analysis.

B. Alice Step Two

Appellant argues claim 1 "as a whole recite[s] specific limitations other than what is well-understood, routine, and conventional in the field (*as described in detail below with respect to the rejection under 35 U.S.C. § 103(a)*)." App. Br. 15 (emphasis added) (further arguing claim 1 as a whole is confined "to a particular useful application" and is "an improvement in another technology or technical field").

This argument is unpersuasive. The question in the second step is not whether a claimed element is novel or non-obvious, but rather whether the implementation of the abstract idea involves "more than performance of 'well-understood, routine, [and] conventional activities previously known to

8

the industry.'" *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014) (alteration in original) (quoting *Alice,* 134 S. Ct. at 2359). Here, there is no indication that the implementation of the claimed steps requires anything other than generic computing components performing routine and conventional computer functions. As recognized by the Supreme Court, "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *See Alice,* 134 S. Ct. at 2358–59 (concluding claims "simply instruct[ing] the practitioner to implement the abstract idea of intermediated settlement on a generic computer" not patent eligible). Appellant does not identify any evidence in the record that shows any specialized computer or other technological components are required to implement claim 1.

Appellant further argues that "although independent claim 1 may recite generic computer components, such as a 'computing device,' those components are able in combination and with the specifically recited claim limitations *to perform functions that are not merely generic.*" App. Br. 15. This argument is unpersuasive because the identified limitations do not, alone or in combination, provide a technological improvement. *See Enfish,* 822 F.3d at 1335. Instead, we agree with the Examiner that those limitations serve to narrow the abstract idea, and "reciting limitations that narrow the recited abstract idea does not make the abstract idea non-abstract." Ans. 9 (citing 79 Fed. Reg. 74631; *buySAFE Inc. v. Google, Inc.,* 765 F.3d 1350, 1355 (2014); July 2015 Update: Subject Matter Eligibility, p. 3 (available at https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf).

The limitations Appellant identifies may be implemented in software, but absent claim limitations that constitute an improvement to software technology, software implementation of recited abstract ideas alone does not constitute an "inventive concept." *See, e.g., Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1344–45 (Fed. Cir. 2013) (determining claims that recite "generalized software components arranged to implement an abstract concept . . . [of generating insurance-policy-related tasks based on rules to be completed upon the occurrence of an event] on a computer" to be patent ineligible).

Appellant also argues claim 1 "does not simply recite or attempt to pre-empt the bald idea of 'selecting product assortments to be sold at retail stores based on the forecasted sales of the products itself.'" App. Br. 16 (quoting Final Act. 7). This argument is unpersuasive. As our reviewing court has explained: "The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability" and "[f]or this reason, questions on preemption are inherent in and resolved by the § 101 analysis." *Ariosa Diagnostics, Inc., v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citing *Alice*, 134 S. Ct. at 2354). Thus, although "preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Id.*; *cf. OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) ("[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.").

Appellant further argues the identified "claim limitations are similar to the claimed features of Example 3, and of claim 4 of Example 23, claim 2

of Example 25, and Example 27 in the July 2015 Update: Subject Matter Eligibility" (hereafter the "July 2015 Update"). App. Br. 16. We disagree.

The claims in Example 3 of the July 2015 Update are directed to "generating a blue noise mask," which essentially is a mathematical algorithm that constitutes a judicial exception akin to an abstract idea. The July 2015 Update explains that the Example 3 claims recite "steps of comparing the blue noise mask to a gray scale image to transform the gray scale image to a binary image array and converting the binary image array into a halftoned image," and, those steps recite significantly more (or an "inventive concept") because they constitute "improvements in the technology of digital image processing." Similarly: (a) claim 4 of Example 23 recites significantly more than the abstract idea because the combination of limitations "improves the functioning of the basic display function of the computer itself" (i.e., a technological improvement); (b) claim 2 of Example 25 recites steps that specifically "improve the technical field of precision rubber molding" (i.e., a technological improvement); and (c) the claim of Example 27 recites steps for loading a computer's BIOS (Basic Input/Output System) software that do not even require analysis under *Alice* steps one and two because it is "self-evident" that the technological aspects of the claim "would clearly amount to significantly more thyan any potential recited exception." *See* July 2015 Update. Appellant does not explain how or why claim 1 provides an analogous technological improvement. Appellant's claim 1 is not analogous because it does not recite steps that provide a technological improvement.

Appellant also argues the specific ("non-generic") limitations of claim 1 are significant for the reasons described in Appellant's Specification. App.

Br. 16 (citing and quoting Spec. ¶ 18). This is unpersuasive. The improvement described in the cited paragraph of Appellant's Specification is "to minimize the costs associated with unsold items and lost sales opportunities, reduction of one or both of which may, in turn, improve sales and profit of the retailer." Spec. ¶ 18. The described improvement is to the idea of a business method, not to technology.

Accordingly, we sustain the § 101 rejection of claim 1. We also, therefore, sustain the § 101 rejection of claims 2, 4, 5, 7, 9, 10, 12–14, 16–18, and 25, for which Appellant offers no separate arguments. *See* App. Br. 16–17; 37 C.F.R. § 41.37(c)(1)(iv) (2016).

The § 103(a) Rejection

Appellant argues the Examiner errs in finding McMains teaches or suggests three different limitations of claim 1. *See* App. Br. 17–20; Reply Br. 5–8. Appellant also argues the Examiner errs in determining an ordinarily skilled artisan would have been motivated to combine the teachings of McMains and Vaidyanathan. *See* Reply Br. 8–10.

A. *First disputed limitation—"determining . . . a third plurality of assortment packs . . ."*

Appellant contends McMains does not teach or suggest

> determining . . . a third plurality of assortment packs that include a plurality of different versions of the item to be sold at the plurality of retail stores, wherein each of the third plurality of assortment packs includes a different distribution of the different versions of the item, and wherein the third plurality of assortment packs is different than the first plurality of assortment packs,

as recited in claim 1, because

12

McMains merely uses its "first ideal candidate packs" from the all the stores and then reduces the number of candidate packs until the maximum number is reached. That is, the end resulting set of candidate packs in McMains are merely a subset of the group of first ideal candidate packs, rather than a third plurality of assortment packs.

App. Br. 18.

The Examiner responds that, as McMains reduces the number of candidate packs in an initial set of first ideal candidate packs, the recited "first plurality of candidate packs" reads on the initial set, and the "third plurality of candidate packs" reads on the reduced set. *See* Ans. 12 (citing McMains Fig. 5); *see also id.* at 11 (citing McMains ¶¶31–34, 45, 48–49, Figs. 5–6). Appellant replies that "the process described in McMains does not determine a completely different set of assortment packs (i.e., the 'third plurality of assortment packs' as recited in claim 1) based entirely on a different set of initial conditions." Reply Br. 6–7.

Appellant's argument is unpersuasive because it is not commensurate with the scope of claim 1. Claim 1 does not require the first and third pluralities to be "completely different" or "based entirely on a different set of initial conditions," as argued. Claim 1 recites that "the third plurality of assortment packs is different than the first plurality of assortment packs," which reads on *any* difference and does not require the two pluralities to be *entirely* different. Similarly, claim 1 only requires the recited first and second sets of initial conditions to be different, not "entirely different."

B. *Second disputed limitation—" for each cluster of the third plurality of clusters, changing . . .the distribution of the different versions of the item within the assortment pack associated with the cluster . . ."*

Appellant also contends McMains does not teach or suggest

13

> for each cluster of the third plurality of clusters, changing, with the computing device, the distribution of the different versions of the item within the assortment pack associated with the cluster based at least in part on the forecasted sales of the item at each retail store associated with the cluster so as to determine a fourth plurality of assortment packs,

as recited in claim 1, because "McMains does not describe changing the distribution of items within an assortment pack." App. Br. 19. Instead, Appellant contends that as McMains reduces the number of candidate packs from its set of "first ideal candidate packs," there is *no* change to the distribution of versions the item within an assortment pack, as required by the second disputed limitation. *Id.*

The Examiner responds that McMains, which discloses initially clustering stores based on initially clustered stores having identical pack configurations (*see, e.g.,* McMains ¶ 32), teaches that when merging clusters, "the merged cluster will have a <u>diverse</u> set of candidate packs to choose from and the best will be selected." Ans. 13 (citing McMains ¶ 46). The Examiner then finds:

> In McMains, the <u>distribution of items within</u> the ideal assortment pack <u>associated with **at least one** of the pair of clusters</u> of stores to be merged (i.e. at least one of the assortment packs of the third plurality of assortment packs) **will be changed** when the pair of clusters of stores is merged (i.e. to determine a [fourth] plurality of assortment packs) since <u>the pack configurations of distinct clusters are different</u> and, after merging, **the best candidate pack** from the <u>diverse</u> set of candidate packs from the clusters to be merged <u>is **selected to be associated with the merged cluster**</u>. Accordingly, in McMains, when a pair of clusters of stores [is] selected to be merged and associated with the same ideal pack, the system has, contrary to Appellant's assertion, identified clusters to change the distribution of items within an assortment pack.

Ans. 13 (citing McMains ¶¶ 31–32, 34, 45–50, Fig. 5); *see also id.* at 14–15 (noting the rejection relies on the combination of Vaidyanathan and McMains, not McMains alone, for teaching the second disputed limitation (citing Vaidyanathan pp. 21–23, 29–31), and repeating verbatim the explanation given in the Final Rejection for why an ordinarily skilled artisan would have been motivated to combine the teachings of McMains and Vaidyanathan). Appellant replies that the disclosure of McMains relied on by the Examiner does *not* "'change the distribution of items within an assortment pack,' but rather merely chooses a subset of the originally identified candidate packs." Reply Br. 7–8.

Appellant's argument is again unpersuasive as not commensurate with the scope of the disputed claim limitation. According to the plain meaning of the claim terms, changing a cluster so that a previously associated pack is replaced with a newly associated pack that has a different distribution of different versions of the item than the previously associated pack constitutes "changing . . . the distribution of the different versions of the item within the assortment pack associated with the cluster," as recited. In other words, replacing an initially associated pack with a newly associated pack constitutes changing the associated pack. Thus, Appellant does not persuade us of Examiner error, because in McMains, there is an initial distribution of versions of items "within the assortment pack associated with the cluster" and then, after the replacement, there is a different (i.e., changed) distribution of versions of items "within the assortment pack associated with the cluster," as recited. *See* Ans. 13.

C. *Third disputed limitation—"wherein values for the first set of initial
conditions are different than values for the second set of initial
conditions"*

Appellant contends McMains does not teach or suggest "wherein
values for the first set of initial conditions are different than values for the
second set of initial conditions" because, in McMains, "the final set of packs
is a subset selected by reducing/merging the first ideal candidate packs from
all the stores until the maximum pack configuration constraint has been
reached." App. Br. 19–20 (quoting *id.* at 20).

The Examiner responds that in McMains,

> the pairs of clusters of stores are selected for combining by
> selecting from the clusters a pair of similar clusters based on the
> difference between percentage forecast demand for each item
> size across the pair of clusters, average sales per store and
> [SKU] at each cluster, and the percentage overlap of
> distribution centers across the clusters, which is referred to as a
> distance metric in McMains (i.e. second set of initial
> conditions) ([0032] & [0048]–[0049]). Then, the single pack
> with the lowest mismatch cost is retained as the ideal pack for
> the cluster ([0050]).
>
> The distance metric is not considered when the system
> initially creates ideal packs that are associated with each store
> or cluster of stores with identical pack configurations. The
> distance metric is only considered when creating ideal packs for
> merged clusters. Since the ideal pack for the initial clusters are
> merely formed based only on mismatch costs between the
> forecast demand and the pack configuration, which are the first
> set of initial conditions, and the ideal pack for the merged
> clusters are determined by first selecting a pair of similar
> clusters using the aforementioned distance metric and then
> based on mismatch costs, which are the second set of initial
> conditions, contrary to Appellant's assertion, the first set of
> conditions are different from the second set of initial
> conditions.

Ans. 16.

Appellant does not contest these findings in the Answer, *see* Reply Br. *passim*, and, therefore, Appellant does not persuade us of Examiner error vis-à-vis the third disputed limitation.

D. Motivation to Combine McMains and Vaidyanathan

Appellant argues the Examiner errs in finding that ordinarily skilled artisans would have been motivated to make the proposed combination of teachings from McMains and Vaidyanathan. Reply Br. 8–10. Appellant contends that the Examiner errs because "absent specific teachings as to why the purported combination of elements from the references should be made, does not render obvious the specific solution recited." Reply Br. 9. Appellant's argument is unpersuasive.

As an initial matter, we note the Examiner's Answer reiterates, verbatim, the findings from the Final Rejection for the motivation to combine McMains and Vaidyanathan. *Compare* Ans. 14–15 *with* Final Act. 19. "Any argument raised in the reply brief which was not raised in the appeal brief, or is not responsive to an argument raised in the examiner's answer, including any designated new ground of rejection, will not be considered by the Board . . . unless good cause is shown." 37 C.F.R. § 41.47(b)(2) (2016). Here, the Examiner's verbatim reiteration in the Answer of findings from the Final Rejection does not constitute "raising an argument"—rather, it simply is a reminder of findings Appellant failed to challenge in the Appeal Brief. Appellant does not show good cause for not raising this challenge to the motivation to combine in the Appeal Brief, which would have given the Examiner an opportunity to respond. Thus,

17

Appellant waived the right to challenge the motivation to combine McMains and Vaidyanathan.

Regardless, the motivation to combine McMains and Vaidyanathan set forth by the Examiner in the Final Rejection articulates rationally underpinned reasoning sufficient to support the legal conclusion of obviousness in accordance with *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) and *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

> McMains and Vaidyanathan are [in] analogous fields of invention because both discuss generating product assortments to cluster stores based on sales forecasts. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to include in the product assortment systems of McMains the ability to change the distribution of items within assortment packs associated with a cluster and assign each store from the plurality of stores to a one of the newly generated clusters during each iteration as taught by Vaidyanathan since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, with the predictable results of providing an algorithm that changes the distribution of items within assortment packs and assigns each store from the full plurality of stores to each plurality of clusters. Further, it would have been obvious to one of ordinary skill in the art to have modified McMains with the aforementioned teachings of Vaidyanathan to select the set of assortments that maximizes revenue for each cluster of stores.

Final Act. 19.

A reason to combine teachings from the prior art "may be found in explicit or implicit teachings within the references themselves, from the ordinary knowledge of those skilled in the art, or from the nature of the problem to be solved." *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1355 (Fed. Cir. 1999) (citing *In re Rouffet*, 149 F.3d 1350, 1357 (Fed.

18

Cir. 1998)). "[A]n analysis of obviousness . . . may include recourse to logic, judgment, and common sense available to the person of ordinary skill that do not necessarily require explication in any reference or expert opinion." *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009). "Under the correct [obviousness] analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 550 U.S. at 420.

Appellant does not point to any evidence of record that the proposed combination would be "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Leapfrog Enters. Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418–19). Nor has Appellant provided objective evidence of secondary considerations which our reviewing court guides "operates as a beneficial check on hindsight." *Cheese Sys., Inc. v. Tetra Pak Cheese and Powder Sys.*, 725 F.3d 1341, 1352 (Fed. Cir. 2013). The Examiner's findings are reasonable because the skilled artisan would "be able to fit the teachings of multiple patents together like pieces of a puzzle" because the skilled artisan is "a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 420–21. We are persuaded the claimed subject matter exemplifies the principle 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.* at 416.

E. § 103 Conclusion

Thus, Appellant does not persuade us of Examiner error in the determination that the combined disclosures of McMains and Vaidyanathan

render claim 1 obvious. Accordingly, we sustain the § 103(a) rejection of claim 1 and, for the same reason, claims 2, 4, 5, 7, 9, 10, 12–14, 16–18, and 25, for which Appellant offers no separate arguments (*see* App. Br. 20).

DECISION

We affirm the rejection of claim 13 under 35 U.S.C. § 112, second paragraph.

We affirm the rejection of claims 1, 2, 4, 5, 7, 9, 10, 12–14, 16–18, and 25 under 35 U.S.C. § 101.

We affirm the rejection of claims 1, 2, 4, 5, 7, 9, 10, 12–14, 16–18, and 25 under 35 U.S.C. § 103(a).

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

AFFIRMED