

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BECTON, DICKINSON AND COMPANY,
Petitioner,

v.

BAXTER CORPORATION ENGLEWOOD,
Patent Owner.

IPR2019-00121
Patent 9,474,693 B2

Before BARRY L. GROSSMAN, MICHAEL L. WOODS, and
PAUL J. KORNICZKY, *Administrative Patent Judges*.

KORNICZKY, *Administrative Patent Judge*.

JUDGMENT

Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

Denying Patent Owner's Revised Motion to Amend to
Substitute Claims 20–38
35 U.S.C. § 318(a)

Denying Petitioner's Motion to Exclude Evidence
37 C.F.R. § 42.64

I. INTRODUCTION

Becton, Dickinson and Company (“Petitioner”) filed a Petition for an *inter partes* review of claims 1–19 of U.S. Patent No. 9,474,693 B2 (Ex. 1001, “the ’693 patent”). Paper 1 (“Pet.”). Baxter Corporation Englewood (“Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). We issued a decision to institute an *inter partes* review of these claims. Paper 15 (“Inst. Dec.”). After institution, Patent Owner filed a Patent Owner Response (Paper 26, “PO Resp.”), Petitioner filed a Reply (Paper 31, “Reply”), Patent Owner filed a Revised Sur-Reply to Petitioner’s Reply (Paper 50, “Sur-reply”), and Petitioner filed a Supplemental Reply addressing exhibits raised in the Sur-Reply (Paper 51, “Supp. Reply”).

Patent Owner also filed a Contingent Motion To Amend Under 37 C.F.R. § 42.121 and a Request for Preliminary Guidance From The Board On The Motion To Amend (Paper 27). After we provided Preliminary Guidance to Patent Owner’s Motion To Amend (Paper 39 or “Prelim. Guid.”), Patent Owner filed Patent Owner’s Revised Contingent Motion To Amend Under 37 C.F.R. § 42.121 (Paper 41, “Rev. Mot.”). Petitioner filed Petitioner’s Opposition To Patent Owner’s Revised Motion To Amend (Paper 52, “Opp. Rev. Mot.”). Patent Owner filed its Reply To Petitioner’s Opposition To Patent Owner’s Revised Contingent Motion To Amend (Paper 56, “Reply Rev. Mot.”). Finally, Petitioner filed its Sur-Reply To Patent Owner’s Reply To Opposition To Revised Motion To Amend. (Paper 61, “Sur-reply Rev. Mot.”).

Petitioner filed a Motion To Exclude Evidence Under 37 C.F.R. § 42.64. Paper 57. Patent Owner filed an Opposition To Petitioner’s Motion To Exclude Evidence. Paper 59. Petitioner filed a Reply To Patent Owner’s

Opposition To Motion To Exclude Evidence Under 37 C.F.R. §42.64. Paper 60.

Oral argument was held on February 28, 2020, and the transcript of the hearing has been entered as Paper 62 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioner must prove unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e) (2016); 37 C.F.R. § 42.1(d). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–19 the ’693 patent are unpatentable. *See* 35 U.S.C. § 316(e). Patent Owner’s Revised Contingent Motion to Amend is denied. Petitioner’s Motion to Exclude Evidence is denied as moot.

II. BACKGROUND

A. *Related Proceedings*

In addition to the ’693 patent at issue here, Petitioner requests *inter partes* review of U.S. Patent Nos. 8,554,579 and 9,662,273 in IPR2019-00119 and IPR2019-00120, respectively. According to the parties, these three patents are at issue in *Baxter Healthcare Corporation and Baxter Corporation Englewood v. Becton, Dickinson and Company*, Case No. 17-cv-02186 (S.D. Cal., filed October 26, 2017). Pet. 2; Paper 5, 1.

B. The '693 Patent (Ex. 1001)

The '693 patent is titled “Work Station for Medical Dose Preparation System.” Ex. 1001, code (54). The '693 patent discloses, in part, a work station for use in a medical-dose preparation management system. *Id.* at code (57). Figures 1 and 2 of the '693 patent are reproduced below.

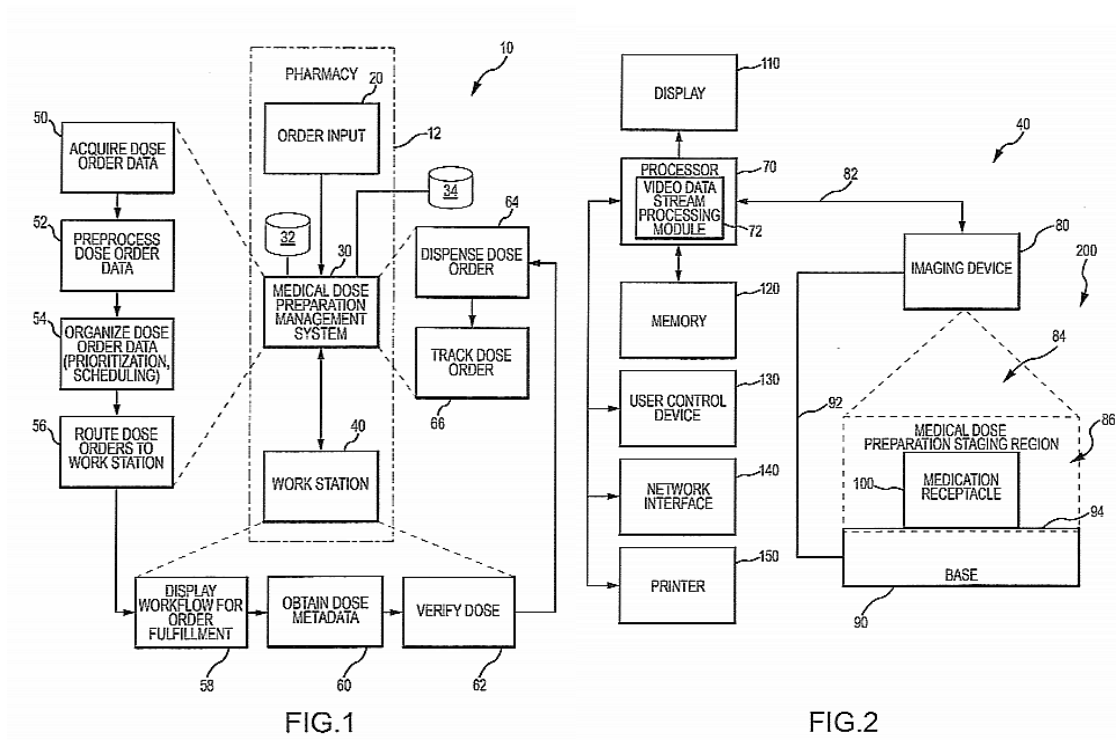


Figure 1 illustrates medical dose preparation management system 30 in communication with workstation 40. *Id.* at 8:29–31, 12:42–58. Figure 2 provides further details of a representative workstation including imaging device 80 in communication with processor 70 and disposed relative to medical dose preparation staging region 86. *Id.* at 8:32–35, 14:9–23. The dose preparation staging region may also include base 90 and a scale, wherein “weight measured by the scale may be captured substantially simultaneously as the capture of a medical dose preparation image by the

imaging device 80.” *Id.* at 24:17–20. Processor 70 “may perform a gravimetric analysis using a weight measured by the scale to, for example, compare the measured weight to an anticipated weight for the medical dose.” *Id.* at 24:24–26.

C. Illustrative Claim

As mentioned above, the challenged claims are claims 1–19. Claim 1, the only independent claim, is reproduced below:¹

1. [a] A work station for use in a system for medical dose preparation management, the work station comprising:
 - [b] a base;
 - [c] a medication preparation staging region disposed relative to the base and operable to supportively engage at least one medication receptacle;
 - [d] an imaging device having an imaging field encompassing at least a portion of the medication preparation staging region,
 - [e] wherein the imaging device is operable to output a video data stream of the imaging field;
 - [f] a processor in operative communication with the imaging device to receive the video data stream of the imaging field;
 - [g] a user control device in operative communication with the processor to initiate a capture of a medical dose preparation image from the video data stream in response to a user input received at the user control device;
 - [h] a scale in operative communication with the processor and operable to output a weight corresponding to a medication receptacle that is supportably disposed in the medication preparation staging region;
 - [i] a memory in operative communication with the processor;

¹ We adopt Petitioner’s convention in referring to the limitations as 1[a] through 1[k]. *See* Pet. 16–22.

[j] wherein upon receipt of the user input, the weight is recorded by the processor from the scale at substantially the same time as the capture of the medical dose preparation image, and

[k] wherein the weight and the medical dose preparation image are associatively stored in the memory.

Ex. 1001, 25:62–26:23.

D. References

Petitioner relies on the following references:

Reference	Description	Date	Exhibit
Fioravanti	US 2011/0191121 A1	Published Aug. 4, 2011	Ex. 1006
Alexander	US 8,374,887 B1	Issued Feb. 12, 2013	Ex. 1008
Eliuk	US 7,783,383 B2	Issued Aug. 24, 2010	Ex. 1009
Burns	US 7,986,369 B1	Issued July 26, 2011	Ex. 1010
Bear	US 2008/0119958 A1	Published May 22, 2008	Ex. 1011
Claypool	US 2009/0205877 A1	Published Aug. 20, 2009	Ex. 1012
Angel	US 4,993,506	Issued Feb. 19, 1991	Ex. 1013

Pet. 13.

E. Grounds Asserted

Petitioner challenges the patentability of the '693 patent claims on the following grounds:

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1	1–3, 5–7, 15, 17	102(b)	Fioravanti
2	1–12, 15–19	103(a)	Fioravanti
3	1–12, 15–19	103(a)	Fioravanti and Alexander
4	1–12, 15–19	103(a)	Fioravanti, Alexander, and Eliuk

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
5	10	103(a)	Fioravanti, Alexander, Eliuk, and Burns
6	11–14	103(a)	Fioravanti, Alexander, Eliuk, and Bear
7	16	103(a)	Fioravanti, Alexander, Eliuk, and Claypool
8	16, 18, 19	103(a)	Fioravanti, Alexander, Eliuk, and Angel

Pet. 13. Petitioner also relies on expert testimony from Dr. Marc Young (Ex. 1004).

III. ANALYSIS

A. Level of Ordinary Skill in the Art

The level of skill in the art is a factual determination that provides a primary guarantee of objectivity in an obviousness analysis. *Al-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991)). In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus. Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

The parties agree that a person of ordinary skill in the art would have several years of experience with remote pharmacy work supervision and verification systems and a familiarity with basic pharmacy processes and

have been aware of relevant regulations. Pet. 9–10; PO Resp. 13. As noted by Petitioner, the Board previously applied this definition in an *inter partes* review of the Alexander reference asserted here. Pet. 9–10 (referencing IPR2015-00883, Paper 29, 43). As the parties’ undisputed proposed definition is not inconsistent with the cited prior art, we adopt it. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required “where the prior art itself reflects an appropriate level and a need for testimony is not shown” (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985))).

B. Claim Construction

In this *inter partes* review based on a petition filed before November 13, 2018, the claim construction standard to be applied depends upon whether the patent at issue is expired or unexpired. Because the Petition was filed before November 13, 2018, and the ’693 patent is an unexpired patent, the claims are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2018).² Under this standard, we presume that a claim term carries its “ordinary and customary meaning,” which “is the meaning that the term would have to a person of ordinary skill in the art in question” at the time of the invention. *In re Translogic Tech.*,

² A recent amendment to this rule does not apply here because the present Petition was filed before November 13, 2018. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018).

Inc., 504 F.3d 1249, 1257 (Fed. Cir. 2007); *see also Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016) (“Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.”). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Limitations, however, may not be read from the specification into the claims (*In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993)), nor may the Board “construe claims during [an *inter partes* review] so broadly that its constructions are *unreasonable* under general claim construction principles” (*Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015), *overruled on other grounds by Aqua Products, Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017)).

In our Institution Decision, we construed several claim terms. Inst. Dec. 7–13.

i. “work station”

Claim 1 recites, in part, a “work station for use in a system for medical dose preparation management.” In our Institution Decision, construed “work station” as “a combination of physical components for the preparation and measurement of a medication dose.” Inst. Dec. 8–10. Neither party contests this construction.

ii. “base”

Petitioner proposes that “base” as used in claim 1 means “the bottom of something considered as its support.” Pet. 11–12 (citing Ex. 1001, 3:46–51; Ex. 1004 ¶¶ 24–25; Ex. 1014, 94 (Merriam-Webster definition of

“base”)). Patent Owner does not dispute this definition, but argues that “base” is used in its ordinary sense. PO Resp. 7–8; *see* Paper 9, 23. Neither party provides argument or evidence suggesting that the inventors used this term in anything other than its ordinary meaning and we discern none from the intrinsic evidence. Accordingly, an express construction for this term is not necessary at this time.

iii. “at substantially the same time”

Claim 1 recites that “the weight is recorded by the processor from the scale at substantially the same time as the capture of the medical dose preparation image.” Ex. 1001, 26:18–21. The parties agree that the phrase “at substantially the same time,” as used therein, should be construed as “sufficiently close in time that the medication dose preparation image has not changed since the time the weight was recorded.” Pet. 12–13 (citing Ex. 1001, 7:49–57); Paper 9, 23; *see* PO Resp. 7–8. We adopt this construction.

iv. “associatively stored in memory”

Claim limitation 1[i] recites “a memory in operative communication with the processor,” modified by limitation 1[k] which recites “wherein the weight and the medical dose preparation image are *associatively stored in the memory*.” Ex. 1001, 26:21–23 (emphasis added).

Before our Institution Decision, neither party proposed a definition of these limitations. *See, e.g.*, Pet. 10–13; Prelim. Resp. 2, 19–23, 25–27, 31–34. In the Institution Decision, we interpreted “associatively stored” as used in claim 1, to mean that “image data for a particular medication receptacle (e.g., a vial or syringe) is stored in memory such that the processor can

match that image data to the medication receptacle or relevant dose order,” and “[i]n practice, this may mean that weight and/or image data for a particular medication receptacle contains metadata linking it to the relevant dose order, and thus to the medication receptacle associated with that order.” Inst. Dec. 13. We noted that “the intrinsic evidence . . . places no restriction on the type, duration, or location” of the recited memory. *Id.* at 12 n.2. We revisit our initial determination in light of additional arguments and evidence adduced at trial.

Petitioner agrees with our initial determination of “associatively stored” and proposes no additional construction for claim 1. Reply 2–3. Patent Owner, in contrast, argues that our initial construction “goes beyond the plain and customary meaning of storing an image and a weight in relation to one another,” and ignores the Specification that “mandates that the memory itself be capable of storing the weight and dose preparation image for sufficient duration to permit remote access and verification.” PO Resp. 11–12 (citing Ex. 1001, 2:40–45, 13:39–41, 13:50–53). Instead, Patent Owner proposes that we construe “associatively stored” as, “a weight and a medical dose preparation image of at least one medication receptacle supportably disposed in the medication preparation staging region are stored in relation to one another in memory such that the data can be retrieved and reviewed later.” *Id.* (citing Ex. 2010 ¶ 34); Sur-reply 3–5. Petitioner opposes Patent Owner’s proposed construction. Reply 2–7.

As noted in our Institution Decision, the prosecution history sheds no light on the meaning of “associatively stored.” Inst. Dec. 11 (citing Pet. 7–9; Ex. 1002, 418–419). The Specification also provides no express definition

of the term but suggests a link to the storage of metadata associated with a medical dose order. In particular, it discloses that workstations

may be used to capture, collect, or compile data (e.g., metadata) regarding the medical dose order. In this regard, metadata associated with the medical dose order may be stored in corresponding relation to the medical dose order such that the metadata may be accessible to a care provider before or after administration of the medical dose associated with the medical dose order to the patient. The metadata may include data regarding the prepared dose order, a component of the dose order, or the manner in which the prepared dose order or a component of the dose order was prepared. Accordingly, metadata captured, collected, or compiled at the work station may be used to organize, track, or otherwise manage medical dose orders.

Ex. 1001, 2:38–50. In one embodiment, a work station may include a scale and an imaging device in communication with a processor. *See id.* at 7:40–8:10.

[U]pon capture of a medical dose preparation image, the weight of the medication receptacle may be recorded by the processor from the scale at substantially the same time that the medical dose preparation image is captured. In other words, the processor may be operable to and/or adapted to—upon receipt of a user input—record the weight from the scale at substantially the same time that the medical dose preparation image is captured. In this regard, the work station may also include a memory in operative communication with the processor for storing the weight and the medical dose preparation image. For example, the weight and the medical dose preparation image may be associatively stored in the memory. As such, the processor may be operable to compare the measured weight of the medication receptacle to an anticipated weight of the medication receptacle (e.g., provided in metadata of the order).

Id. at 7:49–65.

Accordingly, the Specification does not indicate that “associatively stored” refers to a specific data base structure, but instead uses the term to indicate that information is accessible or available such that a “processor may be operable to compare the measured weight of the medication receptacle to an anticipated weight of the medication receptacle (e.g., provided in metadata of the order),” presumably by accessing the metadata associated with the weight data. Ex. 1001, 7:62–65.

As noted by Petitioner, a substantial portion of Patent Owner’s proposed construction repeats the language of claim limitation 1[k], such that “[o]nly the intended use language of PO’s definition ‘such that the data can be retrieved and reviewed later’ is new.” Reply 3. Although we acknowledge Petitioner’s “intended use” argument with respect to retrieval of data, we understand Patent Owner to focus instead on the meaning of “memory” as used in the ’693 patent and, thus, on its meaning in limitations 1[i]/1[k]. In this respect, Patent Owner asserts that a person of ordinary skill in the art “would understand that the memory in the ’693 Patent must be capable of storing data for a duration allowing for remote access and verification, i.e., beyond local real time display.” PO Resp. 11 (citing Ex. 2010 ¶ 29).

In support of its construction, Patent Owner points to support in the Specification, which variously states that:

(1) “*During and/or after* the preparation of the dose order, the work station 40 may be used to assist in obtaining 60 dose order metadata related to the medical dose order” (Ex. 1001, 13:22–24 (emphasis added));

(2) “metadata associated with the medical dose order may be stored in corresponding relation to the medical dose order *such that the metadata may*

be accessible to a care provider before or after administration of the medical dose” (*id.* at 2:40–44 (emphasis added));

(3) “metadata collected at the work station 40 may be made available to a pharmacist via a network” (*id.* at 13:40–41); and

(4) “The verifying 62 may include inspection of the medical dose preparation images, obtained information, or other data regarding the medical dose order by the pharmacist (*id.* at 13:50–53). *See* PO Resp. 10–11; Ex. 2010 ¶¶ 28–29.³

Our reading of the Specification and prosecution history alone leaves unresolved whether, and to what extent, the memory and associative storage elements of claim 1 have temporal permanence. Accordingly, we look to the testimony of the parties’ experts in determining how one of ordinary skill in the art would understand the disputed claim language. *See, e.g.*, Ex. 2008 ¶¶ 50–51, 70–78, 92–97; Ex. 1021 ¶¶ 5–20; Ex. 2010 ¶¶ 19, 24–34, 81–86.

Of the three experts in this case, we find Dr. Stevenson’s testimony particularly helpful on this issue. Although not himself one of ordinary skill in the art as defined in section III.A above, we recognize Dr. Stevenson’s expertise in computer system design, particularly with respect to digital signal and image processing, computer memory, and data storage. *See* Ex. 2010 ¶¶ 7–16; Ex. 2011.

³ Consistent with Patent Owner’s argument, the idea that data in memory must be accessible for at least some minimum duration is further reflected by the disclosure that the workstation stores “metadata associated with the medical dose order may be stored in corresponding relation to the medical dose order such that the metadata may be accessible to a care provider before or after administration. . . . [and] may be used to organize, track, or otherwise manage medical dose orders.” Ex. 1001, 2:40–50.

Considering the Specification of the '693 patent, Dr. Stevenson testifies that “[n]ot only does the memory need to store the weight and image data until at least drug administration (which is at least some time after verification of dose completion), the data must also be associatively stored until that point.” Ex. 2010 ¶ 30. He further testifies that, “[i]f it is not, the association is lost and the ability to use the association, such as for reviewing the work performed to capture the weight and image data, is eliminated.” *Id.* Moreover, “[r]eal-time display of data on a computer screen does not necessarily equate to or mandate the storage of the displayed data for later review. Instead, a discrete step for storing the data in memory (and for storing some indication of the association in memory) must be performed so that this later review is possible.” *Id.* ¶ 31. In sum, Dr. Stevenson opines that “the memory in the ‘693 Patent must be capable of storing data for a duration allowing for remote access and verification, *i.e.*, after formulation, and certainly meaningfully longer than what is required for real time display.” *Id.* ¶ 29.

We do not find persuasive Petitioner’s contention that Patent Owner’s construction of “memory” renders claim 1 ambiguous. *See* Reply 5–7. Petitioner focuses on what may or may not be done with metadata stored in the memory, and on the potentially open-ended duration of this information under Patent Owner’s proposed construction. *Id.* But as we understand Patent Owner’s proposal, the memory recited in limitations 1[i]/1[k] must be capable of storing data in a sufficiently non-transitory state that it can be made available “for remote access and verification, *i.e.*, beyond local real time display.” *See* PO Resp. 11 (citing Ex. 2010 ¶ 29). This definition merely sets some minimum duration on the *capability* of the memory to

associatively store weight and a medical dose preparation image data, i.e., the time necessary for remote access and verification—a duration longer than that required for real time display. That remote access and verification may, in fact, occur at some later, undetermined time, as Petitioner contends, does not render the term ambiguous. *See* Reply 5–7.

Considering the record before us, we construe “associatively stored in the memory” in the context of limitations 1[i]/1[k],” to mean that data for a particular medication receptacle (e.g., a vial or syringe) is stored in memory such that the processor can match that data to the medication receptacle or relevant dose order, and wherein the memory is capable of storing data for a duration sufficient to allow for remote access and verification, i.e., beyond local real time display.

No other terms require express construction. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy and only to the extent necessary to resolve the controversy.”).

C. Legal Principles of Unpatentability

1. Anticipation

To anticipate a claim under 35 U.S.C. § 102,⁴ “a single prior art reference must expressly or inherently disclose each claim limitation.” *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008).

⁴ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102 and 103. Because the challenged claims of the ’693 patent have an effective filing date before the effective date of the applicable AIA amendments, we refer to the pre-AIA versions of 35 U.S.C. §§ 102 and 103 throughout this Decision.

Accordingly, “the dispositive question regarding anticipation [i]s whether *one skilled in the art* would reasonably understand or infer from the [prior art reference’s] teaching that every claim element was disclosed in that single reference.” *Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003).

2. Obviousness

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art 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 ordinary skill in the art; and (4) when in the record, objective evidence of nonobviousness. *Graham*, 383 U.S. at 17–18. In that regard, an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

In analyzing the obviousness of a combination of prior art elements, it can be important to identify a reason that would have prompted one of skill in the art “to combine . . . known elements in the fashion claimed by the patent at issue.” *Id.* at 418. A precise teaching directed to the specific subject matter of a challenged claim is not necessary to establish obviousness. *Id.* Rather, “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.” *Id.* at 420.

Accordingly, a party that petitions the Board for a determination of unpatentability based on obviousness must show that “a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (internal quotations and citations omitted).

D. Ground 1: Anticipation by Fioravanti

In Ground 1, Petitioner contends that claims 1–3, 5–7, 15, and 17 are anticipated by Fioravanti. Pet. 13–26. Petitioner provides an element-by-element analysis, including a claim chart, showing where each element of the challenged claims is found in Fioravanti. *Id.* We have reviewed the information provided by Petitioner, including its expert’s declaration, and Patent Owner’s arguments and evidence, including its experts’ declarations. For the reasons discussed below, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–3, 5–7, 15, and 17 are anticipated by Fioravanti. Below, we provide an overview of Fioravanti, and then we address Petitioner’s and Patent Owner’s contentions for this anticipation ground in detail.

1. Overview of Fioravanti (Ex. 1006)

Fioravanti is titled “Digital Assistant Appliance for Assisting an Operator in the Manual Preparation of a Liquid Pharmaceutical Composition in a Medical Instrument for Administering the Composition to a Patient, and Corresponding Operating Method,” and was published on August 4, 2011.

Ex. 1006, codes (54), (43). Petitioner contends Fioravanti is prior art under 35 U.S.C. § 102(b). Pet. 5. Patent Owner does not dispute that Fioravanti is prior art.

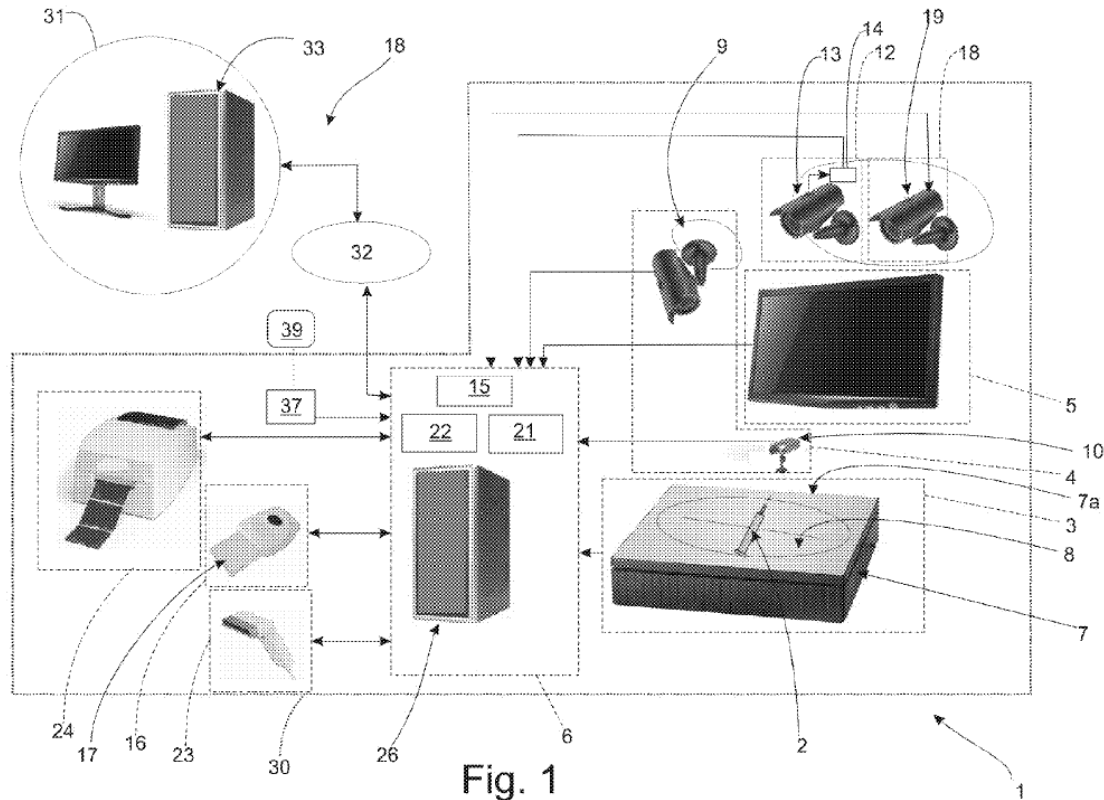
According to Fioravanti, liquid pharmaceutical compositions are typically prepared “by medical or pharmaceutical operators . . . using doses, i.e., preset amounts/weights of one or more active principles prescribed in a medical prescription.” Ex. 1006 ¶ 3. The process involves “selecting and taking from a store the vials containing the active principles present in the medical prescription; drawing from the vials, using sterile syringes, the preset doses of active principles; and fitting each syringe to the administration instrument to introduce therein the dose of active principle.” *Id.* ¶ 4. Because the process is performed manually, it “may be subject to accidental errors, i.e., ones deriving from incorrect aspiration/dosage of the active principles in the syringes by the operator.” *Id.* ¶ 5. Accordingly, Fioravanti discloses a system or “[d]igital assistant appliance for assisting an operator in the manual preparation of a liquid pharmaceutical composition.” *Id.* at code (57). The disclosed system includes:

- (1) “a user interface, through which the operator imparts selection commands of a pre-stored medical prescription and which displays to the operator himself, step by step, messages indicating the operations to be performed”;
- (2) “a gravimetric control device for measuring the weight of the vials containing the active principles and the sterile syringes used for transfer of the active principle”; and
- (3) “an electronic processing unit, which, on the basis of the weights of the vials and of the syringes, measured before and after the transfer of the active principle from the vials to the syringes, calculates the effective dose of active principle drawn in/dosed by the operator to point out any possible

discordance between the dose of active principle effectively drawn in and the dose prescribed in the medical prescription.”

Id. ¶ 6; *see id.* ¶ 12, claim 4.

Fioravanti’s Figure 1 is reproduced below.



Fioravanti’s Figure 1 discloses a schematic of a representative physical digital assistant. Ex. 1006 ¶¶ 16–17. Figure 1 shows cameras 9, 10, 13, and 19, which we address in turn.

“[V]ideocamera 9. . . is set above the scale 8 of the electronic balance 7 in such a way as to acquire images containing the view from above of the vial or of the syringe set on the scale 8; and at least one front photographic camera or videocamera 10 . . . is set facing a preset side 7a of the scale 7 to acquire the image of the front side of the vial or of the syringe. *Id.* ¶ 23.

“[B]iometric-recognition photographic camera or videocamera 13 [is]

designed to acquire the images of the operator.” *Id.* ¶ 25. “[Remote] monitoring system 18 comprises a field photographic camera or videocamera 19 set in the workstation 30 to acquire the images regarding the different steps of preparation of the liquid pharmaceutical composition by the operator so as to produce a video film.” *Id.* ¶ 33. “[C]ommunication module 21 connected to the remote-surveillance station 31 through a data-communication network 32 . . . transmit[s] the video film acquired [by camera 19] to the remote-surveillance station 31; and a processing module 22 that controls the video field camera 19, issues a command for storage of the video film in the memory device 15.” *Id.*

Memory device 15 “contain[s] the data for identification of the operator . . . [and] a database designed to contain the medical prescriptions associated to the pharmaceutical compositions to be administered to the patients.” *Id.* ¶ 36, *see also id.* ¶¶ 37–39. Medical prescription in the database contain information regarding, for example, “data regarding the active principle or principles to be used for the preparation of the liquid pharmaceutical composition; the dose, i.e., the weight or amount of each active principle,” and information regarding the shape and capacity of each syringe or vial to be filled. *Id.* ¶ 37.

“The memory device 15 moreover contains, for each type of syringe, a syringe sample image and, for each type of vial, a vial sample image.” Ex. 1006 ¶ 38. Processing system 6 compares the image data with the syringe or vial positioned on scale 8 “to verify whether the syringe [or vial] identified corresponds or not to one of the types of syringes [or vials] . . . that can be selected.” *Id.* ¶¶ 58–61, 71–74. The processing system also determines whether an operator has accurately filled the medication container by, for

example, “calculate[ing] the difference . . . between the weight PS2b of the syringe S2 measured subsequently to drawing-in of the active principle and the weight PS2a thereof measured prior to drawing-in.” Ex. 1006 ¶ 92; Ex. 1004 ¶¶ 47–49.⁵ Based on this calculation, the system notifies the operator to take up more liquid into the syringe, expel the excess amount, or print a label. *See* Ex. 1006, Fig. 2, ¶¶ 92–95; *see also id.* ¶¶ 84–91 (corresponding disclosure for vials from which medication is withdrawn); Ex. 1004 ¶ 34. Insofar as memory device 15 is the only memory recited in Fioravanti, we infer that memory device 15 stores at least the initial syringe and vial weights to compare its weight after drawing/withdrawing the active principle. *See* PO Resp. 44 (“*Fioravanti* does not disclose any memory other than memory device 15” (citing Ex. 2010 ¶ 78)); Ex. 1017, 66:2–8 (Dr. Stevenson presuming that memory device 15 is “the only place data is stored in the database.”); Ex. 1004 ¶ 34 (Dr. Young’s testimony that “the processing system performs these comparisons of weight and image data for the steps of filling a particular prescription by storing and retrieving the data associated with the prescription from the database in memory device 15”).

⁵ Patent Owner concedes that Fioravanti discloses storing initial syringe and vial weights, but there is no express teaching in Fioravanti to store other weight data from the gravimetric device. *See* PO Resp. 30 (citing Ex. 2010 ¶ 56; Ex. 2008 ¶¶ 75–78); *see also* Ex. 1017, 66:16–68:13 (Dr. Stevenson testifying that “current” weight in Figure 10 temporarily resides in display memory).

Figures 3–10 show “graphic interfaces displayed by the digital assistant appliance illustrated in FIG. 1 during preparation of the liquid pharmaceutical composition” where, for example, Figures 4 and 10, show a “[c]urrent camera image” of hypodermic syringe S2 on a scale with the respective instructions to “weigh a new empty syringe” and “[c]heck final syringe weight.” Ex. 1006 ¶ 18. Fioravanti’s Figure 10 is reproduced

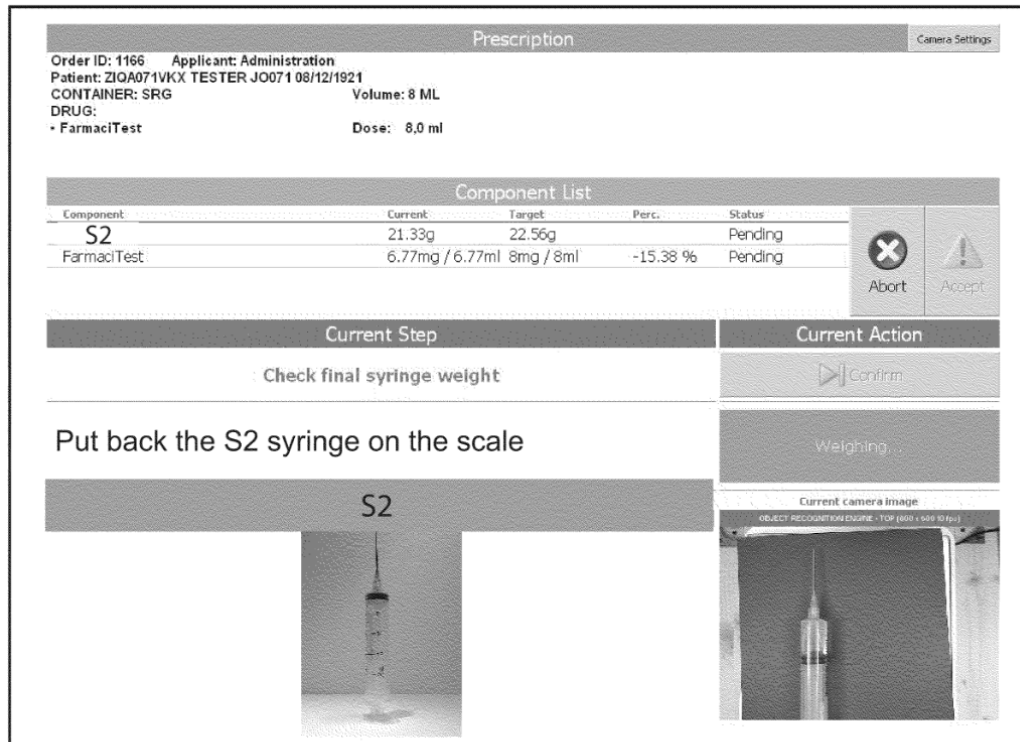


Fig. 10

below.

Figure 10 further shows the “current” and “target” weights of syringe S2 and the percent deviation (“Perc”) between the current and target weights of the drug composition contained therein. Fioravanti’s system, thus, calculates the weight of the syringe contents and notifies the operator to take up more liquid into the syringe, expel the excess amount, or print a label, depending on whether the contents weight is below, above, or within a set tolerance range. See Ex. 1006, Figs. 2, 10, ¶¶ 92–95.

In view of the above, Petitioner reasonably characterizes Fioravanti as disclosing a “system [that] aids drug dose preparation by comparing captured images and weights to . . . expected images and weights of the vial and syringe to ensure correct vessels are used and the correct dose is transferred between them.” Pet. 14 (citing Ex. 1006 ¶¶ 59–61, 73–74, 80–81, 84–85, 90–92, 95).

2. Independent Claim 1

a. Claim Limitations 1[a]–[h]

At pages 16–20 of the Petition, Petitioner asserts, in part, that Fioravanti discloses limitations 1[a]–[i] by disclosing:

[a] workstation 30 which corresponds to the recited “work station” (citing Ex. 1006 ¶¶ 1, 21);

[b] bottom portion of balance 7 which corresponds to the recited “base” (citing Ex. 1006 ¶ 22; Ex. 1007, Fig. 1);

[c] gravimetric control system 3, scale 8, and vial/syringe which corresponds to the recited “medication preparation staging region” and “medication receptacle” (citing Ex. 1006 ¶ 22; Ex. 1007, Fig. 1);

[d-e] camera/videocameras that acquire real-time images of the vial/syringe (cameras 9, 10), and different steps of preparation (camera 19), which correspond to the recited “imaging device” (citing Ex. 1006 ¶¶ 23, 33);

[f] processing system 6 comprising processing device 26 which corresponds to the recited “processor in operative communication with the scale” (citing Ex. 1006 ¶¶ 41, 60, 58, 59);

[g] user-interface system 5 comprising a user control device which corresponds to the recited “user control device” (citing Ex. 1006 ¶¶ 24, 35–

37, 41–43; Ex. 1007, Figs. 1–3, 7); and

[h] scale 8 which corresponds to the recited “scale” (citing Ex. 1006 ¶¶ 6, 22, 41, 68, 79, 84, 92).

Petitioner’s contentions are persuasive. Pet. 16–20. Patent Owner does not contest that Fioravanti discloses these limitations. PO Resp. 33–47.

b. Claim limitation 1[j]

Petitioner also asserts that Fioravanti’s capability to “captur[e] an image of the syringe or vial at substantially the same time as the scale weighs the syringe or vial” teaches the limitation requiring “the weight is recorded by the processor from the scale at substantially the same time as the capture of the medical dose preparation image.” Pet. 20–21.

Figure 2, with Petitioner’s annotations, is reproduced below.

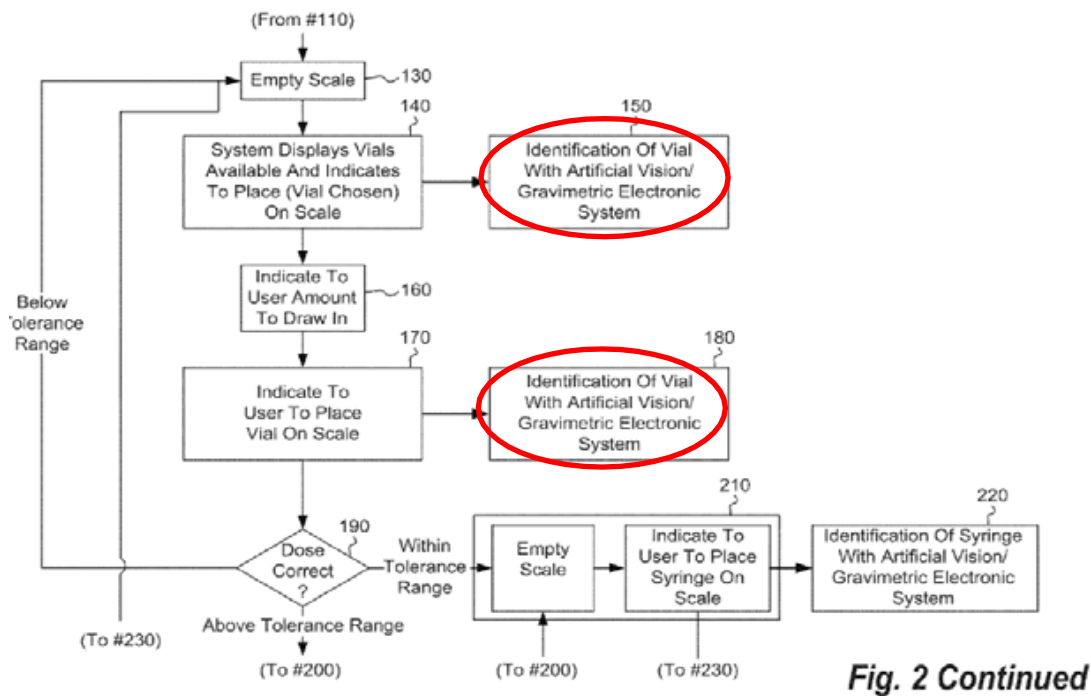


Fig. 2 illustrates a flowchart of the operation of the digital assistance

equipment. Ex. 1006 ¶ 17.

Referring to Figures 2 and 10 above, Petitioner contends, and we agree, that blocks 150 and 180 in the Fig. 2 flowchart illustrate that Fioravanti teaches “identification of vial with artificial vision/gravimetric electronic system” as a single step in the process, and the “merger of gravimetric (weight) and ‘artificial vision’ (photographic image) analysis into a single step indicates that the weighing and image capture are occurring at substantially the same time.” Pet. 21 (citing Ex. 1004 ¶¶ 38–39).

Patent Owner does not contest that Fioravanti discloses that the processor captures the weight and dose preparation images at substantially the same time in memory so they can be displayed in real-time, but argues that this weight and images are not *associatively stored* in memory so that they can be retrieved and reviewed at later time. PO Resp. 41 (arguing that “Figure 10’s simultaneous display of weight and real-time video from the syringe/vial recognition system cameras is not sufficient to disclose that a weight and image data are ‘associatively stored in the memory,’ particularly in view of the foregoing discussion that the memory claimed in the ‘693 Patent must be capable of associatively storing such data for later retrieval and review.”); *see also id.* at 19–26. We address the “associatively stored” limitation below.

c. Claim limitations 1[i]/1[k]

Claim limitation 1[i] recites a “memory in operative communication with the processor,” and limitation 1[k] recites that “the weight and the medical dose preparation image are *associatively stored* in the memory.” Ex. 1001, 26:17, 26:21–23. Petitioner asserts that (1) Fioravanti teaches this

limitation by disclosing that Fioravanti’s “‘medical prescriptions’ for each drug [are] stored in the database in ‘memory device 15’” and (2) “the processing system uses the image and weight data in association with each other to determine whether the steps of preparing a medication dose have been followed correctly.” Pet. 21–22 (citing Ex. 1006 ¶¶ 37–38, 59–61, 73–74, 80–85, 89–95). Petitioner further explains that a person of ordinary skill “would have understood from the teachings of Fioravanti that the processing system performs these comparisons of weight and image data for the steps of filling a particular prescription by storing and retrieving the data associated with the prescription from the database in memory device 15.” *Id.* at 22 (citing Ex. 1004 ¶¶ 32–34, 43–46).

Patent Owner argues that Fioravanti does not teach *associating* the weight and dose preparation images for a particular medication preparation. PO Resp. 44–45. According to Patent Owner, “[c]reating an association between the video and weight data of the type displayed in Figure 10 for later remote access and verification would require specific intent in the programming to do so, about which *Fioravanti* is entirely silent,” and “[t]hat *Fioravanti* is silent on this issue would signal to an ordinarily skilled person that that reference did not contemplate associating video and weight data.” *Id.* at 45 (citing Ex. 2010 ¶ 84).

We do not find Patent Owner’s argument persuasive. Although we agree with Patent Owner that Fioravanti does not teach storing weight and dose preparation images “for later retrieval and review,” Fioravanti does create an “association” between the weight and preparation images, at least temporarily for the real-time display. *See* Ex. 1006, Figs. 2, 10. Fioravanti discloses, for example, that “the processing system . . . calculates the

difference . . . between the weight PS2*b* of the syringe S2 measured subsequently to drawing-in of the active principle and the weight PS2*a* thereof measured prior to drawing-in.” Ex. 1006 ¶ 92. Based on this calculation, the system notifies the operator to take up more liquid into the syringe, expel the excess amount, or print a label. *See id.* at Fig. 2, ¶¶ 92–95. As illustrated in Figures 4 and 10, Fioravanti’s system also displays a “[c]urrent camera image” before and after inspiration of a pharmaceutical compound. *Id.* ¶ 18. Figure 10 further shows a current image of the hypodermic syringe in association with its current and target weight.

Patent Owner argues that such comparisons do not equate to an “association,” but does not explain how the system could use the image data in association with the weight data without, at some point, having that data associated together in memory. *See* PO Resp. 44–45. Dr. Young, for example, testifies that:

Fioravanti teaches that the processing system 6 measures and stores the weight measured by the gravimetric control system 4. (*See, e.g.*, Ex. 1006 at 0079.) Fioravanti also provides that processing system 6 includes a memory device 15, which can be used to store image data and medical prescriptions. (*See, e.g., id.* at 0033, 0036.) As discussed, Fioravanti teaches that the processing system uses the image and weight data in association with each other to determine whether the steps of preparing a medication dose have been followed correctly. (*See, e.g., id.* at 0059–61, 0073–74, 0080–81, 0084–85, 0090–92, 0095.)

Ex. 1004 ¶ 33. That the image and weight data were stored, and subsequently identified by the processing system as associated with a single medication receptacle or dose order, is sufficient to establish that they are “associated” together. Accordingly, we agree with Petitioner and find that

Fioravanti “teaches that the processing system uses the image and weight data in association with each other to determine whether the steps of preparing a medication dose have been followed correctly.” Pet. 22 (citing Ex. 1006 ¶¶ 37–38, 59–61, 73–74, 80–85, 89–95).

In section III.B.iv above, we construed “associatively stored in the memory” in the context of limitation 1[k], to mean that data for a particular medication receptacle (e.g., a vial or syringe) is stored in memory such that the processor can match that data to the medication receptacle or relevant dose order, and wherein the memory is capable of storing data for a duration sufficient to allow for remote access and verification, i.e., beyond local real time display. Applying this construction, we agree with Patent Owner that Petitioner has not established that Fioravanti anticipates claim 1 of the ’693 patent.

Although Fioravanti discloses that the processor captures the weight and dose preparation images at substantially the same time in memory so they can be displayed in real-time, for example, on the display shown in Figures 3–10 of Fioravanti (*see* Ex. 1006, Figs. 2, 10), we agree with Patent Owner that these weight and images are not associatively stored in memory so that they can be retrieved and reviewed at later time, or that the memory is even *capable* of storing data for a duration sufficient to allow for remote access and verification, as required under our construction. *See, e.g.*, PO Resp. 41 (arguing that “Figure 10’s simultaneous display of weight and real-time video from the syringe/vial recognition system cameras is not sufficient to disclose that a weight and image data are ‘associatively stored in the memory,’ particularly in view of the foregoing discussion that the memory claimed in the ’693 Patent must be capable of associatively storing such data

for later retrieval and review.”); 44 (arguing the simultaneous display of weight and image data in Fioravanti’s Figure 10 does not equate to “associatively stored”), *see also id.* at 19–26.

Thus, we agree with Patent Owner that Fioravanti stores weights so that it may “compar[e] the stored weights to other weights during dose preparation” (*id.* at 47 (citing Ex. 2010 ¶ 58; Ex. 2008 ¶ 96)), and the “stated purpose in *Fioravanti* for the storage and transmission of the video film is to enable viewing at the remote-surveillance station of the operations carried out at the workstation” (*id.* (quoting Ex. 2010 ¶ 86)). Petitioner does not identify any explicit teaching in Fioravanti that any image or video from cameras 9, 10, or 19, including the real-time images displayed in Figures 3–10, are stored, or could be stored, for later retrieval and review. Pet. 13–26; Reply 8–12.

d. Conclusion

For these reasons, Petitioner has not shown by a preponderance of the evidence that claim 1 is unpatentable as anticipated by Fioravanti.

3. *Dependent Claims 2, 3, 5–7, 15, and 17*

Petitioner provides a detailed analysis explaining where Fioravanti teaches the limitations in claims 2, 3, 5–7, 15, and 17, which depend from independent claim 1. Pet. 22–26. Patent Owner argues that, if independent claim 1 is not anticipated by Fioravanti, depending claims 2, 3, 5–7, 15, and 17 cannot be anticipated by Fioravanti. PO Resp. 48. Patent Owner is correct. Petitioner has not shown by a preponderance of the evidence that claims 2, 3, 5–7, 15, and 17 are unpatentable as anticipated by Fioravanti.

4. Conclusion as to Ground 1

For the reasons discussed above, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–3, 5–7, 15, and 17 are anticipated by Fioravanti.

E. Ground 2: Obviousness in View of Fioravanti

In Ground 2, Petitioner asserts that claims 1–12 and 15–19 would have been obvious in view of Fioravanti. Pet. 26–31. In support, Petitioner relies on its claim chart as to claims 1–3, 5–7, 15, and 17 in Ground 1 and further provides a detailed claim chart mapping the teachings of Fioravanti to the elements of dependent claims 4, 8–12, 16, 18, and 19. *Id.* at 26–31. Patent Owner opposes. PO Resp. 49–53. For the reasons discussed below, we find that Petitioner has shown by a preponderance of the evidence that claims 1–12 and 15–19 are unpatentable as obvious over Fioravanti.

1. Claim 1

As discussed in Ground 1, Petitioner has shown that Fioravanti teaches all of the limitations of claim 1 except for limitation 1[k], which requires “the weight and the medical dose preparation image are associatively stored in the memory.” Petitioner, relying on the testimony of Dr. Young, contends that:

To the extent that Fioravanti does not explicitly teach associatively storing a captured image and weight measurement of a syringe or vial (*see* element 1k), it would have been obvious from Fioravanti’s teaching to store these pieces of information together as part of the database record for a medication dose order.

Pet. 27 (citing Ex. 1004 ¶¶ 32–34, 43–46). Having reviewed the competing testimony and evidence of record, we agree with and credit Dr. Young’s

testimony that it would have been obvious to “associatively store” the weight and medical dose preparation image information. Petitioner’s reasoning is sufficiently articulated and supported by rational underpinnings. *KSR*, 550 U.S. at 418.

Dr. Young testifies, and we agree, that “Fioravanti teaches utilizing a scale and camera or video camera to provide several verification checks during the preparation of a medical dose order.” Ex. 1004 ¶ 32 (citing Ex. 1006 ¶¶ 22–23). He explains how Fioravanti uses syringe samples images to ensure that the correct vial is used:

First, the operator places a syringe on the scale and “the artificial viewing system 4 identifies the syringe by comparing the image of the syringe acquired by the top videocamera 9 . . . with the syringe sample images associated to the types of syringe S1 and S2” to determine whether the operator placed the correct syringe on the scale. ([Ex. 1006 ¶] 0059–61.) Then, the operator removes the syringe and places a vial on the scale so that the artificial viewing system 4 can capture an image of the vial and compare it to a sample vial image to determine the presence of the correct vial. (*Id.* at 0073–74.)

Ex. 1004 ¶ 32.

Dr. Young also explains how Fioravanti ensures that the correct weight of the prescribed dose is achieved:

After the operator has drawn a dose of the medication from vial F2 using syringe S2, the operator utilizes the system to measure the weight of the vial, and the system confirms whether the difference between the two weight measurements of the vial corresponds to the weight of the prescribed dose. ([Ex. 1006 ¶¶] 0080–81, 0084–85.) If the difference in the weight is within a tolerance range, the operator removes the vial and places the syringe on the scale. The system again performs an image analysis confirmation to ensure the correct syringe was placed on the scale, and then weighs the syringe

to determine if the difference in the two syringe weight measurements corresponds to the weight of the prescribed dose. (*Id.* at 0090–92, 0095.) The procedure described by Fioravanti in sequentially weighing the medication containers is one that would have been known and commonly used to compound pharmaceuticals during the relevant time frame.

Ex. 1004 ¶ 32.

Dr. Young testifies that Fioravanti “teaches that the processing system 6 measures and stores the weight measured by the gravimetric control system 4,” and this “processing system 6 includes a memory device 15, which can be used to store image data and medical prescriptions.” *Id.* ¶ 33 (citing Ex. 1006 ¶¶ 79, 33, 36). He states that “Fioravanti teaches that the processing system uses the image and weight data in association with each other to determine whether the steps of preparing a medication dose have been followed correctly.” *Id.* (citing Ex. 1006 ¶¶ 59–61, 73–74, 80–81, 84–85, 90–92, 95).

Dr. Young further testifies that, “[t]o determine whether the correct amount of medication has been drawn into a syringe, the system would need to have a reference or target weight,” and a “common way to provide such a value during the relevant time frame would have been for the scale to be connected to a pharmacy system or database that included the medication order.” Ex. 1004 ¶ 34. Dr. Young reasons that a person of ordinary skill in the art would have understood from the teachings of Fioravanti that “the processing system performs these comparisons of weight and image data for the steps of filling a particular prescription by storing and retrieving the data associated with the prescription from the database in memory device 15.” *Id.*

In light of Dr. Young’s testimony, it would have been obvious to a

person of ordinary skill in the art to store data for a particular medication receptacle (e.g., a vial or syringe) in memory so that the processor can match that data to the medication receptacle or relevant dose order for a duration sufficient to allow for remote access and verification, i.e., beyond local real time display, as recited in claim limitation 1[k]. According to Dr. Young, for example, Fioravanti's "memory device 15 . . . comprises a database designed to contain the medical prescriptions associated to the pharmaceutical compositions to be administered to the patients." Ex. 1004 ¶ 43 (citing Ex. 1006 ¶ 36). Dr. Young states, and we agree, that a person of ordinary skill in the art would have understood from the teachings of Fioravanti that "memory device 15 can be used to store and retrieve the data associated with the prescription," and "would have expected information related to a prescription to become part of the pharmacy record for preparing the medication dose order." *Id.* Thus, "it would have been at least obvious for a person of ordinary skill in the art to store such captured information as part of the record for the medication dose order." *Id.*

We also credit Dr. Young's testimony that the "captured data described by Fioravanti would have been typical of the data captured in the process of compounding pharmaceuticals during the relevant time frame," and a person of ordinary skill in the art would have understood that "pharmacy systems and other electronic health records would capture various data regarding a medical dose order from connected systems and peripherals." Ex. 1004 ¶ 44. He reasons that a person of ordinary skill in the art would have understood that "the captured weight and images can be stored in memory device 15 as data corresponding to the dose order," and "[a]t a minimum, it would have been obvious to a person of ordinary skill in

the art to do so based on the teachings of Fioravanti.” *Id.*

We agree with Dr. Young’s articulated reasoning. Fioravanti already teaches to store in memory, at least temporarily for the real-time display, associated images and weight related to medication dose preparation. *See, e.g.,* Ex. 1006, Fig. 10. Moreover, as discussed in Ground 1 above, Fioravanti further teaches that memory device 15 may contain a medical prescription database, image data of syringes and vials for comparison with the syringe or vial positioned on scale 8, and weight data regarding the positioned syringe or vial. We also agree with Dr. Young that the weight and image data captured in Fioravanti’s process of compounding pharmaceuticals also would be useful to pharmacy systems and other electronic health records, and a person of ordinary skill in the art “would have expected information related to a prescription to become part of the pharmacy record for preparing the medication dose order.” Ex. 1004 ¶¶ 43–44.

Patent Owner does not address persuasively Dr. Young’s articulated reasoning or show why it lacks rational underpinning, or persuasively explain why it would not have been obvious to an ordinary skilled artisan to store Fioravanti’s data for a particular medication receptacle in memory for a duration sufficient to allow for remote access and verification, i.e., beyond local real time display. PO Resp. 49–53. First, Patent Owner argues that “the six paragraphs from Dr. Young’s declaration cited in the Petition say nothing about associative storage.” PO Resp. 52 (citing Ex. 1004 ¶¶ 32–34, 43–46). Patent Owner further argues that, at most, “Dr. Young opines about *Fioravanti*’s alleged teachings of associated ‘use’ (Ex. 1004 ¶ 33) and data comparisons (Ex. 1004 ¶ 34),” and “Dr. Young’s careful wording (and

avoidance of the claim term ‘storage’) is telling, and is insufficient to show the purported obviousness of claim 1.” PO Resp. 52. Patent Owner’s arguments are not persuasive because, as discussed above, Dr. Young persuasively explains that a person of ordinary skill in the art would have understand that Fioravanti’s “memory device 15 can be used to store and retrieve the data associated with the prescription,” and “would have expected information related to a prescription to become part of the pharmacy record for preparing the medication dose order.” Ex. 1004 ¶¶ 43–44.

Second, Patent Owner argues that an ordinarily skilled person reading Fioravanti would not be motivated to store image data in association with weight data in light of “a) the different purposes for storing weight and image data; b) the storage of weight and image data at different locations; c) and the absence of any mention of the discrete programming necessary to associate weight data with the video data displayed in Figure 10 at a later time.” PO Resp. 50–51 (citing Ex. 2010 ¶ 87; *see also* Ex. 2008 ¶¶ 98–101). Patent Owner similarly argues that only through hindsight would one of ordinary skill in the art modify Fioravanti to arrive at the claims of the ‘693 patent. *Id.* at 51–52 (citing Ex. 2008 ¶ 100). Dr. Brittain, Patent Owner’s expert, testified this would involve five “non-trivial” changes as follows:

- (1) chang[ing] which camera view is being stored in the memory (from camera 19 to cameras 9/10), so that it is of the medication receptacle that is supportably disposed in the medication preparation staging region (since the actual view and angle of camera 19 is unknown); (2) determining what weight data to store, e.g., whether the stored weight data includes discrete weight(s), a continuous stream of weights, one or more weight calculations, or combinations of those, and then how to store the weight data; (3) implement[ing] storing of the weight data that is being output from the scale; (4)

determining how the weight data will be stored in relation to the output from cameras 9/10, such that they can be retrieved later; and (5) associatively stor[ing] the weight data with the output from cameras 9/10.

Ex. 2008 ¶ 100. Dr. Brittain, however, testified that these five items are “non-trivial” because “they are significantly different than what is described by Fioravanti,” and “that’s not something that would happen by accident.” Ex. 1018, 75:5–20.

We do not find Dr. Brittain’s testimony persuasive because he does not address Dr. Young’s testimony that Fioravanti already teaches storing, at least temporarily for real-time displays, images and weight in memory. *See* Ex. 1004 ¶ 34; Ex. 1006, Fig. 10. Similarly, Dr. Brittain does not address Dr. Young’s testimony that it would have been obvious to an ordinary skilled artisan “to store and retrieve the data associated with the prescription,” and “would have expected information related to a prescription to become part of the pharmacy record for preparing the medication dose order.” Ex. 1004 ¶¶ 43–44. Patent Owner’s “hindsight” argument (PO Resp. 52) is similarly unpersuasive because Patent Owner does not address Petitioner’s articulated reasoning which we found, as discussed above, is supported by rational underpinning.

Finally, Patent Owner argues that “*Fioravanti* lacks an express teaching of associative storage, and [] Dr. Young has failed to provide any evidence that such feature would have been obvious to one ordinarily skilled in the art reading that reference.” PO Resp. 52. Patent Owner’s arguments are not persuasive because an express teaching or motivation in *Fioravanti* is not required. *KSR*, 550 U.S. at 418. Instead, Petitioner need only articulate a reason to combine the references with some rational underpinning to

support the legal conclusion of obviousness. *Id.* As discussed above, we find ample evidence of such in the record.

Petitioner has shown by a preponderance of the evidence that independent claim 1 is unpatentable as obvious in light of Fioravanti.

2. Claim 2

Claim 2 recites a work station “wherein the processor is operable to compare the weight to an anticipated weight of the medication receptacle.” Ex. 1001, 26:24–26. Petitioner contends that Fioravanti teaches this limitation by disclosing that “if the correct syringe has been selected, the processing system calculates an anticipated weight of the syringe after it has drawn in the medicant.” Pet. 22–23 (citing Ex. 1006 ¶¶ 68, 92, claim 4; Ex. 1007, Fig. 10). Petitioner explains that “[o]nce the syringe has drawn the medicant and has been placed on the scale for a weight measurement, ‘the processing system 6’” compares the actual weight with desired weight. *Id.* Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 2 is unpatentable as obvious in light of Fioravanti.

3. Claim 3 and 5

Claim 3 recites a work station “wherein the processor is operable to calculate a deviation of the weight to the anticipated weight.” Ex. 1001, 26:27–29. Claim 5 recites a work station “wherein the deviation is compared to a threshold deviation, and wherein when the deviation exceeds a threshold deviation, an alert is provided to a user.” *Id.* at 26:33–36.

Petitioner contends that Fioravanti teaches these limitations by

disclosing the “**difference in weight** DPS is less than the preset **minimum threshold** SPTOLmin, the processing system 6 **communicates to the operator a [sic] assistance preparation message** indicating a condition of underdosing of active principle in the syringe S2.” Pet. 23–24 (citing Ex. 1006 ¶ 93). Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that this limitation is taught by Fioravanti. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claims 3 and 5 are unpatentable as obvious in light of Fioravanti.

4. Claim 4

Claim 4 recites a work station “wherein the deviation is associatively stored in the memory with the weight and the medical dose preparation image.” Ex. 1001, 26:30–32. Petitioner contends that Fioravanti suggests this limitation because it would have been obvious a person of ordinary skill in the art “to store the calculated deviation in the same database in memory device 15 that stores the weight measurements and captured images for a particular drug prescription.” Pet. 27 (citing Ex. 1004 ¶¶ 47–48).

Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 4 is unpatentable as obvious in light of Fioravanti.

5. Claim 6

Claim 6 requires that, “the base, the imaging device, and the scale are interconnected for movement as a single unit.” Ex. 1001, 26:37–40.

Petitioner contends that Fioravanti’s appliance is “designed to be *set* in a

workstation 30,” and that Dr. Young testifies that the Fioravanti system includes components such as the gravimetric control system 3 and artificial viewing system 4 that are part of a “digital assistant appliance 1” designed to be set in a workstation. Reply 11–12 (citing Ex. 1006 ¶¶ 21–23; Ex. 1004 ¶ 40). Dr. Young then explains that an ordinary skilled artisan would have understood this to mean the Fioravanti device was “a single appliance” and “would have been assembled to move as a single unit.” Ex. 1004 ¶ 40; MPEP §2144.04(V)(B) (9th ed. rev. 08.2017 Jan. 2018) (citing *In re Larson*, 340 F.2d 965, 968 (CCPA 1965) (holding the use of one piece construction would be “a matter of obvious engineering choice”)).

Patent Owner argues that Petitioner’s reliance on paragraphs 22 and 23 of Fioravanti (Pet. 24), does not mention “the components being configured as a single unit.” PO Resp. 48 (citing Ex. 1007, Fig. 1). According to Patent Owner, Fioravanti “shows each camera as a separate and discrete component from the rest of the system,” and an “ability to move the workstation is not contemplated in Fioravanti, nor is the use of a hood.” *Id.*

Petitioner’s contentions are persuasive. We do not agree with Patent Owner that there is no indication that there were prior art systems available that interconnected all of the component into a single unit. PO Resp. 48. We agree with Dr. Young that a person of ordinary skill in the art “would have understood that because the systems were part of a single appliance, designed to be set in a single workstation, the system would have been assembled so that it could be moved as a single unit” because “[d]oing so would allow the system to easily be moved, for example, to clean it or to be used under a laminar flow hood, if one was required during compounding.”

Id. (citing Ex. 1004 ¶ 40). We find that Dr. Young’s articulated reasoning has rational underpinning. *KSR*, 550 U.S. at 418.

Thus, Petitioner has shown by a preponderance of the evidence that claim 6 is unpatentable as obvious in light of Fioravanti.

6. Claim 7

Claim 7 recites a work station “wherein the scale is included in the base.” Ex. 1001, 26:41–42. Petitioner contends that Fioravanti teaches this limitation by disclosing that “the gravimetric control system 3 comprises **an electronic precision balance 7** provided with a **scale 8** set on a horizontal surface, rested on which are, during preparation of the composition, a vial and/or a syringe to be weighed.” Pet. 25 (citing Ex. 1006 ¶ 22; *see also* Ex. 1007, Fig. 1). Petitioner also reasons that a person of ordinary skill in the art would have understood that “the bottom portion of balance 7 is its base, which includes and supports scale 8.” *Id.* (citing Ex. 1004 ¶ 30). Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 7 is unpatentable as obvious in light of Fioravanti.

7. Claim 8

Claim 8 recites [a] “a work station according to claim 1 further comprising: a housing, wherein the imaging device is located at least partially within the housing; and, [b] a support member extending between the base and the housing for supportably disposing the imaging device relative to the base.” Ex. 1001, 26:43–49. Petitioner contends that Fioravanti discloses cameras having external housing as recited in claim

limitation 8[a]. Pet. 28 (citing Ex. 1007, Fig. 1). As to claim limitation 8[b], Petitioner contends that Fioravanti teaches that “top photographic camera or videocamera 9 . . . is set above the scale 8 of the electronic balance 7 in such a way as to acquire images containing the view from above of the vial or of the syringe set on the scale 8[.]” *Id.* (citing Ex. 1006 ¶ 23). According to Petition, it would have been obvious to a person of ordinary skill in the art “to attach the top camera to a supporting structure extending above the base of the balance in order to position the camera as described in Fioravanti.” *Id.* (citing Ex. 1004 ¶ 51). Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 8 is unpatentable as obvious in light of Fioravanti.

8. Claim 9

Claim 9 recites a work station “wherein the base, the imaging device, and the scale are interconnected for movement as a single unit.” Ex. 1001, 26:50–52. Petitioner contends that Fioravanti teaches this limitation by disclosing that “‘gravimetric control system 3’ (which includes ‘electronic precision balance 7,’ of which the ‘base’ is a part) and ‘artificial viewing system 4’ (which includes the cameras) are both part of ‘digital assistant appliance 1 [, which] is designed to be set in a workstation 30[.]’” Pet. 28–29 (citing Ex. 1006 ¶ 22–23). According to Petitioner, a person of ordinary skill in the art would have understood that, “because the entire system described by Fioravanti was a single ‘appliance’ that was designed to be ‘set’ in a workstation, the system was assembled as a single unit that could be moved (and set down) together.” *Id.* at 29 (citing Ex. 1004 ¶ 40).

Petitioner's contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 9 is unpatentable as obvious in light of Fioravanti.

9. Claim 10

Claim 10 recites a work station comprising “an umbilical at least partially disposed within the support member, wherein the umbilical includes at least one of a signal communication path and a power communication path.” Ex. 1001, 26:53–58. Petitioner contends that Fioravanti teaches this limitation by disclosing that “the processing system is in communication with top camera 9.” Pet. 29 (citing Ex. 1006 ¶¶ 42, 58–59). According to Petitioner, it would have been obvious to a person of ordinary skill in the art “to connect the top camera to the processing system with a well-known peripheral cable, such as a USB cable, that provides power to the camera and establishes a communication path between the camera and the processing system.” *Id.* (citing Ex. 1004 ¶ 51). Petitioner's contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 10 is unpatentable as obvious in light of Fioravanti.

10. Claim 11

Claim 11 recites a work station comprising “at least one light source disposed in the housing, wherein the at least one light source is operable to emit light from the housing in a direction toward the medication preparation

staging region.” Ex. 1001, 26:59–64. Petitioner contends that Fioravanti teaches this limitation because Figure 1 illustrates “the top camera 9 has a set of light sources around the camera aperture, and aimed in the same direction as the camera aperture.” Pet. 29 (citing Ex. 1007, Fig. 1). Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 11 is unpatentable as obvious in light of Fioravanti.

11. Claim 12

Claim 12 recites a work station “wherein the housing includes an opening, wherein the imaging device is disposed in a central region of the opening and a peripheral region extends about the central region, and wherein a plurality of light sources are disposed in the peripheral region.” Ex. 1001, 26:65–27:3. Petitioner contends that Fioravanti teaches this limitation because the “camera aperture shown as part of top camera 9 in Figure 1 is located at the center of the opening at the front of the camera housing, with the light emitters arranged in a circle around the periphery of the camera aperture.” Pet. 30 (citing Ex. 1007, Fig. 1). Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 12 is unpatentable as obvious in light of Fioravanti.

12. Claim 15

Claim 15 recites a work station “wherein the base comprises: a support platform at least partially defining the medication preparation staging region.” Ex. 1001, 27:15–18. Petitioner contends that Fioravanti teaches this limitation by disclosing that “the gravimetric control system 3 comprises an electronic precision balance 7 provided with a scale 8 set on a horizontal surface, rested on which are, during preparation of the composition, a vial and/or a syringe to be weighed.” Pet. 25 (citing Ex. 1006 ¶ 22). Petitioner contends that a person of ordinary skill in the art would have understood that “the bottom portion of balance 7 is its base, which supports scale 8, including its top surface (*i.e.*, ‘support platform’).” *Id.* (citing Ex. 1004 ¶ 30). Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 15 is unpatentable as obvious in light of Fioravanti.

13. Claim 16

Claim 16 recites a work station “wherein the base further comprises: a platform base, wherein the support platform is removably disposed relative to the platform base.” Ex. 1001, 28:1–4. Petitioner contends that Fioravanti discloses this limitation by disclosing that, “[d]uring medical dose preparation, sterilization and cleanliness are critically important,” and a person of ordinary skill in the art would have understood and found obvious that “the platform upon which medication doses are prepared should be removed for periodic cleaning and could have been removably attached through any known conventional means.” Pet. 30 (citing Ex. 1004 ¶¶ 49–

50). Petitioner's contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 16 is unpatentable as obvious in light of Fioravanti.

14. Claim 17

Claim 17 recites a work station “wherein the base comprises: a platform base, wherein the scale is included in the platform base.” Ex. 1001, 28:5–9. Petitioner contends that Fioravanti teaches this limitation by disclosing that “the gravimetric control system 3 comprises **an electronic precision balance 7** provided with a scale 8 set on a **horizontal surface, rested on which are, during preparation of the composition, a vial and/or a syringe to be weighed.**” Pet. 25–26 (citing Ex. 1006 ¶ 22; *see also* Ex. 1007, Fig. 1). According to Petitioner, a person of ordinary skill in the art would have understood that “the bottom portion of balance 7 would have included a platform base, which supports the platform.” *Id.* at 26 (citing Ex. 1004 ¶ 30). Petitioner's contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 17 is unpatentable as obvious in light of Fioravanti.

15. Claim 18

Claim 18 recites a work station “wherein the scale comprises load cells disposed in the platform base.” Ex. 1001, 28:10–11. Petitioner contends that a person of ordinary skill in the art would have understood that “an electronic scale includes one or more load cells to sense the weight

placed on it,” and “including load cells (weight sensors) in the scale would have been obvious to a person of ordinary skill in the art.” Pet. 30 (citing Ex. 1004 ¶ 31). Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 18 is unpatentable as obvious in light of Fioravanti.

16. Claim 19

Claim 19 recites a work station “comprising: a support platform defining the medication preparation staging region, wherein the load cells are disposed adjacent to the support platform.” Ex. 1001, 28:12–16. According to Petitioner, the ’693 patent specification states that “[t]he scale may comprise load cells disposed in the platform base 254 [i.e., at each foot 258 of the platform base 258 or adjacent to where the support platform 256 is supported.” Pet. 30–31 (citing Ex. 1001, 24:26–29). Petitioner contends that it would have been obvious to a person of ordinary skill in the art to position the “load cells of the scale adjacent to the points where the top surface of the scale (*i.e.*, the ‘support platform’) is supported by the base of the balance, because the purpose of the load cells (and the scale) is to measure the weight of the item sitting on the top surface.” *Id.* at 31 (citing Ex. 1004 ¶ 31). Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Fioravanti teaches this limitation. PO Resp. 49–53.

Petitioner has shown by a preponderance of the evidence that claim 19 is unpatentable as obvious in light of Fioravanti.

17. Conclusions as to Ground 2

For the reasons discussed above, we find that Petitioner has shown by a preponderance of the evidence that claims 1–12 and 15–19 are unpatentable as obvious over Fioravanti.

F. Ground 3: Obviousness in View of Fioravanti and Alexander

In Ground 3, Petitioner challenges claims 1–12 and 15–19 as obvious over the combination of Fioravanti and Alexander. Pet. 31–44. In support, Petitioner provides rationale to combine the teachings of Fioravanti and Alexander (*see, e.g., id.* at 32–34) and a detailed claim chart mapping the teachings of the asserted references to the challenged claims (*id.* at 34–44). Patent Owner opposes. PO Resp. 54–67. We have reviewed the evidence of record including the Petition and Petitioner’s expert declarations, and Patent Owner’s arguments and evidence, including its experts’ declarations. For the reasons discussed below, we are persuaded that Petitioner has shown by a preponderance of the evidence that claims 1–12 and 15–19 are unpatentable as obvious over Fioravanti and Alexander. Below, we present an overview of Alexander, address whether Alexander is prior art, and then we address Petitioner’s and Patent Owner’s contentions for this obviousness ground in detail.

1. Overview of Alexander (Ex. 1008)

Alexander is titled “System and Method for Remotely Supervising and Verifying Pharmacy Functions,” and issued on February 12, 2013. Ex. 1008, codes (54), (45).

Alexander discloses an application of telepharmacy in which a pharmacist can remotely direct and oversee the compounding of a patient’s

medication. *Id.* at code (57). In particular, Alexander discloses a system and method:

for providing certain pharmacy services to institutionalized patients at an institution where a live pharmacist is not available. The institutional pharmacy and a remotely located pharmacist are linked via wired or wireless telecommunication systems in a manner that enables the pharmacist to remotely supervise and verify that pharmacy functions are properly performed by non-pharmacist personnel.

Ex. 1008, 2:13–20; *see id.* at code (57). The disclosed system includes an image capture device located in the institutional pharmacy . . . to capture images of work performed by non-pharmacist personnel. The image(s) and corresponding documentation are transmitted from the institutional pharmacy to a remotely located computer system, where a pharmacist supervises and verifies the work, and subsequently authorizes non-pharmacist personnel to further process the work.

Id. at 2:46–53. In one aspect, the system is illustrated by Figure 5, reproduced below.

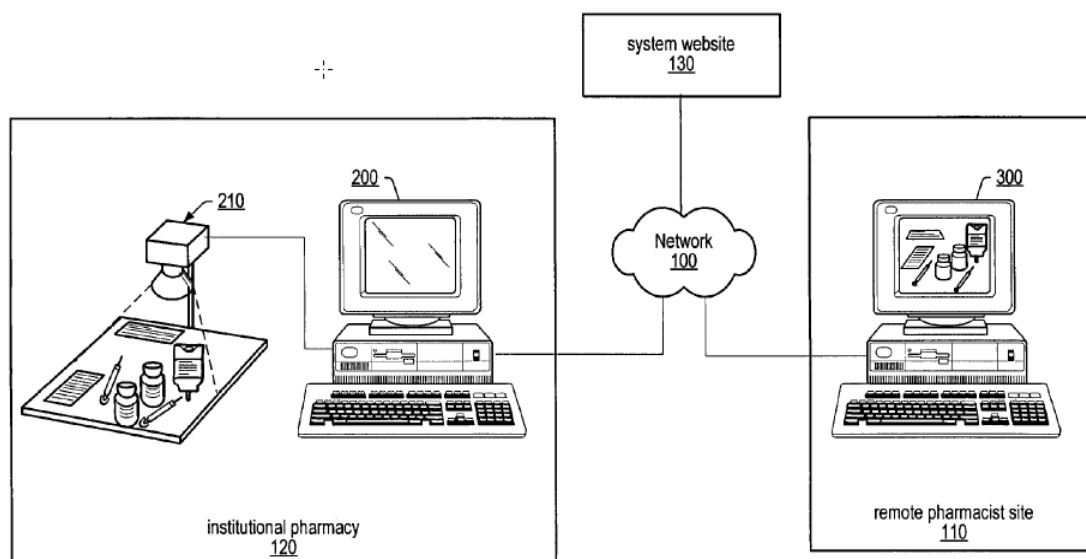


FIG. 5

Figure 5 depicts “an exemplary system for remotely supervising and verifying pharmacy functions,” wherein

an image captured on image capture device 210 at institutional pharmacy 120 being sent and viewed at remote pharmacist site 110, in one embodiment. For example, a nurse, or other non-pharmacy personnel, at institutional pharmacy Site 120 may enter the pharmacy and compound a sterile intravenous product that was ordered for a patient after pharmacy hours and was not available outside of the pharmacy department. A pharmacist may have entered the medication order into the patient's medication profile and may also have generated a label for the intravenous product via the pharmacy's order entry software. According to one embodiment, after visually inspecting the final product, such as for particulate matter, the nurse may place the labeled sterile intravenous product, with label and base solution content clearly visible, on image capture device 210's display area.

* * *

The captured image(s) may be transmitted from the workstation at institutional pharmacy 120 to system website 130 and may be downloaded by a workstation at remote pharmacist site 110, . . . A pharmacist at remote pharmacist site 110 may view the pharmacy work performed at institutional pharmacy 120, as well as any other information necessary to conduct process checks and verify that the medication in the captured image(s) was correctly and accurately prepared, labeled, compounded, and/or packaged.

Ex. 1008, 3:1–2; 9:55–10:3, 10:26–47.

In some embodiments, “[s]erver 700 may also provide an interface for review of images by pharmacists.” *Id.* at 14:11–12. “[I]mages may be transmitted via FTP or another network file transfer protocol,” and “[s]erver 700 may then store the received images for later access by a remote pharmacist. In some embodiments, the images may be associated with a job or task identifier that may be used by a pharmacist to reference the images

for review.” *Id.* at 14:5–10. “Server 700 may store received images in any of variety of manners and formats, . . . Images may be stored as individual files on a file server, as records in an image database, or multiple images may be compacted and stored together in a single file, such as in a .ZIP file.” *Id.* at 15:14–21.

2. *Prior Art Status of Alexander*

Before the Institution Decision, Petitioner asserted that Alexander is prior art under 35 U.S.C § 102(g)(2) and 102(e). Pet. 5. In the Institution Decision, we found that Alexander is prior art under § 102(e)(2), not §§ 102(g)(2) or 102(e)(1). Paper 12, 32. Patent Owner maintains that Alexander is not prior art under § 102(e)(2). PO Resp. 54–61; Sur-reply 20–21.

Under 35 U.S.C § 102(e), a person shall be entitled to a patent “unless the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent . . . or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent” With respect to 35 U.S.C § 102(e)(2), Patent Owner does not dispute that Alexander issued on February 12, 2013 from a U.S. application filed on February 11, 2005—before the earliest filing date of the ’693 patent. Ex. 1008, codes (22), (45). Instead, Patent Owner raises the novel argument that, because all of Alexander’s claims were found unpatentable in IPR2015-00883—and subsequently cancelled—Alexander no longer qualifies as a “granted” patent pursuant to the statute. *See* PO Resp. 54–58; Sur-reply 20–21; Ex. 2005, 399–400 (*Inter Partes* Review Certificate dated February 15, 2018, cancelling claims 1–27 of Alexander).

In other words, Patent Owner argues that, not only is Alexander unenforceable, but the cancelation of claims retroactively stripped it of any prior art status. *See, e.g.*, PO Resp. 54–58. Patent Owner cites to *Fresenius*, as evidence of “Congressional intent that claims so canceled be void *ab initio*” (*see id.* at 55 (citing *Fresenius USA, Inc. v. Baxter Intern., Inc.*, 721 F.3d 1330, 1346 (Fed. Cir. 2013))). But the passage Patent Owner relies on is directed to the retroactive effect of cancellation on enforceability rather than on the prior art. The same applies to Patent Owner’s citation to *Peck v. Collins*, 103 U.S. 660, 664 (1880) as stating “[t]he patentee was in the same situation as he would have been if his original application for a patent had been rejected.” PO Resp. 55. Patent Owner’s reliance on *Oil States* and *Cuozzo* is similarly misplaced because neither case addresses the prior art status of a cancelled patent. *Id.* at 57 (citing *Oil States Energy Servs., LLC v. Greene’s Energy Grp., LLC*, 138 S. Ct. 1365, 1374 (2018); *Cuozzo Speed Tech., LLC v. Lee*, 136 S. Ct. 2144 (2016)).

Contrary to Patent Owner’s argument, with respect to their prior art effect, “The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain.” *In re Lemelson*, 397 F.2d 1006, 1009 (CCPA 1968). Accordingly, we do not find Patent Owner’s arguments persuasive. We, instead, adopt the reasoning set forth on pages 13–15 of the Reply. As Petitioner states,

[A] patent application acts a “self-authenticating instrument establishing a date of disclosure” that is later publicized by the PTO through either a published application or through the issuance of a granted patent.

Reply 14–15. Accordingly,

[w]hen Alexander filed her patent application on February 11, 2005, she delivered a self-authenticating instrument to the PTO, establishing a disclosure date for everything it taught. When the PTO issued the Alexander patent, it engaged in a “publication event” that delivered Alexander’s disclosure to the public. From that moment on, Alexander’s prior art status was set.

Inst. Dec. 32. Patent Owner’s attempt to remove Alexander as prior art because its claims were subsequently invalidated is contrary to public policy and the case law relied on by Petitioner in the Reply.

Further,

Section 103 forbids issuance of a patent when “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious *at the time the invention was made* to a person having ordinary skill in the art to which said subject matter pertains.”

KSR, 550 U.S. at 406 (emphasis added). Accordingly, the scope and content of prior art is measured as of the filing date of the challenged invention.

In the present case, Patent Owner contends, and Petitioner does not contest, that the critical date for the ’693 patent is no later than October 26, 2012, the filing date of its provisional application. Ex. 1001, code (60); *see* PO Resp. 60. Patent Owner does not dispute that Alexander was filed on February 11, 2005,⁶ before the critical date of the ’693 patent, and that Alexander’s claims were not cancelled until long after that critical date, on February 15, 2018. Accordingly, one of ordinary skill in the art as of the

⁶ Patent Owner’s reliance on the issue date of Alexander (February 12, 2013) is misplaced because relevant date under § 102(e)(2) for determining prior art status is Alexander’s filing date, not the issue date. *See* PO Resp. 60–61. We also fail to see the relevance to 102(e)(2) of Patent Owners assertion that “[t]he majority of time between Alexander’s issuance and cancellation were spent in proceedings before the PTO.” *See id.* at n.8.

filing date of the '693 patent would have recognized Alexander was prior art, which is sufficient for these proceedings.

For the above reasons, we agree with Petitioner that Alexander qualifies as prior art to the '693 patent under 35 U.S.C § 102(e)(2).

3. Independent Claim 1

a. Claim Limitations 1[a]–[j]

As discussed in Ground 1, we determine that Petitioner has shown that Fioravanti discloses claim limitations 1[a]–[j]. At pages 34–40 of the Petition, Petitioner also asserts that Alexander discloses limitations [a]–[g] and [i] by disclosing:⁷

[a] a pharmacy workstation which corresponds to the recited “work station” (citing Ex. 1008, 1:15–17, 3:44–46, 2:61–62, Fig. 2);

[b] a pharmacy work area for arranging ingredients, materials, and/or documentation for pharmacy functions, which an ordinary skilled artisan would understand corresponds to the recited “base” (citing Ex. 1008, 6:25–32, Fig. 4; Ex. 1004 ¶¶ 57–58);

[c] a base in the pharmacy work area, as shown in Fig. 4, which an ordinary skilled artisan would understand supports medication receptacles and corresponds to the recited “medication preparation staging region” and “medication receptacle” (citing Ex. 1008, 6:25–32, Fig. 4; Ex. 1004 ¶¶ 57–58);

[d-e] image capture device (e.g., 210) that acquires images of the vial/syringe and pharmacy work area, which corresponds to the recited “imaging device” (citing Ex. 1008, 2:35–39, 6:11–32, 9:43–47, Fig. 4);

⁷ Petitioner does not assert that Alexander discloses claim limitations 1[h] and 1[j]. Pet. 39–40.

[f] computer system 900 comprising processors 940 which corresponds to the recited “processor” (citing Ex. 1008, 16:9–20, Fig. 9);

[g] a monitor and keyboard for entering user input corresponds to the recited “user control device” (citing Ex. 1008, 16:3–6, Fig. 2; Ex. 1004 ¶¶ 54, 60, 61); and

[i] system memory 910 coupled to processors 940 and computer system 900 corresponds to the recited “memory” (citing Ex. 1008, 16:9–11, 16:26–32, Fig. 9). Petitioner’s contentions are persuasive. Pet. 34–40. Patent Owner does not contest that Alexander discloses these limitations. PO Resp. 54–67.

b. Claim limitation 1[k]

Claim 1 recites that “the weight and the medical dose preparation image are associatively stored in the memory.” Ex. 1001, 26:21–23. Petitioner contends that Alexander teaches this limitation by disclosing “[s]erver 700 may receive one or more images of pharmacy work performed by a non-pharmacist at an institutional pharmacy . . . [and] **may store the received images for later access**, retrieval, and/or review, as illustrated by block 810.” Pet. 40 (citing Ex. 1008, 15:9–21). Petitioner also contends, and we agree, that Alexander discloses that “[i]**images may be stored** as individual files on a file server, as **records in an image database**, or multiple images may be compacted and stored together in a single file, such as in a .ZIP file, in some embodiments.” *Id.* According to Petitioner, “[i]n some [Alexander] embodiments, the **images may be associated with a job or task identifier** that may be used by a pharmacist to reference the images for review.” *Id.* (citing Ex. 1008, 14:6–10). We agree with Petitioner that Alexander discloses associatively storing images of pharmacy work and

other data for later access, retrieval and/or review.

Petitioner apparently recognizes that Alexander does not explicitly address storing weight data, but contends, and we agree, that it would have been obvious to a person of ordinary skill in the art “to associate the weight information recorded by the Fioravanti system with the task identifier disclosed by Alexander.” Pet. 40 (citing Ex. 1004 ¶¶ 59, 64).

Patent Owner argues that Alexander cannot teach “weight and image data being ‘associatively stored,’” because the portion of Alexander Petitioner relies on “does not mention weight.” PO Resp. 64 (citing Ex. 2010 ¶ 91). We, nevertheless, focus on what one of ordinary skill in the art would understand from the combination of references cited. In this respect, and relying on the testimony of Dr. Young, Petitioner asserts that one of ordinary skill in the art would have found it obvious to associate the weight information recorded by the Fioravanti system with the task identifier disclosed by Alexander. Pet. 40 (citing Ex. 1004 ¶¶ 59, 64).

As to a rationale for combining Fioravanti and Alexander, Petitioner contends, and we agree, Fioravanti and Alexander describe—and tout the advantages of—“computer systems for use in a pharmacy to aid the operator in preparing a medication dose more efficiently and with fewer errors.” Pet. 32–33. Thus, Petitioner asserts that one of ordinary skill in the art would have been motivated to combine the teachings of these references because they “are easily compatible and . . . disclos[e] [] similar structures and components to achieve similar goals.” *Id.* at 33 (citing Ex. 1004 ¶¶ 82–84). “Such a combination merely combines prior art elements according to known methods to yield predictable results.” *Id.* at 34 (citing Ex. 1004 ¶ 84).

Dr. Young testifies, and we agree, that “Alexander teaches that various information relevant to the prescription order may be associatively stored in the database and with a job or task identifier,” and “[s]uch information captured during the workflow of preparing a medication dose order would be an important part of the record and would be a valuable resource to someone reviewing the product or process of preparing the pharmaceutical.” Ex. 1004 ¶ 62. According to Dr. Young, if the Fioravanti system “recognizes that there exists a deviation between two measured weights or a measured weight and an anticipated weight, it would have been important to store the deviation in the record so that anyone reviewing or verifying the product or process could reference the deviation.” *Id.* Dr. Young reasons that, because “such a deviation would be an important piece of information in the record to later reference, should there be an adverse event after the dose has been administered to the patient,” it would have been obvious to a person of ordinary skill in the art “to store the deviation between the captured weight and the calculated anticipated weight by Fioravanti in the manner taught by Alexander.” *Id.*

Dr. Young further reasons that because “Alexander teaches that images captured at the workstation may be stored for later access and reviewed by a remote pharmacist to verify that the medication dose prepared at the workstation was prepared correctly,” a person of ordinary skill in the art would have understood that “data regarding a medical dose order, such as captured images and other captured data such as the weight measurements taught by Fioravanti, would be useful to a pharmacist reviewing the data record.” *Id.* ¶ 64. Dr. Young concludes that a person of ordinary skill in the art would have found it obvious “to provide the remote pharmacist access to

any such data regarding a medical dose order.” *Id.* We determine that Dr. Young’s reason for combining the teachings of Fioravanti and Alexander so that Fioravanti’s real-time storage of weight data and dose preparation images would be associatively stored storage for later access, retrieval, and/or review as taught by Alexander is well-reasoned and has rational underpinnings.

Patent Owner presents several arguments why a person of ordinary skill in the art would not be motivated to combine the teachings of Fioravanti and Alexander. PO Resp. 61–66. First, Patent Owner argues that “Dr. Young’s opinion is impermissibly conclusory.” *Id.* at 61. Patent Owner’s argument is not persuasive because, as discussed above, Dr. Young’s reasoning for combining Fioravanti and Alexander is well-supported and has rational underpinnings.

Second, Patent Owner argues that one of ordinary skill in the art might consider combining Alexander with Fioravanti “if there was an appreciated deficiency in the image capturing solution taught in *Fioravanti*,” but both references already teach the capture and use of images and “there is nothing in Dr. Young’s declaration describing such a deficiency.” PO Resp. 61–62 (citing Ex. 2010 ¶ 91; Ex. 2008 ¶¶ 102–105) (emphasis omitted). We do not find Patent Owner’s argument persuasive. We credit Dr. Young’s testimony that one of ordinary skill in the art would be motivated to combine Fioravanti’s dose preparation assistance system with Alexander’s system for remote verification “to aid the operator in preparing pharmaceutical doses with greater efficiency and protection against errors in compounding medication.” *See* Ex. 1004 ¶ 82.

Third, Patent Owner argues that Dr. Young’s cross examination

testimony and Petitioner’s pre-litigation evidence contradicts Dr. Young’s present testimony. PO Resp. 62. Patent Owner’s arguments are not persuasive because the cross examination testimony addresses the features of individual reference and do not address whether an ordinary skilled artisan would have understood the combination—whether Alexander teaches that Fioravanti’s real-time storage of associated weight and dose preparation images could be associatively stored for later access, retrieval and review. *See* Reply 16–17 (citing Ex. 1004 ¶¶ 59, 64).

Similarly, the pre-litigation evidence refers to “*a current system* that combines information from an image verification system and a gravimetric verification system.” PO Resp. 62 (emphases altered). Absent additional context and explanation, we do not find Patent Owner’s argument persuasive. Nor—to the extent the statements may be inconsistent—has Patent Owner established that Petitioner’s statement in an unrelated patent application estops it from relying on Dr. Young’s testimony. *See SkyHawke Techs., LLC v. Deca Int’l Corp.*, 828 F.3d 1373, 1376 (Fed. Cir. 2016) (“judicial estoppel only binds a party to a position that it advocated *and successfully achieved*”) (emphasis added).

Finally, Patent Owner argues that “Petitioner must point to some teaching of weight and image data being ‘associatively stored’ in *Alexander*, as there is no such teaching in *Fioravanti*.” PO Resp. 63–64. Patent Owner’s argument is not persuasive because it is arguing the references individually whereas Petitioner’s obviousness challenge is based on the combined teachings of Fioravanti and Alexander. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Fioravanti teaches that associated weight and dose preparation images are stored for real-time display although not for later

retrieval and review. *See, e.g.*, Ex. 1006, Fig. 10. Petitioner relies on Alexander, in part, for its explicit teaching that information relevant to the prescription order may be associatively stored in the database with a job/task identifier” and that “a specific piece of data (*e.g.*, a job/task identifier) . . . can be used to associate data to a prescription order for later access.” Reply 16–17 (citing Ex. 1008, 15:9–12; Ex. 1004 ¶¶ 59, 64; Pet. 40). Petitioner reasons, and we agree, that a person of ordinary skill in the art would have found it obvious “to modify *Fioravanti* in view of *Alexander*’s explicit teaching of a job/task identifier so that weight and image information could be associated as taught by *Alexander*,” and so that associated information could be stored for later retrieval and review. *Id.* (citing Ex. 1004 ¶¶ 59, 64).

c. Conclusion

Petitioner has shown by a preponderance of the evidence that independent claim 1 is unpatentable as obvious in light of *Fioravanti* and *Alexander*.

4. *Dependent Claims 2–12 and 15–19*

Having addressed the parties’ arguments with respect to independent claim 1, we turn to claims 2–12 and 15–19, which depend from claim 1. In sum, we find reasonable Petitioner’s arguments with respect to claims 1–12 and 15–19. *See* Pet. 31–44. Patent Owner does not independently address claims 2–12 and 15–19 under Ground 3. PO Resp. 67. To the extent Patent Owner does not address the merits of any of Petitioner’s assertions regarding claims 2–12 and 15–19, Patent Owner’s arguments are waived. *See* Scheduling Order, Paper 16, 8 (cautioning Patent Owner that “any arguments for patentability not raised in the response will be deemed waived”); *cf In re Nuvasive*, 842 F.3d 1376, 1381 (Fed. Cir. 2016)

(explaining that a patent owner waives an argument presented in the preliminary response if it fails to renew that argument in the patent owner response after trial is instituted). Because a preponderance of the evidence supports Petitioner’s arguments relating to the teachings of the prior art, we adopt Petitioner’s arguments as our own. *See* Pet. 31–44; *see also In re Nuvasive*, 841 F.3d 966, 974 (Fed. Cir. 2016) (explaining that the Board need not make specific findings as to claim limitations that Patent Owner does not dispute are disclosed in the prior art).”

Below, we address Petitioner’s contentions as to claims 4, 6, 8, and 15.

5. Claim 4

As discussed above in Ground 2, we find that Petitioner has shown that Fioravanti discloses all of the limitations in claim 4. Petitioner also contends that Alexander teaches the limitation in claim 4 by disclosing that “various information relevant to the prescription order may be associatively stored in the database and with a job or task identifier. *See element 1k.*” Pet. 40–41 (citing Ex. 1004 ¶ 62). According to Petitioner, it would have been obvious to a person of ordinary skill in the art “to store the deviation between the captured weight and the anticipated weight calculated by Fioravanti in this manner.” *Id.* Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that Alexander suggests this limitation. PO Resp. 61–67.

Petitioner has shown by a preponderance of the evidence that claim 4 is unpatentable as obvious in light of Fioravanti and Alexander.

6. *Claim 6*

Petitioner contends that Alexander teaches the limitation in claim 6 by disclosing an embodiment in which “image capture device 210 may be mounted above a **pharmacy work area**, while in other embodiments, image capture device 210 may be mounted proximate to an **area specifically for arranging ingredients, materials, and/or documentation for pharmacy functions**.” Pet. 41–42 (citing Ex. 1008, 6:25–32; Figs. 2, 4). According to Petitioner, a person of ordinary skill in the art would have understood that “the bottom portion of the pharmacy work area platform below the image capture device in Figure 4 is the base” (*id.* at 42 (citing Ex. 1004 ¶¶ 57–58)), and, “from the disclosure in Figures 2 and 4, that the base, and the image capture device ‘**mounted**’ above it, were assembled as a single unit that could be moved (and set down) together” (*id.* (citing Ex. 1004 ¶ 58)). Petitioner further contends that it would have been obvious “to assemble the image capture device and the base as a single interconnected unit based on the teachings of Alexander.” *Id.* Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that claim 6 is taught by Alexander. PO Resp. 61–67.

Thus, Petitioner has shown by a preponderance of the evidence that claim 6 is unpatentable as obvious in light of Fioravanti and Alexander.

7. *Claim 8*

As discussed above in Ground 2, we find that Petitioner has shown that Fioravanti discloses all of the limitations in claim 8. Petitioner also contends that Alexander teaches claim limitation 8[a] by disclosing an “image capture device 210 may be an **off-the-shelf digital camera** mounted appropriately to capture images of pharmacy work.” Pet. 42 (citing Ex.

1008, 6:14–16). According to Petitioner, a person of ordinary skill in the art would have understood that “an off-the-shelf digital camera, like image capture device 210, has a housing.” *Id.* (citing Ex. 1004 ¶¶ 54, 56).

Petitioner contends that Alexander teaches claim limitation 8[b] by disclosing “one embodiment in which “image capture device 210 may be mounted above a **pharmacy work area**[.]” *Id.* (citing Ex. 1008, 6:25–26).

Petitioner’s contentions are persuasive. Other than its arguments in connection with claim 1, Patent Owner does not contest that claim 8 is taught by Alexander. PO Resp. 61–67.

Thus, Petitioner has shown by a preponderance of the evidence that claim 8 is unpatentable as obvious in light of Fioravanti and Alexander.

8. *Claim 15*

As discussed above in Ground 2, we find that Petitioner has shown that Fioravanti discloses all of the limitations in claim 15. Petitioner also contends that Alexander teaches claim 15 by disclosing an embodiment in which “image capture device 210 may be mounted above a **pharmacy work area**, while in other embodiments, image capture device 210 may be mounted proximate to an **area specifically for arranging ingredients, materials, and/or documentation for pharmacy functions**.” Pet. 43–44 (citing Ex. 1008, 6:25–32). According to Petitioner, a person of ordinary skill in the art would have understood that “the bottom portion of the pharmacy work area platform below the image capture device in Figure 4 is the base, which includes a top surface (*i.e.*, ‘support platform’).” *Id.* at 44 (citing Ex. 1004 ¶¶ 57–58).

Petitioner has shown by a preponderance of the evidence that claim 15 is unpatentable as obvious in light of Fioravanti and Alexander.

9. Conclusions as to Ground 3

For the reasons discussed above, we find that Petitioner has shown by a preponderance of the evidence that claims 1–12 and 15–19 are unpatentable as obvious over Fioravanti and Alexander.

G. Ground 4: Obviousness over Fioravanti, Alexander, and Eliuk

In Ground 4, Petitioner challenges claims 1–12 and 15–19 as obvious over the combination of Fioravanti, Alexander, and Eliuk. Pet. 44–55. In support of its challenge that claims 1–12 and 15–19 are obvious over the combination of Fioravanti, Alexander, and Eliuk, Petitioner provides a rationale to combine the teachings of Fioravanti, Alexander and Eliuk (*id.* at 46–47), and a detailed claim chart mapping the teachings of the asserted references to the challenged claims (*id.* at 47–55). Patent Owner opposes. PO Resp. 67–69. We have reviewed the evidence of record including the Petition and Petitioner’s expert’s declarations, and Patent Owner’s arguments and evidence, including its experts’ declarations. For the reasons discussed below, we are persuaded that Petitioner has shown by a preponderance of the evidence that claims 1–12 and 15–19 are unpatentable as obvious over Fioravanti, Alexander, and Eliuk. Below, we present an overview of Eliuk, and then we address Petitioner’s and Patent Owner’s contentions for this obviousness ground in detail.

1. Overview of Eliuk (Ex. 1009)

Eliuk is titled “Automated Pharmacy Admixture System (APAS),” and issued on August 24, 2010. Ex. 1009, codes (54), (45). Petitioner contends Eliuk is prior art under 35 U.S.C. § 102(b). Pet. 5–6. Patent Owner does not dispute that Eliuk is prior art.

Eliuk discloses

an automated Pharmacy Admixture System (APAS) . . . [that] transport[s] medical containers such as bags, vials, or syringes in a compounding chamber. . . . [E]mbodiments may include a controller adapted to actuate the manipulator system to bring a fill port of an IV bag, vial, or syringe into register with a filling port at a fluid transfer station in the chamber.

Ex. 1009, code (57). A “drug order record in the APAS database 4340 may be associated with images of the drugs and/or diluent used to process the drug order as well as images of the final order in its delivered container.” *Id.* at 49:39–42. Accordingly, the APAS may include a vial ID station, as illustrated in Figure 50, reproduced below.

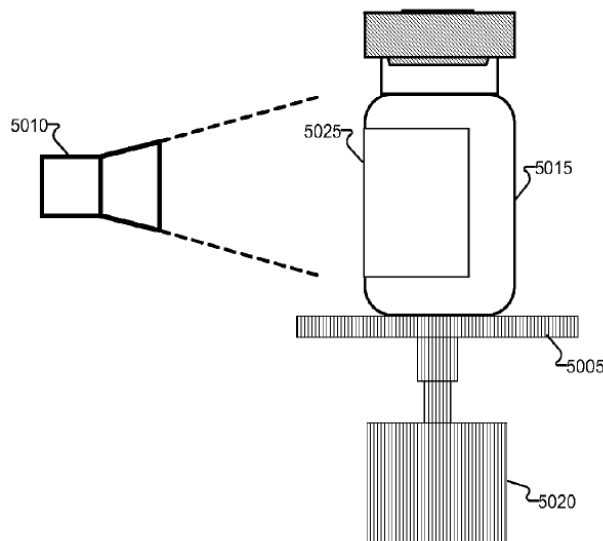


Figure 50 shows a vial ID station with camera system 5010, which is used to take images of vial 5015 (including label 5025) positioned on rotating platform 5005. *Id.* at 66:13–22.

[P]attern matching software checks each image for matches of the key label fields [“e.g., the drug name, the drug manufacturer, and/or the drug code (e.g., NDC or DIN)”]. . . . at least two unique patterns per label may be used to identify a medical container (e.g., vial, syringe, IV bag). The APAS cell may store images of the vial ensuring that the key fields are captured, as well as the vial’s lot number and expiration date. The software

can then create logical links to associate the images and the drug orders that used the vial.

Id. at 66:27–41. Once a vial has been verified through image capture, it is transported to a scale “where it can be weighed and the vial’s weight can be compared to the expected weight for that vial.” *Id.* at 66:57–62; *see also id.* at 9:60–10:5 (“[T]he IV bag is identified by bar code or pattern matching and its weight is recorded. . . . it may be weighed multiple times, such as before, during, and/or after each fluid transfer step, . . . to determine if the change in weight is within an expected range.”).

[A] drug order record for each drug order . . . may be stored in the APAS database 4340. Each drug order record may be associated with . . . a unique dose ID. . . . ***Each dose ID may be associated with process measurements, such as measurements of weights at different processing stages, captured images*** (e.g., bitmap, .gif, .jpeg, or .mpeg video clips).

Id. at 49:5–32 (emphasis added).

2. Claim 1

a. Claim Limitations 1[a]–[j]

As discussed in Grounds 1 and 2, we determine that Petitioner has shown that Fioravanti discloses claim limitations 1[a]–[j], Alexander discloses claim limitations 1[a]–[g], and the combination of Fioravanti and Alexander disclose claim limitation 1[k]. At pages 48–53 of the Petition, Petitioner also asserts that Eliuk discloses claim limitations 1[a]–[i] and [k] by disclosing:⁸

[a] an Automated Pharmacy Admixture System (APAS) to process medical items contained in containers, such as bags, vials, and syringes,

⁸ Petitioner does not assert that Eliuk discloses claim limitation 1[j]. Pet. 52.

which corresponds to the recited “work station” (citing Ex. 1009, 4:29–32, 4:57–60);

[b] a platform 5005 which corresponds to the recited “base” (citing Ex. 1009, 66:13–18);

[c] motion control hardware 5020 which is a base for the support platform 5005, which an ordinary skilled artisan would understand acts as the recited “medication preparation staging region” upon which a vial can be placed (citing Ex. 1004 ¶ 68);

[d-e] a camera for taking pictures which can be processed to compare to stored image information, and which corresponds to the recited “imaging device” (citing Ex. 1009, 10:45–50, 49:25–29, 66:13–22, 75:26–31, Figs. 50, 56A);

[f] controllers having processors which capture images and passes them to pattern matching software for comparison, and which corresponds to the recited “processor” (citing Ex. 1009, 24:21–32, 80:46–81:11, 66:20–32; Ex. 1004 ¶ 69);

[g] monitor 202 which may be used as a user interface to input control information, and which corresponds to the recited “user control device” (citing Ex. 1009, 5:1–16, 8:21–26, 56:43–45, 81:30–35; Ex. 1004 ¶ 70); and

[h] scale 5620 which corresponds to the recited “scale” (citing Ex. 1009, 75:31–34, 9:67–10:19, 66:57–62, 24:21–32, 80:46–81:11, Fig. 3); and

[i] a processor and memories for storing instructions and data, as the recited “memory” (citing Ex. 1009, 81:11–27, 80:46–59). Petitioner’s contentions are persuasive. Patent Owner does not contest that Eliuk discloses these limitations. PO Resp. 67–69.

b. Claim limitation 1[k]

Claim 1 also recites that “the weight and the medical dose preparation image are associatively stored in the memory.” Petitioner contends that Eliuk teaches this limitation by disclosing, in one embodiment, a “**drug order record for each drug order** processed by the APAS **may be stored in the APAS database 4340**. Each drug order record may be associated with parametric information relating to the state of the APAS cell during the processing of the drug order.” Pet. 53 (quoting Ex. 1009, 49:5–10). Petitioner further explains that “[e]ach **dose ID may be associated with process measurements, such as measurements of weights at different processing stages, captured images (e.g., bitmap, .gif, .jpeg, or .mpeg video clips)**, ...” *Id.* (quoting Ex. 1009, 49:25–32). Petitioner’s contentions are persuasive. Patent Owner does not contest that Eliuk discloses claim limitation 1[k] but argues that there is no motivation to combine Eliuk with Fioravanti and Alexander. PO Resp. 67–69.

c. Rationale to Combine

With respect to a reason for combining Eliuk with Fioravanti and Alexander, Petitioner relies on Dr. Young’s testimony, with which we agree, that it would have been obvious to a person of ordinary skill in the art to combine the teachings of Eliuk with Fioravanti and/or Alexander. Pet. 46–47 (citing Ex. 1004 ¶¶ 85, 90). According to Dr. Young, “[l]ike Fioravanti and Alexander, Eliuk teaches a system for compounding and preparing pharmaceutical doses and relies on image captures and weight measurements to ensure the correct medication dose is prepared.” Ex. 1004 ¶ 85 (citing Ex. 1009, 66:13–62). He testifies that Eliuk “notes the importance of providing

error checks to ensure the correct medication and doses are being used,” and “is directed to automating functions traditionally performed by pharmacy staff.” *Id.* (citing Ex. 1009, 9:62–64). Dr. Young reasons that a person of ordinary skill in the art would have recognized that “the teachings and benefits in automatically preparing and compounding medications would equally apply to systems directed to the manual preparation of medications, particularly those that rely on computer technology in assisting during the preparation process as a means to reduce errors,” and “[c]ombining Eliuk’s teachings with the system of Fioravanti and Alexander would have further enhanced the workflow for medical dose preparation and furthered the common goals of all three systems” because it “would provide complementary technologies that provide a more complete system and allow the capability of additional pharmacy functions in an improved way.” *Id.* Dr. Young concludes that, for the same reasons that it would have been obvious to combine the Alexander and Fioravanti systems, a person of ordinary skill in the art would have been motivated, and found it obvious, to combine Eliuk with either or both of the Alexander and Fioravanti systems. *Id.*

We find that Dr. Young’s rationale for combining the teachings of Fioravanti, Alexander, and Eliuk has rational underpinnings. As discussed above, Fioravanti teaches that it is desirable to store in real-time weight and associated dose preparation images but does not explicitly teach this information should be stored for later retrieval and review. Alexander teaches that it is desirable for dose preparation images and related dose preparation data to be associatively stored for later retrieval and review, but does not explicitly state that related dose preparation data includes weight.

Eliuk discloses that it is desirable to associatively store weight, dose preparation image, and related dose preparation data. We agree with Dr. Young that, taking these teachings together, it would have been obvious to a person of ordinary skill in the art to use the teachings of Eliuk to modify Fioravanti and/or Alexander so that the weight and the medical dose preparation image are associatively stored in the memory, as recited in claim limitation 1[k]. Ex. 1004 ¶¶ 85, 90.

Patent Owner argues that, “[o]ther than to simply recap *Eliuk*’s teachings, Dr. Young provides no rationale for [his] conclusion.” PO Resp. 67. According to Patent Owner, Dr. Young’s testifies that “instead of combining the systems into one machine, they would instead be separately used in the same pharmacy, thus failing to accomplish the goal of the invention of the ‘693 Patent.” *Id.* (citing Ex. 2021, 224:16–21). Patent Owner also argues that “given that both *Fioravanti* and *Eliuk* teach taking weight measurements, there is no good reason to conclude, without further explanation, that one would have thought to combine the teachings of those two references.” *Id.* at 68. Moreover, “[a]utomation such as taught in *Eliuk* would decrease, rather than increase, the need for associatively stored data to be used for verification purposes.” *Id.* at 69 (citing Ex. 2008 ¶¶ 107–109).

As we understand its position, Patent Owner appears to assert that it is “especially problematic” that Dr. Young does not explain specifically how the automated system taught by *Eliuk* would have enhanced or complemented the systems of *Fioravanti* and *Alexander* because “[b]enefits from automation . . . do not translate into the associative storage of weight and image data” and “[i]t is counterintuitive that combining the automation

of *Eliuk* with *Fioravanti* and *Alexander* would have somehow resulted in associative storage.” *Id.* at 68–69.

Patent Owner’s arguments are not persuasive. As discussed above, Dr. Young provided a detailed rationale with rational underpinnings for combining the teachings of *Fioravanti*, *Alexander*, and *Eliuk*. We agree with Dr. Young that, taking the teachings of *Fioravanti*, *Alexander*, and *Eliuk* together, it would have been obvious to a person of ordinary skill in the art to use the teachings of *Eliuk* to modify *Fioravanti* and/or *Alexander* so that the weight and the medical dose preparation image are associatively stored in the memory, as recited in claim limitation 1[k]. *See, e.g.*, Ex. 1004 ¶¶ 85–87.

3. *Claims 2–12 and 15–19*

As discussed above in Grounds 2 and 3, claims 2–12 and 15–19 are obvious over *Fioravanti* and *Alexander*. Petitioner provides a rationale to combine the teachings of *Fioravanti*, *Alexander*, and *Eliuk* (Pet. 46–47), and a detailed claim chart mapping the teachings of the asserted references to the challenged claims (*id.* at 47–55). After reviewing Petitioner’s and Patent Owner’s evidence regarding these claims, we find that Petitioner has shown by a preponderance of the evidence that claims 2–12 and 15–19 are also obvious over *Fioravanti*, *Alexander*, and *Eliuk*. Pet. 46–55; *see also In re Nuvasive*, 841 F.3d at 974 (explaining that the Board need not make specific findings as to claim limitations that Patent Owner does not dispute are disclosed in the prior art).”

4. Conclusions as to Ground 4

For the reasons discussed above, we find that Petitioner has shown by a preponderance of the evidence that claims 1–12 and 15–19 are unpatentable as obvious over Fioravanti, Alexander, and Eliuk.

H. Ground 5: Obviousness over Fioravanti, Alexander, Eliuk, Burns

In Ground 5, Petitioner challenges claim 10 as obvious over the combination of Fioravanti, Alexander, Eliuk, and Burns. Pet. 55–58. In support of its challenge that claim 10 is obvious over the combination of Fioravanti, Alexander, Eliuk, and Burns, Petitioner provides a rationale to combine the teachings of Fioravanti, Alexander, Eliuk, and Burns (*id.* at 56–57), and a detailed claim chart mapping the teachings of the asserted references to the challenged claims (*id.* at 57–58). Patent Owner opposes. PO Resp. 69. We have reviewed the evidence of record including the Petition and Petitioner’s experts’ declarations, and Patent Owner’s arguments and evidence, including its experts’ declarations. For the reasons discussed below, we are persuaded that Petitioner has shown by a preponderance of the evidence that claim 10 is unpatentable as obvious over Fioravanti, Alexander, Eliuk, and Burns. Below, we present an overview of Burns, and then we address Petitioner’s and Patent Owner’s contentions for this obviousness ground in detail.

1. Overview of Burns (Ex. 1010)

Burns is titled “Web Cam Stand System.” Ex. 1010, code (54). In particular, Burns is directed to “a web cam stand system [that] . . . support[s] a web cam and associated components in any of a plurality of orientations.” *Id.* at 1:6–9. In one embodiment, Burns teaches a stand with an upper, lower, and intermediate portion that includes a personal computer, keyboard,

web camera, and an electrical cable extending through hollow rings to connect the personal computer and web camera. *See id.* at 1:20–63. The “electrical cable supplies power and data” to the web camera. *Id.* at 2:52–53. In another embodiment, Burns teaches that “[t]he lower portion is a vertical post 204 [with] . . . a circular base” and that a clamp is provided to releasably support the web camera. *Id.* at 4:28–30. Furthermore, a “cord 212 is provided [that] . . . extends from the web camera [and] [i]n this manner power and data are supplied.” *Id.* at 4:30–32.

2. Claim 10

Claim 10 recites a work station comprising “an umbilical at least partially disposed within the support member, wherein the umbilical includes at least one of a signal communication path and a power communication path.” The ’693 patent explains that the “the umbilical may consolidate a number of conductive members into a single cable to reduce the number of cables that need to be provided.” Ex. 1001, 6:4–6. As discussed in Ground 2, Petitioner has shown that Fioravanti teaches the limitations of claim 10.

Petitioner also contends, and we agree, that Burns teaches this limitation because Burns discloses a web camera stand with vertical post 204 and a cord 212 that “extends from the web camera” to provide “power and data.” Pet. 57 (citing Ex. 1010, 4:24–32, Figs. 7–8). We agree with Petitioner that a person of ordinary skill in the art would have understood that “cord 212 is in an umbilical and provides a signal communication path and a power communication path.” *Id.* (citing Ex. 1004 ¶¶ 72–73).

As to a motivation to combine Burns with Fioravanti, Alexander and Eliuk, Petitioner contends, and we agree, that Fioravanti, Alexander, and

Burns disclose a camera/video device and a person of ordinary skill in the art would have understood that “a data connection and a power connection must be provided to the web camera at the top of each system,” and that “it would be beneficial in each system to minimize the number of cables and connections.” *Id.* at 56–57 (citing Ex. 1004 ¶ 86). Thus, the ordinary skilled person would have looked to “prior art describing structures for mounting a web camera with a minimal number of cables, such as the stand taught by Burns. *Id.*

Patent Owner does not contest that Burns discloses the limitation in claim 10 or that there is a motivation to combine Burns’ teaching with those of Fioravanti or Alexander. PO Resp. 69. Petitioner has shown that claim 10 is obvious over Fioravanti, Alexander, Eliuk, and Burns.

I. Ground 6: Obviousness over Fioravanti, Alexander, Eliuk, Bear

In Ground 6, Petitioner challenges claim 11–14 as obvious over the combination of Fioravanti, Alexander, Eliuk, and Bear. Pet. 58–62. In support of its challenge that claims 11–14 are obvious over the combination of Fioravanti, Alexander, Eliuk, and Bear, Petitioner provides a rationale to combine the teachings of Fioravanti, Alexander, Eliuk, and Bear (*id.* at 59–60), and a detailed claim chart mapping the teachings of the asserted references to the challenged claims (*id.* at 60–62). Patent Owner opposes. PO Resp. 69. We have reviewed the evidence of record including the Petition and Petitioner’s experts’ declarations, and Patent Owner’s arguments and evidence, including its experts’ declarations. For the reasons discussed below, we are persuaded that Petitioner has shown by a preponderance of the evidence that claim 10 is unpatentable as obvious over Fioravanti, Alexander, Eliuk, and Bear. Below, we present an overview of

Bear, and then we address Petitioner's and Patent Owner's contentions for this obviousness ground in detail.

1. Overview of Bear (Ex. 1010)

Bear is titled "Medication Dispenser With Integrated Monitoring System." Ex. 1011, code (54). Bear is directed to devices, systems, and methods for remote visualization of the storage compartments in a medication dispenser device, to monitor a patient's compliance with a medication dosage schedule and for verifying the proper loading of medication into the patient's medication dispenser device. *Id.* at code (57). Bear's medical dispenser includes "a plurality of storage compartments, wherein each storage compartment has an interior space for storing at least one medication" and "an image capturing device positionable to capture an image of the interior space of each of the plurality of storage compartments." *Id.* ¶ 6. "[E]ach storage compartment may be selectively lighted (e.g., by an LED 328) to provide illumination for digital visual image capture." *Id.* ¶ 24. It also includes "a communications module for electronically transmitting the image captured by the image capturing device to a central monitoring station," which "can provide verification that appropriate medications have been loaded in the dispenser, removed from the dispenser, and/or remain loaded in the dispenser." *Id.* ¶¶ 6, 18.

2. Claim 11

Claim 11 recites a work station comprising "at least one light source disposed in the housing, wherein the at least one light source is operable to emit light from the housing in a direction toward the medication preparation staging region." Ex. 1001, 26:59–64. As discussed in Grounds 2 and 3, Petitioner has shown that Fioravanti and Eliuk teach the limitations

of claim 11. Petitioner contends, and we agree, that Bear teaches this limitation by disclosing that each storage compartment may be selectively lit to provide illumination for the digital capture image. Pet. 60–61 (citing Ex. 1011 ¶¶ 24, 51). As to a motivation to combine the references, Petitioner contends, and we agree, that Fioravanti, Alexander, Eliuk, and Bear disclose capturing images during dose preparation. *Id.* at 59–60. Thus, a person of ordinary skill in the art would have been motivated to use Bear’s illumination system to achieve quality images. *Id.* Patent Owner does not contest that Burns discloses the limitation in claim 11 or that there is a motivation to combine Bear’s teachings with those of Fioravanti, Alexander or Eliuk. PO Resp. 69. Petitioner has shown that claim 11 is obvious over Fioravanti, Alexander, Eliuk, and Bear.

3. Claim 12

Claim 12 recites a work station wherein “the housing includes an opening, wherein the imaging device is disposed in a central region of the opening and a peripheral region extends about the central region, and wherein a plurality of light sources are disposed in the peripheral region.” Ex. 1001, 26:65–27:3. As discussed in Ground 2, Petitioner has shown that Fioravanti teaches the limitations of claim 12. Petitioner contends, and we agree, that Bear also teaches this limitation by disclosing camera 228 disposed in the central region of the housing. Pet. 61 (citing Ex. 1011 ¶¶ 6, 23). Patent Owner does not contest that Bear discloses the limitation in claim 11 or that there is a motivation to combine Bear’s teachings with those of Fioravanti, Alexander, or Eliuk. PO Resp. 69. Petitioner has shown that claim 11 is obvious over Fioravanti, Alexander, Eliuk, and Bear.

4. Claims 13 and 14

Claim 13 recites a work station wherein “an intensity of the at least one light source is automatically modified from a default intensity of light emitted to a modified intensity of light emitted at a first predetermined period after the capture of the medical dose preparation image.” Ex. 1001, 27:4–9. Claim 14 recites a work station wherein “the at least one light source is automatically returned from the modified intensity of light to the default intensity of light at a second predetermined period after the first predetermined period.” *Id.* at 27:10–14. According to Petitioner, the ’693 patent explains that “the intensity of the light source may be changed to cause a ‘blink’ to alert the user that an image has been captured.” Pet. 62 (citing Ex. 1001, 19:54–20:6). Petitioner contends, and we agree, that Bear teaches these limitations by disclosing, “the dispenser **alerts the user by blinking** and/or lighting up,” and “**a dispenser may broadcast a tone and the LED below the appropriate storage compartment may blink.**” *Id.* (citing Ex. 1011 ¶¶ 44–45). Patent Owner does not contest that Bear discloses the limitations in claims 13 and 14 or that there is a motivation to combine Bear’s teachings with those of Fioravanti or Alexander. PO Resp. 69. Petitioner has shown that claims 13 and 14 are obvious over Fioravanti, Alexander, Eliuk, and Burns.

5. Conclusions as to Ground 6

For the reasons discussed above, we find that Petitioner has shown by a preponderance of the evidence that claims 11–14 are unpatentable as obvious over Fioravanti, Alexander, Eliuk, and Bear..

J. Ground 7: Obviousness over Fioravanti, Alexander, Eliuk, and Claypool

In Ground 7, Petitioner challenges claim 16 as obvious over the combination of Fioravanti, Alexander, Eliuk, and Claypool. Pet. 62–65. In support of its challenge that claim 16 is obvious over the combination of Fioravanti, Alexander, Eliuk, and Claypool, Petitioner provides a rationale to combine the teachings of Fioravanti, Alexander, Eliuk, and Claypool (*id.* at 64), and a detailed claim chart mapping the teachings of the asserted references to the challenged claims (*id.* at 65). Patent Owner opposes. PO Resp. 69. We have reviewed the evidence of record including the Petition and Petitioner’s experts’ declarations, and Patent Owner’s arguments and evidence, including its experts’ declarations. For the reasons discussed below, we are persuaded that Petitioner has shown by a preponderance of the evidence that claim 16 is unpatentable as obvious over Fioravanti, Alexander, Eliuk, and Claypool. Below, we present an overview of Claypool, and then we address Petitioner’s and Patent Owner’s contentions for this obviousness ground in detail.

1. Overview of Claypool (Ex. 1012)

Claypool is titled “Digital Scale with Detachable Platform.” Ex. 1012, code (54). Claypool’s “digital scale 20 has a number of components integrated within an instrumentation unit or housing 22 to perform a number of weight measurement and other functions in connection with a load applied to a platform assembly 24.” *Id.* ¶ 30. Because “it may be useful at times to disengage the platform 168 for cleaning, maintenance, replacement, etc., . . . the platform 168 is configured to releasably engage one or more components of the instrumentation unit 154.” *Id.* ¶ 72.

2. *Claim 16*

Claim 16 recites a work station wherein “the base further comprises: a platform base, wherein the support platform is removably disposed relative to the platform base.” Ex. 1001, 28:1–4. As discussed in Ground 2, Petitioner has shown that Fioravanti teaches the limitations of claim 16. Petitioner contends, and we agree, that Claypool also teaches this limitation by disclosing a detachable component for the platform assembly. Pet. 65 (citing Ex. 1012 ¶¶ 33, 72, Fig. 10). Petitioner contends, and we agree, that a person of ordinary skill in the art would have been motivated to modify Fioravanti’s scale with Claypool’s teachings to obtain a digital scale that has the ability to capture weight measurements and particularly one designed for laboratory use (such as Claypool), where a clean environment and accurate dose measurement are similarly important. *Id.* at 64 (citing Ex. 1004 ¶ 88). Patent Owner does not contest that Claypool discloses the limitations in claim 16 or that there is a motivation to combine Claypool’s teachings with those of Fioravanti. PO Resp. 69. Petitioner has shown that claim 16 is obvious over Fioravanti, Alexander, Eliuk, and Claypool.

K. Ground 8: Obviousness over Fioravanti, Alexander, Eliuk, Angel

In Ground 8, Petitioner challenges claim 16, 18 and 19 as obvious over the combination of Fioravanti, Alexander, Eliuk, and Angel. Pet. 66–69. In support of its challenge that claims 16, 18, and 19 are obvious over the combination of Fioravanti, Alexander, Eliuk, and Angel, Petitioner provides a rationale to combine the teachings of Fioravanti, Alexander, Eliuk, and Angel (*id.* at 67), and a detailed claim chart mapping the teachings of the asserted references to the challenged claims (*id.* at 68–69). Patent Owner opposes. PO Resp. 69. We have reviewed the evidence of

record including the Petition and Petitioner’s experts’ declarations, and Patent Owner’s arguments and evidence, including its experts’ declarations. For the reasons discussed below, we are persuaded that Petitioner has shown by a preponderance of the evidence that claims 16, 18, and 19 are unpatentable as obvious over Fioravanti, Alexander, Eliuk, and Angel. Below, we present an overview of Angel, and then we address Petitioner’s and Patent Owner’s contentions for this obviousness ground in detail.

1. Overview of Angel (Ex. 1013)

Angel is titled “Mass-Produced Flat One-Piece Load Cell and Scales Incorporating It,” and issued on February 19, 1991. Ex. 1013, codes (54), (45). Angel discloses accurate load cells for use in mass-produced weighing devices. *Id.* at code (57). Angel also teaches that its design allows “to remove the top plate 22 for repairs by pulling it forcefully upwards.” *Id.* at 7:67–68.

2. Claim 16

Claim 16 recites a work station wherein “the base further comprises: a platform base, wherein the support platform is removably disposed relative to the platform base.” Ex. 1001, 28:1–4. As discussed in Ground 2, Fioravanti discloses the limitations in claim 16. Petitioner also contends, and we agree, that Angel teaches these limitations by disclosing top plate 22 that is removable from Angel’s platform. Pet. 68 (citing Ex. 1013, 7:64–8:2). Patent Owner does not contest that Angel discloses the limitations in claim 16 or that there is a motivation to combine Angel’s teachings with those of Fioravanti. PO Resp. 69. Petitioner has shown that claim 16 is obvious over Fioravanti, Alexander, Eliuk, and Angel.

3. Claim 18

Claim 18 recites a work station wherein “the scale comprises load cells disposed in the platform base.” Ex. 1001, 28:10–11. As discussed in Ground 2, Fioravanti discloses the limitations in claim 18. Petitioner also contends, and we agree, that Angel teaches these limitations by disclosing scales which use multiple load cells. Pet. 68 (citing Ex. 1013, 3:21–23, 1:7–15, 4:37–42, Fig. 5). Patent Owner does not contest that Angel discloses the limitations in claim 18 or that there is a motivation to combine Angel’s teachings with those of Fioravanti. PO Resp. 69. Petitioner has shown that claim 18 is obvious over Fioravanti, Alexander, Eliuk, and Angel.

4. Claim 19

Claim 19 recites a work station comprising “a support platform defining the medication preparation staging region, wherein the load cells are disposed adjacent to the support platform.” Ex. 1001, 28:12–16. As discussed in Ground 2, Fioravanti discloses the limitations in claim 19. Petitioner also contends, and we agree, that Angel teaches these limitations by disclosing the scales’ load cells are located to measure the weight of items on the top surface. Pet. 68–69 (citing Ex. 1013, 1:7–10; Ex. 1004 ¶¶ 31, 79–80). Patent Owner does not contest that Angel discloses the limitations in claim 19 or that there is a motivation to combine Angel’s teachings with those of Fioravanti. PO Resp. 69. Petitioner has shown that claim 19 is obvious over Fioravanti, Alexander, Eliuk, and Angel.

5. Conclusions as to Ground 8

For the reasons discussed above, we find that Petitioner has shown by a preponderance of the evidence that claims 16–19 are unpatentable as obvious over Fioravanti, Alexander, Eliuk, and Angel.

L. Patent Owner's Contingent Motion to Amend

We have concluded that challenged claims 1–19 of the '693 patent are unpatentable. We now turn to Patent Owner's Revised Contingent Motion to Amend.⁹ For the reasons that follow, we deny Patent Owner's motion because Patent Owner's proposed substitute claims 20–38 do not meet the statutory requirements of 35 U.S.C. § 316(d) and the procedural requirements of 37 C.F.R. § 42.121.

1. Applicable Law

In an *inter partes* review, amended claims are not added to a patent as of right, but rather must be proposed as a part of a motion to amend. 35 U.S.C. § 316(d). The Board must assess the patentability of proposed substitute claims “without placing the burden of persuasion on the patent owner.” *Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1328 (Fed. Cir. 2017) (en banc); *see also Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 at 3–4 (PTAB Feb. 25, 2019) (precedential). Subsequent to the issuance of *Aqua Products*, the Federal Circuit issued a decision in *Bosch Automotive Service Solutions, LLC v. Matal*, 878 F.3d 1027 (Fed. Cir. 2017) (“*Bosch*”), as well as a follow-up order amending that decision on rehearing.

⁹ Patent Owner also filed a Contingent Motion To Amend Under 37 C.F.R. § 42.121 and Request for Preliminary Guidance From The Board On The Motion To Amend (Paper 27). After we provided Preliminary Guidance to Patent Owner's Motion To Amend (Paper 39), Patent Owner filed Patent Owner's Revised Contingent Motion To Amend Under 37 C.F.R. § 42.121 (Paper 41, “Rev. Mot.”). Petitioner filed an Opposition To Patent Owner's Revised Motion To Amend. Paper 52 (“Opp. Rev. Mot.”). Patent Owner filed its Reply To Petitioner's Opposition To Patent Owner's Revised Contingent Motion To Amend. Paper 56 (“Reply Rev. Mot.”). Finally, Petitioner filed its Sur-Reply To Patent Owner's Reply To Opposition To Revised Motion To Amend. Paper 61 (“Sur-reply Rev. Mot.”).

See Bosch Auto. Serv. Sols., LLC v. Iancu, No. 2015-1928 (Fed. Cir. Mar. 15, 2018) (Order on Petition for Panel Rehearing).

In accordance with *Aqua Products*, *Bosch*, and *Lectrosonics*, Patent Owner does not bear the burden of persuasion to demonstrate the patentability of the substitute claims presented in the motion to amend. Rather, ordinarily, “the petitioner bears the burden of proving that the proposed amended claims are unpatentable by a preponderance of the evidence.” *Bosch*, 878 F.3d at 1040 (as amended on rehearing); *Lectrosonics*, Paper 15 at 3–4. In determining whether a petitioner has proven unpatentability of the substitute claims, the Board focuses on “arguments and theories raised by the petitioner in its petition or opposition to the motion to amend.” *Nike, Inc. v. Adidas AG*, No. 2019-1262, 2020 WL 1802796, at *5 (Fed. Cir. Apr. 9, 2020). The Board itself also may justify any finding of unpatentability by reference to evidence of record in the proceeding. *Lectrosonics*, Paper 15 at 4 (citing *Aqua Products*, 872 F.3d at 1311).

Notwithstanding the foregoing, Patent Owner’s proposed substitute claims must meet the statutory requirements of 35 U.S.C. § 316(d) and the procedural requirements of 37 C.F.R. § 42.121. *Lectrosonics*, Paper 15 at 4–8. Accordingly, Patent Owner must demonstrate: (1) the amendment proposes a reasonable number of substitute claims; (2) the amendment responds to a ground of unpatentability involved in the trial, (3) the proposed claims are supported in the original disclosure (and any earlier filed disclosure for which the benefit of filing date is sought); and (4) the amendment does not seek to enlarge the scope of the claims of the patent or

introduce new subject matter. *See* 35 U.S.C. § 316(d) (2018); 37 C.F.R. § 42.121.

a. Proposed Substitute Claims

The motion to amend includes a claim listing, as required by 37 C.F.R. § 42.121(b). Rev. Mot. 4, Appendix A; *Lectrosonics* at 8. The Petition challenges nineteen claims, and the motion to amend proposes one substitute claim for each challenged claim. Rev. Mot. 1. We determine that the number of proposed claims is reasonable.

Patent Owner proposes to replace original claims 1–19 with substitute claims 20–38, respectively. Rev. Mot. 1. As substitute claims 21–25 and 27–38 are substantively the same as the claims they seek to replace, we focus on substitute claims 20 and 26 (replacing original claims 1 and 7, respectively). *See id.*, Appendix A. Proposed substitute claims 20 and 26 are reproduced below with bracketing indicating text deleted, and underlining indicating text added, as compared to original claims 1 and 7, respectively.

20. (Substitute for Claim 1) A work station for use in a system for medical dose preparation management, the work station comprising:

a base;

a medication preparation staging region disposed relative to the base and operable to supportively engage at least one medication receptacle;

an imaging device having an imaging field encompassing at least a portion of the medication preparation staging region, wherein the imaging device is operable to output a video data stream of the imaging field;

a processor in operative communication with the imaging device to receive the video data stream of the imaging field;

a user control device in operative communication with the processor to initiate a capture of a medical dose preparation image from the video data stream in response to a user input received at the user control device;

a scale in operative communication with the processor and operable to output a weight corresponding to a medication receptacle that is supportably disposed in the medication preparation staging region;

a memory in operative communication with the processor;

wherein upon receipt of the user input, the weight is recorded by the processor from the scale at substantially the same time as the capture of the medical dose preparation image, [and]

wherein the weight and the medical dose preparation image are associatively stored in the memory, and

wherein said memory is capable of associatively storing said weight and said medical dose preparation image corresponding to a medication dose order at least until administration of a medication dose corresponding to the medication dose order.

26. (Substitute for Claim 7) A work station according to claim [[1]]20, wherein the scale is included in the base; and

wherein said weight and said medical dose preparation image are displayed remotely for review and verification.

Id. at Appendix A, A-11–26, A30–31.

b. Respond to Ground of Unpatentability

We next consider whether the proposed substitute claims respond to a ground of unpatentability involved in this trial. *Lectrosonics* at 5–6. Patent Owner argues the motion to amend is responsive to the instituted grounds

insofar as the language underlined in claims 20 and 26 above, responds to our assessment that original claim 1 “places no restriction on the type, duration, or location of the ‘memory in operative communication with the processor.’” Rev. Mot. 1–2 (quoting Inst. Dec. 12 n.29). Patent Owner also highlights the added limitations in asserting that the proposed substitute claims are patentable over the references in the instituted grounds. *See id.* at 2–4, 8–24.

Petitioner argues substitute claims 20–38 are improper for failing to further limit the issued apparatus claims, which we understand to mean the amendment does not respond to a ground of unpatentability. *See* Opp. Rev. Mot. 2–3. The proposed substitute claims differ from the issued claims of the ’693 patent by requiring, via substitute independent claim 20 from which all subsequent claims depend, that the “memory is capable of associatively storing said weight and said medical dose preparation image corresponding to a medication dose order at least until administration of a medication dose corresponding to the medication dose order.” *Compare* issued claim 1 (Rev. Mot. A1), *with* proposed substitute claim 20 (Rev. Mot. A5–A7). Petitioner contends that the “capable of” language of proposed claim 20 merely requires the ability to do something and not that such thing has to be performed. Opp. Rev. Mot. 2 (citing Ex. 1026). Petitioner further argues that, because all memories are inherently “capable of” storing data for any desired duration, “capable of” fails to limit the claimed apparatus. *Id.* at 2–3

Although we agree with Petitioner that the “capable of” limitation renders the subsequent “associatively storing” limitation optional, we do not agree that the substitute claims are improper for failing to further limit the issued apparatus claims. Functional limitations in an apparatus claim are

interpreted as requiring the claimed apparatus to possess the capability of performing the recited functions. *See In re Schreiber*, 128 F.3d 1473, 1478–79 (Fed. Cir. 1997). Here, the proposed amendment further limits the apparatus in that the claimed memory must possess the capability “of associatively storing said weight and said medical dose preparation image corresponding to a medication dose order at least until administration of a medication dose corresponding to the medication dose order.” Petitioner has not established sufficiently that this is an inherent property of all memory. Nor has Petitioner argued that the proposed limitation of claim 20, “wherein said weight and said medical dose preparation image are displayed remotely for review and verification,” fails to further limit the apparatus.

In light of the above, we determine that the amended language in the proposed substitute claims is responsive to the grounds of unpatentability involved in this trial.

c. Scope of Amended Claims

“A motion to amend may not present substitute claims that enlarge the scope of the claims of the challenged patent.” *Lectrosonics* at 6–7 (citing 35 U.S.C. § 316(d)(3) (2018); 37 C.F.R. § 41.121(a)(2)(ii)). Patent Owner argues that “Substitute claims 20 and 22 retain all the features of corresponding original claims 1 and 7 and are narrowing because they clarify that the weight and medical dose preparation image must be associatively stored in the memory at least until administration,” whereas the amendments to substitute claims 21–25 and 27–38 merely address the dependency from independent claim 20. Rev. Mot. 2–3. Petitioner does not argue that the proposed amendments enlarge claim scope.

We determine that the limitations added to proposed claims 20–38 do not enlarge the scope of the original claims.

d. Support in Original Disclosure/New Matter

“A motion to amend may not present substitute claims that . . . introduce new subject matter.” *Lectrosonics* at 6–7 (citing 35 U.S.C. § 316(d)(3)); 37 C.F.R. § 41.121(a)(2)(ii)). Accordingly, the Board requires that “a motion to amend set forth written description support in the originally filed disclosure of the subject patent for each proposed substitute claim, and also set forth support in an earlier filed disclosure for each claim for which benefit of the filing date of the earlier filed disclosure is sought.” *Lectrosonics* at 7 (citing 37 C.F.R. § 42.121(b)(1)–(2)). For this requirement, Patent Owner must cite “to the original disclosure of the application, as filed, rather than to the patent as issued.” *Id.* at 8.

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to a person of ordinary skill in the art that the inventor had possession of the claimed subject matter at the time of filing, rather than the presence or absence of literal support in the specification for the claim language. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991); *In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983).

The ’693 patent claims benefit of priority to at least U.S. Provisional Patent Application No. 61/719,256 (“the ’256 application”), filed on October 26, 2012 (*see* Ex. 2012); and PCT Application No. PCT/US2013/032545, filed on March 15, 2013. *See* Ex. 1001, codes (60), (63). Patent Owner provides a claim chart which purportedly shows support for the proposed

substitute claims in the original disclosure of the '693 patent and the '256 application. *See* Rev. Mot. 4–8, A11–47.

Petitioner sets forth a number of arguments for why the proposed amendments lack written description support and/or enablement. *See* Opp. Rev. Mot. 2–9; Sur-reply Rev. Mot. 1–8. Bearing directly on whether proposed claim 20 is adequately described and enabled, the parties disagree on the meaning we should ascribe to “associatively storing” in the proposed claim language:

wherein said memory is capable of associatively storing said weight and said medical dose preparation image corresponding to a medication dose order at least until administration of a medication dose corresponding to the medication dose order.

The issue is whether “associatively storing” refers to the process of storing data in memory, or to the arrangement of data in the memory.

Petitioner takes the position that “memory . . . capable of associatively storing” the recited data should be read as “self-managed memory” having the capability of “associatively stor[ing] the weight and the medical dose preparation image, independent of a control subsystem or any ‘discrete programming.’” Opp. Rev. Mot. 3 (citing Prelim. Guid. 5–6).¹⁰ Petitioner notes that even “PO’s expert explained that there is no such thing as a self-managed memory because discreet programming steps are required to manage memories in combination with a memory control sub-system” (*id.* (citing Ex. 1017, 39:20–40:4, 40:17–41:3), and though substitute claim 20

¹⁰ For the reasons set forth at pages 5 and 6 of our Preliminary Guidance, we determined that similar language but lacking the “capable of” limitation was “directed to a self-managed memory, which lacks written description support in the '693 patent Specification.”

recites a processor, “the processor does not participate in memory management, storage timing, or data acquisition.” *See id.* at 4. Applying this interpretation, Petitioner argues that “[t]here is no description of how the claimed *memory* would itself manage the claimed capability.” *Id.*

In contrast, Patent Owner focuses not on the act of “memory . . . associatively storing” weight and image data, but on the relationship between such data when it is stored in the memory, specifically, that the memory is capable of storing weight and image data “in relationship to one another.” Rev. Mot. 10.

The portions of the ’693 patent Specification cited by Patent Owner disclose that medical dose preparation images may be stored locally in the workstation memory, which is in operative communication with the processor. Rev. Mot. A–23 (citing Ex. 1002, 27 (file history of the ’273 patent); *see also* Reply Rev. Mot. 4–5 (citing Ex. 1001, 7:57–60 (“a memory in operative communication with the processor” is responsible for “storing the weight and the medical dose preparation image”); 15:66–16:2 (“the video data stream processing module 72 may be stored in a memory 120 in operative communication with the processor 70”); 24:32–34 (“[t]he processor 70 at the work station 40 may associatively store the anticipated weight and the measured weight”)). Further, the medical dose preparation images may be communicated to a remote location by way of a network interface in operative communication with the processor, such that the images may be reviewed and verified. Rev. Mot. 7–8, A23 (citing Ex. 1001, 16:2–15; Ex. 1002, 38). Thus, the ’693 patent Specification discloses the processor, not the memory, stores data to the memory and controls access to the data stored in the memory. We, therefore, agree with Petitioner that the

proposed limitation, as currently written, is directed to a “self-managed” memory, which lacks written description support in the ’693 patent Specification.

e. Conclusion

For these reasons, we find that, in violation of 35 U.S.C. § 112 ¶ 1, the Specification does not provide written description support for proposed substitute claim 20 in the original disclosure of the patent. Likewise, proposed substitute dependent claims 21–38 suffer from the above-noted deficiencies for the same reasons. Thus, we deny Patent Owner’s Revised Contingent Motion to Amend.¹¹

2. Patentability

As discussed above, Patent Owner has not satisfied the statutory and regulatory requirements associated with filing a motion to amend. We, nonetheless, address the patentability of the proposed amendment.

Petitioner argues that claims 20-38 are unpatentable because:

- (1) the claims are not enabled;
- (2) the claims are anticipated by Fioravanti;
- (3) the claims are obvious over Fioravanti alone;

¹¹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2) (2019).

(4) the claims are obvious over Fioravanti and Alexander; and

(5) the claims are obvious over Fioravanti, Alexander, and Eliuk.

Because we addressed the parties' contentions regarding these unpatentability challenges in Grounds 1–4, we limit our discussion here to whether the references disclose the new proposed language in claim 20:

wherein said memory is capable of associatively storing said weight and said medical dose preparation image corresponding to a medication dose order at least until administration of a medication dose corresponding to the medication dose order,

and claim 26:

wherein said weight and said medication dose preparation image are displayed remotely for review and verification.

For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that proposed substitute claims 20–38 are unpatentable.

a. Enablement

“The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” *United States v. Telectronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). “[A] patent specification complies with the statute even if a ‘reasonable’ amount of routine experimentation is required in order to practice a claimed invention.” *Enzo Biochem, Inc. v. Calgene, Inc.*, 188 F.3d 1362, 1371 (Fed. Cir. 1999). Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

Relying on its written description argument, Petitioner argues a person of ordinary skill in the art “would not have been enabled to make and use an invention reciting a self-managing memory,” because the Specification fails to describe a “memory subsystem or processor including the ‘discrete programming’ steps Dr. Stevenson testifies as being necessary.” Opp. Rev. Mot. 4–5. Patent Owner sets forth no specific rebuttal, merely asserting that Petitioner’s enablement argument fails for the same reason that the written description arguments fails. Reply Rev. Mot. 6.

For essentially the same reasons discussed above in connection the written description argument of claim 20, we agree with Petitioner that one of ordinary skill “would not have been able to make and use an invention reciting a self-managing memory that “is capable of associatively storing said weight and said medical dose preparation image corresponding to a medication dose order at least until administration of a medication dose corresponding to the medication dose order,” as required by proposed independent claim 20 and its dependent claims. The substitute claims require a “self-managing memory,” which is not described in the ’693 patent. *See also In re Nuvasive*, 841 F.3d at 974 (explaining that the Board need not make specific findings as to claim limitations that Patent Owner does not dispute are disclosed in the prior art).” Accordingly, in light of the above, we further deny Patent Owner’s Revised Contingent Motion to Amend for lack of enablement under 35 U.S.C. § 112 ¶ 1.

b. Anticipation—Fioravanti

Petitioner contends that claims 20–38 are anticipated by Fioravanti. Opp. Rev. Mot. 11–19. Among the proposed substitute claims, the sole independent claim, claim 20, recites that the memory in operative

communication with the processor “is capable of associatively storing said weight and said medical dose preparation image corresponding to a medication dose order at least until administration of a medication dose corresponding to the medication dose order.” Petitioner contends that Fioravanti discloses “the memory device 15 having a database storing medical prescriptions for each drug, sample images for various syringes and vials, and sample images of syringe-spike configurations.” *Id.* at 18. According to Petitioner, “FIG. 10 [depicts] an interface with the current weight and a current camera image obtained from a gravimetric control system and from a camera,” and a person of ordinary skill in the art would understand *Fioravanti*’s “disclosure of memory, storing the database in the memory, storing sample images in the memory, and displaying the weight and image data to mean that the *Fioravanti* memory is capable of associatively storing weight and image data for a period of time.” *Id.* (citing Ex. 1025 ¶¶ 14, 18, 22).

As discussed above in Ground 1, Fioravanti discloses that the processor captures the weight and dose preparation images at substantially the same time in memory so they can be displayed in real-time, for example, on the display shown in Figures 3–10 of Fioravanti (*see* Ex. 1006, Figs. 2, 10), but does not explicitly disclose that these weight and images are associatively stored in memory so that they can be retrieved and reviewed at later time. Petitioner does not identify any explicit teaching in Fioravanti alone that any image or video from cameras 9 and 10, including the real-time images displayed in Figures 3–10, are stored for later retrieval and review. Pet. 13–26; Reply 8–12.

Because claim 20 is not anticipated by Fioravanti, depending claims 21–38 cannot be anticipated by Fioravanti.

c. Obviousness—Fioravanti Alone

Petitioner contends that claims 20–38 are unpatentable as obvious over Fioravanti alone. Opp. Rev. Mot. 19–22.

As an initial matter, Petitioner does not argue that claims 20–38 are obvious under our construction that independent claim 20 requires a self-managed memory. We, nonetheless, address obviousness under the presumption that Patent Owner *intended* claim 20 to recite that a processor, as opposed to the recited “memory,” in communication with a memory associatively stores the weight and medical dose preparation image corresponding to a medication dose order. Under such a construction, proposed independent claim 20 and its dependent claims would remain obvious over Fioravanti alone.

As discussed above in Ground 2, we agree with Petitioner that, to the extent that Fioravanti does not explicitly teach associatively storing a captured image and weight measurement of a syringe or vial, it would have been obvious from Fioravanti’s teaching to store these pieces of information together as part of the database record for a medication dose order. Pet. 27 (citing Ex. 1004 ¶¶ 32–34, 43–46). We agree with Dr. Young that it would have been obvious to a person of ordinary skill in the art to store data for a particular medication receptacle (e.g., a vial or syringe) in memory so that the processor can match that data to the medication receptacle or relevant dose order for a duration sufficient to allow for remote access and verification, i.e., beyond local real time display.

Patent Owner argues that Fioravanti’s memory does not store images and weight. Reply Rev. Mot. 8–9. For the reasons discussed in Ground 2, Patent Owner’s argument is not persuasive. Fioravanti discloses that the processor captures the weight and dose preparation images at substantially the same time in memory so they can be displayed in real-time, for example, on the display shown in Figures 3–10 of Fioravanti. *See* Ex. 1006, Figs. 2, 10.

Depending from claim 22, claim 24 newly recites that “said weight and said medical dose preparation image are displayed remotely for review and verification.” As to claim 26, Petitioner contends, and we agree, that Fioravanti discloses “a monitoring system 18 that allows for remote monitoring from a computer 33 connected to a data communication network 32,” and “[u]sing the computer, remote monitoring of the workstation 30, and/or viewing of the film regarding preparation of a given liquid pharmaceutical composition; and/or monitoring in real time of the state of advance of the preparation of said composition is possible.” Opp. Rev. Mot. 19 (citing Ex. 1006 ¶ 32 (monitoring system 18 enables viewing from a remote-surveillance station), ¶¶ 33–34).

Thus, Petitioner has shown that claims 20–38, including the amended limitations, are obvious over Fioravanti.

d. Obviousness—Fioravanti and Alexander

Petitioner contends that claims 20–38 are unpatentable as obvious over Fioravanti and Alexander. Opp. Rev. Mot. 23–24.

As discussed above in Ground 3, Alexander’s server 700 associatively stores images of pharmacy work for later access in an image database with a

job/task identifier. Ex. 1008, 15:9–21, 14:6–10; Pet. 40; Ex. 1004 ¶¶ 59, 64. Although Alexander does not explicitly address storing weight data,

Petitioner contends, and for the reasons discussed in sections III.F.3–4 above, we agree, that it would have been obvious to a person of ordinary skill in the art “to associate the weight information recorded by the Fioravanti system with the task identifier disclosed by Alexander.” Pet. 40 (citing Ex. 1004 ¶¶ 59, 64). In this respect, we credit Dr. Young’s testimony that one of ordinary skill in the art would have considered such an association useful in providing a record for later reference or verification, for example, if an adverse event occurs after the dose has been administered. Ex. 1002 ¶¶ 62–65.

Petitioner further argues that a person of ordinary skill in the art would have found it to have been obvious “to modify the *Fioravanti* system with the teachings of *Alexander* regarding *how* a specific image may be associated with other information to permit later access and processing,” and “*Alexander*’s job/task identifier, in addition to providing a reference for a pharmacist to review the images, could be used to reference other data corresponding to the same job or task.” Opp. Rev. Mot. 23–24. For the reasons identified in the Petition, we find Petitioner’s argument persuasive. *See Id.* (citing Pet. 40; Ex. 1004 ¶¶ 59, 64; Ex. 2021, 146:7–12 (“[O]ne purpose ... would be to record the person doing the work for the record, retrospectively if you needed to go back and see who performed it, like an error had occurred.”), 177:5–10 (“[T]he person involved, their image, all the recognition. So when you want to go through this record . . . the metadata is everything they did and all the little data points is what you’re looking at.”)). Thus, the combined teachings of Fioravanti and Alexander teach or suggest

that “said memory is capable of associatively storing said weight and said medical dose preparation image corresponding to a medication dose order at least until administration of a medication dose corresponding to the medication dose order,” as recited in claim 20.

As to claim 26, and as discussed above, Fioravanti discloses the limitations in claim 26.

Thus, Petitioner has shown that claims 20–38, including the amended limitations, are obvious over Fioravanti and Alexander.

e. Obviousness—Fioravanti, Alexander, and Eliuk

Petitioner contends that claims 20–38 are unpatentable as obvious over Fioravanti, Alexander, and Eliuk. Opp. Rev. Mot. 24–25.

As discussed above in Ground 4, Eliuk explicitly describes association of weight information and captured images using a dose ID. Ex. 1009, 49:5–32 (“[A] drug order record for each drug order . . . may be stored in the APAS database 4340 . . . [e]ach dose ID may be *associated* with process measurements, such as *measurements of weights at different processing stages, captured images . . . expected and actual image data.*”) (emphases added); see Opp. Rev. Mot. 24–25 (citing Pet. 45–46, 52–53; Ex. 1004 ¶ 71).

Petitioner contends, and we agree, that a person of ordinary skill in the art would have found it obvious “to modify *Fioravanti* so that the captured weight and medical dose preparation image are associated using a dose ID to achieve the benefits linked with associating weight and medical dose preparation images as taught by *Eliuk*.” *Id.* at 25. For the reasons cited by Petitioner, and as set forth in sections III.G.2–3 above, we find this argument persuasive. See *id.* (citing Pet. 52–53; Ex. 1004 ¶ 71).

Thus, Petitioner has shown that claims 20–38, including the amended limitations, are obvious over Fioravanti, Alexander, and Eliuk.

M. Petitioner’s Motion to Exclude Evidence

Petitioner filed a Motion To Exclude Evidence. Paper 57 (“Mot. Excl.”). Patent Owner filed an Opposition To Petitioner’s Motion To Exclude Evidence. Paper 59. Petitioner filed a Reply To Patent Owner’s Opposition To Motion To Exclude Evidence. Paper 60.

Petitioner moved to exclude “Exhibits 2026 and 2030 in their entirety, and any reference to or reliance on them.” Mot. Excl. 1. Exhibit 2026 appears to be a July 29, 2019 email thread between Petitioner and Patent Owner’s counsel containing Patent Owner’s request for documents containing alleged “critical customer and market insights.” Ex. 2026, 3. As we do not rely on Exhibit 2026, we dismiss Petitioner’s motion as moot with respect to this exhibit.

Exhibit 2030 appears to be a blog article discussing two Board rulings on design choice. As we do not rely on Exhibit 2030, we dismiss Petitioner’s motion as moot with respect to this exhibit.

IV. CONCLUSION

Weighing the evidence of the disclosure of the references, the competing testimony, and the reasoning to combine the references, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–19 of the ’693 patent are unpatentable.

Ground	Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1	1-3, 5-7, 15, 17	102(b)	Fioravanti		1-3, 5-7, 15, 17
2	1-12, 15-19	103(a)	Fioravanti	1-12, 15-19	
3	1-12, 15-19	103(a)	Fioravanti, Alexander	1-12, 15-19	
4	1-12, 15-19	103(a)	Fioravanti, Alexander, Eliuk	1-12, 15-19	
5	10	103(a)	Fioravanti, Alexander, Eliuk, Burns	10	
6	11-14	103(a)	Fioravanti, Alexander, Eliuk, Bear	11-14	
7	16	103(a)	Fioravanti, Alexander, Eliuk, Claypool	16	
8	16, 18, 19	103(a)	Fioravanti, Alexander, Eliuk, Angel	16, 18, 19	
	Overall Outcome			1-19	

Motion to Amend Outcome	Claims
Original Claims Cancelled by Amendment	
Substitute Claims Proposed in the Amendment	20-38
Substitute Claims: Motion to Amend Granted	
Substitute Claims: Motion to Amend Denied	20-38
Substitute Claims: Not Reached	

V. ORDER

It is, therefore,

ORDERED that claims 1–19 of the '693 patent have been shown to be unpatentable;

FURTHER ORDERED that Patent Owner's Revised Contingent Motion to Amend (Paper 41) is denied;

FURTHER ORDERED that Petitioner's Motion to Exclude Exhibits (Paper 57) is dismissed as moot; and

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

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