

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WEBER, INC.,
Petitioner,

v.

PROVISUR TECHNOLOGIES, INC.,
Patent Owner.

Case IPR2019-01466
Patent No. 6,997,089

PATENT OWNER'S NOTICE OF APPEAL

Pursuant to 35 U.S.C. §§ 141–44 and 319, Patent Owner Provisur Technologies, Inc., hereby appeals to the United States Court of Appeals for the Federal Circuit from the final written decision entered on March 8, 2021 (Paper No. 36) by the Patent Trial and Appeal Board, and all underlying orders, decisions, rulings, and opinions. A copy of the final written decision is attached.

The issues on appeal, *see* 37 C.F.R. § 90.2(a)(3)(ii), include, but are not limited to:

(1) The correctness of the determination that claims 1–10, 13, and 14 of U.S. Patent No. 6,997,089 are unpatentable, and any finding or determination supporting or related to those issues, as well as other issues decided adversely to Provisur in any orders, decisions, rulings, and opinions, including the determination denying Provisur's motion to exclude evidence.

(2) Whether the current structure of the Board is unconstitutional and its decision void because the appointment of Administrative Patent Judges violates the Appointments Clause of the United States Constitution, U.S. Const. Art. II, § 2, Cl. 2, and their appointment remains unconstitutional. *See Arthrex, Inc. v. Smith & Nephew, Inc.*, 141 S. Ct. 551 (Mem.) (2020) (granting certiorari).

This Notice of Appeal is timely, having been filed within 63 days after the final written decision was released by the Board. *See* 37 C.F.R. § 90.3(a)(1).

Copies of this Notice of Appeal are being filed simultaneously with the Director,

the Board, and the Clerk of the United States Court of Appeals for the Federal Circuit, along with the Court's requisite filing fee.

Respectfully submitted,

Dated: May 7, 2021

By: /s/ Michael G. Babbitt
Counsel for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 1.10, 42.6(b)(1), 90.2(a)(1), and 104.2(a), a true and correct original version of the foregoing Patent Owner's Notice of Appeal was filed electronically through the Patent Trial and Appeal Board's End to End (PTAB E2E) system, and filed by Express Mail on this 7th day of May, 2021 with the Director of the United States Patent and Trademark Office, at the following address:

Office of the General Counsel
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Pursuant to 37 C.F.R. § 90.2(a)(2) and Federal Circuit Rule 15(a)(1), and Rule 52(a),(e), a true and correct copy of the foregoing Patent Owner's Notice of Appeal was filed in the United States Court of Appeals for the Federal Circuit using the Court's CM/ECF filing system on this 7th day of May, 2021, and the filing fee was paid electronically.

Pursuant to 37 C.F.R. § 42.6(e), on May 7, 2021, a true and correct copy of the foregoing Patent Owner's Notice of Appeal was served via electronic mail to the Petitioner's Attorneys of Record as the addresses provided in the service information in the Petition:

tpowers-PTAB@sternekessler.com,
dbanowit-PTAB@sternekessler.com,

Patent Owner's Notice of Appeal
IPR2019-01466

dblock-PTAB@sternekessler.com,
dyonan-PTAB@sternekessler.com,
jbuchanan-PTAB@sternekessler.com,
kconklin-PTAB@sternekessler.com,
smerrill-PTAB@sternekessler.com,
spappas-PTAB@sternekessler.com,
tdutton-PTAB@sternekessler.com, and
PTAB@sternekessler.com.

/s/ Michael G. Babbitt

Counsel for Patent Owner

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WEBER, INC.,
Petitioner,

v.

PROVISUR TECHNOLOGIES, INC.,
Patent Owner.

IPR2019-01466
Patent 6,997,089 B2

Before MITCHELL G. WEATHERLY, TIMOTHY J. GOODSON, and
JON M. JURGOVAN, *Administrative Patent Judges*.

WEATHERLY, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. BACKGROUND

Weber, Inc. (“Petitioner”) filed a petition (Paper 2, “Pet.”) to institute an *inter partes* review of claims 1–14 (the “challenged claims”) of U.S. Patent No. 6,997,089 B2 (Ex. 1001, “the ’089 patent”). 35 U.S.C. § 311.

Provisur Technologies, Inc. (“Patent Owner”) timely filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). On March 10, 2020, based on the record before us at the time, we instituted an *inter partes* review of all challenged claims on all grounds alleged as indicated in the table below. Paper 7 (“Institution Decision” or “Dec.”).

Claims challenged	35 U.S.C. §	References
1, 3–5, 8–10, 13, 14	103	Whitehouse, ¹ Antonissen, ² Hardy ³
2, 6, 7, 11, 12	103	Whitehouse, Antonissen, Hardy, Wyslotsky ⁴

After we instituted this review, Patent Owner filed a Patent Owner Response in opposition to the Petition (Paper 17, “PO Resp.”). Petitioner filed a Reply in support of the Petition (Paper 21, “Reply”). Patent Owner filed a Sur-reply responding to the Reply (Paper 24, “Sur-reply”). Patent Owner did not move to amend any claim of the ’089 patent.

We heard oral argument on December 8, 2020. A transcript of the argument has been entered in the record (Paper 35, “Tr.”).

Patent Owner filed a motion to exclude evidence (Paper 30, “Motion” or “Mot.”). Petitioner opposed the Motion (Paper 31, “Opposition” or “Opp.”). Patent Owner filed a reply in support of the Motion (Paper 33, “Mot. Reply”).

¹ British Patent No. GB 2,239,787 B (Ex. 1005, “Whitehouse”).

² U.S. Patent No. 5,267,168 (Ex. 1006, “Antonissen”).

³ U.S. Patent No. 4,016,788 (Ex. 1007, “Hardy”).

⁴ U.S. Patent No. 4,136,504 (Ex. 1008, “Wyslotsky”).

We have jurisdiction under 35 U.S.C. § 6. The evidentiary standard is a preponderance of the evidence. *See* 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2019). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons expressed below, we conclude that Petitioner has demonstrated by a preponderance of evidence that claims 1–10, 13, and 14 are unpatentable, but it has failed to do so for claims 11 and 12.

B. RELATED PROCEEDINGS

The parties identified as a related proceeding the co-pending district court proceeding of *Provisur Technologies, Inc. v. Weber, Inc. et al.*, Case No. 5-19-cv-06021 (W.D. Mo. filed February 22, 2019), which involves the '089 patent along with U.S. Patent Nos. 6,320,141; 6,669,005; 7,065,936; 7,533,513; 8,322,537; and 9,399,531. Pet. 75; Paper 3, 2.

C. THE '089 PATENT

The '089 patent “relates to slicing apparatus and associated conveyor and classifier systems for slicing and grouping food products.” Ex. 1001, 1:6–8. The system is particularly well-suited for slicing and classifying bacon, which often exhibits greatly varying distribution of fat and lean, to maintain a consistent quality or weight from package to package. *Id.* at 1:13–41. The system images the top slice of a stack of sliced food product as “an accurate representation of the condition of all the slices in the stack.” *Id.* at 2:53–54. The image, taken with a digital CCD type camera, is analyzed on a pixel-by-pixel basis to determine a fat-to-lean ratio based on the grayscale level of each pixel. *Id.* at 3:54–57, 4:37–44. Based on this analysis, the system assigns a quality grade and routes particular stacks

based on that grade to an appropriate conveyor to collect stacks of similar grades into groups. *Id.* at 5:29–39.

Claims 1, 9, and 13 are the independent claims in the '089 patent. *Id.* at 5:48–8:12. Claim 1, which is illustrative, recites:

1. A method of classifying groups of slices collected in a stack after being cut from a food product, comprising the steps of:

[1.1] removing a plurality of slices in succession from a food product by cutting, using a high speed slicing apparatus;

[1.2] dropping said plurality of slices from said food product and accumulating said plurality into a stack on a conveyor system having at least one conveying surface;

[1.3] moving said stack on said conveying surface into an image field of a digital image receiving device;

[1.4] generating pixel-by-pixel image data of a top slice of said stack using the digital image receiving device;

[1.5] determining a surface area of the top slice from the data;

[1.6] determining a fat content of said top slice on a pixel-by-pixel basis;

[1.7] comparing the fat content to at least one predetermined limit; and

[1.8] classifying said stack according to said fat content and said limit; and

[1.9] depending on how said stack is classified, conveying said stack to a corresponding destination.

Id. at 5:48–6:2 (with bracketed labels added to ease discussion).

II. ANALYSIS

A. CLAIM INTERPRETATION

For petitions such as this one that are filed after November 13, 2018, we interpret claims in the same manner used in a civil action under

35 U.S.C. § 282(b) “including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *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, 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)).⁵ When applying that standard, we interpret the claim language as it would be understood by one of ordinary skill in the art in light of the specification. *Wasica Finance GmbH v. Continental Automotive Sys., Inc.*, 853 F.3d 1272, 1279–80 (Fed. Cir. 2017). Thus, we give claim terms their ordinary and customary meaning as understood by an ordinarily skilled artisan. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

Neither party proposes any express interpretation of any claim terms. Pet. 10; *See generally* PO Resp. We discern no terms in dispute or in need of express interpretation. We merely apply the legal standards set forth above when reading the claims.

B. THE PARTIES’ POST-INSTITUTION ARGUMENTS

In our Institution Decision, we concluded that the argument and evidence adduced by Petitioner demonstrated a reasonable likelihood that

⁵ This rule change applies to petitions filed on or after November 13, 2018. *Id.*

claims 1–14 were unpatentable as obvious based on the challenges identified in the table in Part I.A above. Dec. 17. We must now determine whether Petitioner has established by a preponderance of the evidence that the specified claims are unpatentable over the cited prior art. 35 U.S.C. § 316(e) (2018). We previously instructed Patent Owner that “any arguments for patentability not raised in the [Patent Owner Response] may be deemed waived.” Paper 8, 8; *see also In re NuVasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (holding that patent owner’s failure to proffer argument at trial as instructed in scheduling order constitutes waiver). Additionally, the Board’s Trial Practice Guide states that the Patent Owner Response “should identify all the involved claims that are believed to be patentable and state the basis for that belief.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

C. LEGAL STANDARDS

Petitioner challenges the patentability of claims 1–14 on the grounds that the claims are obvious. To prevail in its challenges to the patentability of the claims, Petitioner must establish unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir.

2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), reaffirmed the framework for determining obviousness as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The *KSR* Court summarized the four factual inquiries set forth in *Graham* that we apply in determining whether a claim is unpatentable as obvious under 35 U.S.C. § 103(a) as follows: (1) determining the scope and content of the prior art, (2) ascertaining the differences between the prior art and the claims at issue, (3) resolving the level of ordinary skill in the pertinent art, and (4) when in evidence, considering objective evidence indicating obviousness or nonobviousness. *KSR*, 550 U.S. at 406 (citing *Graham*, 383 U.S. at 17–18).

Petitioner must explain how the proposed combinations of prior art would have rendered the challenged claims unpatentable. 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; *accord In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007). However, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements,” but “must instead articulate specific reasoning, based on evidence of record” to support an obviousness determination. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380–81 (Fed. Cir. 2016). Petitioner also must articulate a reason why a person of ordinary skill in the art would have combined the prior art references. *NuVasive*, 842 F.3d at 1382.

At this final stage, we determine whether a preponderance of the evidence of record shows that the challenged claims would have been rendered obvious in view of the asserted prior art. We analyze the asserted grounds of unpatentability in accordance with these principles.

D. LEVEL OF ORDINARY SKILL

Based on testimony by Richard Hooper, Ph.D., Petitioner contends that a person having an ordinary level of skill in the art would have had:

- (1) a bachelor's degree (or equivalent) in mechanical engineering (or a similar field) and at least two years of experience working on food processing and/or packaging systems (or in a similar field); or
- (2) at least seven years of experience working on food processing and/or packaging systems (or in a similar field).

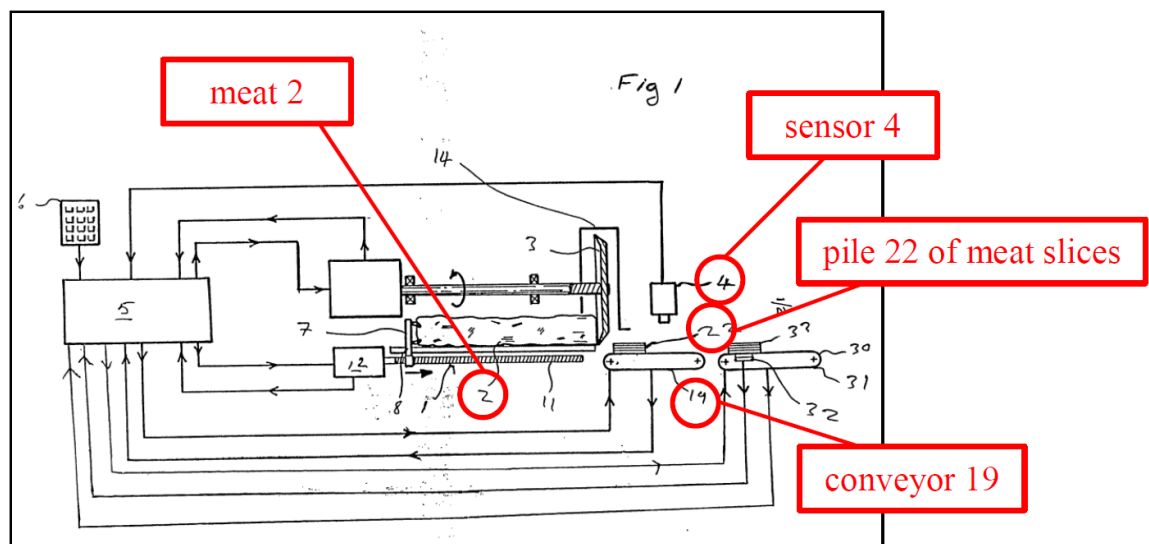
Pet. 9–10 (citing Ex. 1003 ¶ 41). Patent Owner does not offer its own definition of the level of ordinary skill. *See generally* PO Resp. We have considered “the types of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and education level of active workers in the field.” *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). We adopt Petitioner's proposal because Petitioner's proposed definition is consistent with the level of skill demonstrated in the cited prior art references. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

E. CLAIMS 1, 3–5, 8–10, 13, AND 14: OBVIOUSNESS IN VIEW OF WHITEHOUSE, ANTONISSEN, AND HARDY

Petitioner argues that the combined teachings of Whitehouse, Antonissen, and Hardy render claims 1, 3–5, 8–10, 13, and 14 unpatentable as obvious. Pet. 12–68. Patent Owner argues that Petitioner's argument fails for two reasons, neither of which is persuasive.

1. Whitehouse

Whitehouse describes “a meat cutting apparatus, employing a knife slicer, for removing slices from the face of a body of meat ready for incorporation into sliced packs of predetermined weight, the apparatus including scanning means for determining the surface area of the face of the body of meat.” Ex. 1005, 2. Whitehouse’s system is illustrated in Petitioner’s annotated version of Whitehouse’s Figure 1, reproduced below.



Petitioner’s annotated version of Whitehouse’s Figure 1 is a partial sectioned schematic side view of Whitehouse’s apparatus. Pet. 3, Ex. 1005, 7.

Body 2 of meat is moved incrementally to rotating cutter 3 and the cut slices are scanned at 4 to determine the surface area. See Ex. 1005, 2, Figs. 1, 2. “The slices produced by the blade 3 accumulate in a pile 22 which is then conveyed to the sensor 4 which scans *the upper most surface of the top slice* to provide a measure of the area of the face of the meat 2.” *Id.* at 10 (emphasis added).

2. Antonissen

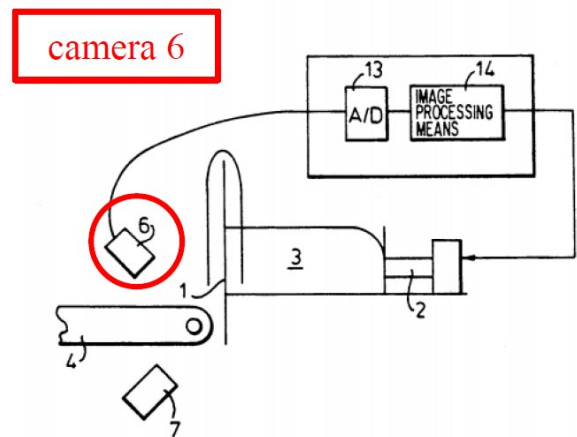
Antonissen relates to a “slicing machine . . . for slicing food products, particularly cheese, meat and pressed or moulded meat products.” Ex. 1006, 1:6–10. Antonissen’s slicing machine is illustrated in Petitioner’s annotated version of Figure 1, reproduced at right. “[F]eed mechanism 2 arranged to advance a

product 3 towards the blade 1.” *Id.* at 2:66–68. Camera 6 is positioned to view end-face 5 (not labeled in Figure 1) of product 3 during slicing. *Id.*, Abstract. Camera 6 captures an image of pixels and assigns a pixel value to correspond to fat and a pixel value to correspond to lean. *Id.* at 3:54–57, 4:4–26. “The captured image is transferred to a frame store in computer memory for analysis.” *Id.* at 4:30–31. “By the separate summation of all, or an acceptable representative fraction of all, of the pixels whose grey level is within the appropriate area threshold values, the areas of lean and fat may be calculated.” *Id.* at 4:31–35. “Where the ratio of fat to lean of an individual slice or the average ratio of a portion of slices exceeds some preset limit or limits the slice or portion may be diverted to one or more separately classified lines.” *Id.* at 4:39–42.

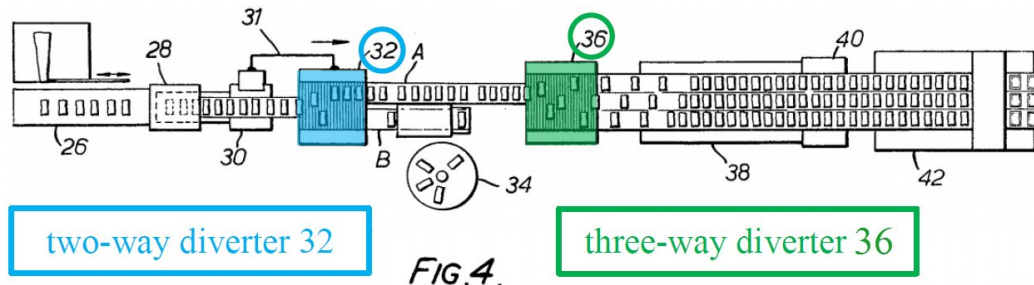
3. Hardy

Hardy discloses a slicer for slicing a block of material into slices and a conveyor located below the slicer to collect the slices as they fall from the slicer. Ex. 1007, 1:55–59. Petitioner’s annotated and colorized version of

Fig.1.



Hardy's Figure 4,⁶ reproduced below, illustrates Hardy's conveyor system with a two-way diverter 32 (blue) and a three-way diverter 36 (green). *Id.* at 5:52-6:6.



Petitioner's annotated and colorized version of Hardy's Figure 4 is a plan view of Hardy's conveyor system with diverters. Pet. 5; Ex. 1007, 2:20–21.

Hardy's diverters enabled “articles flowing in a single stream to be separated into three or more streams and vice versa.” Ex. 1007, 4:3–8. For example, two-way diverter 32 (blue), located downstream of weigher 30, diverts (1) batches having a weight within a predetermined range along one path (e.g., path A to packing machine 42) and (2) batches having a weight outside said predetermined range along another path (e.g., path B to makeweight station 34). *Id.* at 1:65–2:3, 5:52–64, Fig. 4. Three-way diverter 36 (green) divides the stream of products on path A into three streams. *Id.* at 5:66–6:1.

4. Independent Claim 1

a. Petitioner's Argument and Evidence

Petitioner argues that the combined teachings of Whitehouse, Antonissen, and Hardy render claim 1 unpatentable as obvious. Pet. 13–37.

⁶ We have corrected an obvious typographical error in Petitioner's version of the figure in which the annotation mistakenly refers to “three-way diverter 32.”

For most steps recited in the method of claim 1, Petitioner contends that Whitehouse and Antonissen collectively suggest limitations 1.1–1.8 including slicing food into a stack of slices placed on a conveyor that passes under an imaging device (1.1–1.3), imaging the top slice of the stack and analyzing the fat content of that slice based on the image (1.4–1.6), and classifying the stack based on that fat content when compared to a limit (1.7, 1.8). *Id.* at 13–26 (citing Ex. 1005, 2–10, claims 9, 10, Figs. 1, 2; Ex. 1006, 2:65–3:6, 3:17–25, 3:54–57, 3:62–4:26, 4:30–42, 6:44–52, 6:56–62, 7:14–24, 7:34–46, Figs. 1, 4A, 5, 6). Petitioner contends that Hardy describes the last step (1.9) of conveying the stack to different destinations depending upon how the stack is classified. *Id.* at 26–27 (citing Ex. 1007, 4:3–8, 5:52–59, Fig. 4). Petitioner relies upon testimony of Richard Hooper, Ph.D., opining on how an ordinarily skilled artisan would understand the teachings of Whitehouse, Antonissen, and Hardy. *Id.* at 13–28 (citing Ex. 1003 ¶¶ 45–83).

Petitioner also argues that an ordinarily skilled artisan would have been motivated to combine teachings of Whitehouse, Antonissen, and Hardy in the manner claimed and would have expected to be successful in doing so. *Id.* at 28–37. Petitioner relies upon Dr. Hooper’s testimony in which he cites extensive objective evidence from the prior art as support for his opinions. *Id.* (citing Ex. 1003 ¶¶ 84–98 (citing Ex. 1005, 1, 2, 4–11, Figs. 1, 2; Ex. 1006, 2:65–3:6, 3:37–43, 3:54–4:26, 4:36–42, 6:63–68, 7:44–46, Figs. 1, 5; Ex. 1007, 1:55–2:8, 4:3–8, 5:52–6:14, Fig. 4; Ex. 1009, 69; Ex. 1010, 54, 57–60, 64, 65; Ex. 1011, 21, 32; Ex. 1012, 62, 64, 68; Ex. 1013, 1611, 1617; Ex. 1014, 989, 993; Ex. 1015, 12; Ex. 1016, 55; Ex. 1017, 5:41–42, 6:19–21, 25:20–30)).

Patent Owner does not dispute that Petitioner has demonstrated that the combined teachings of Whitehouse, Antonissen, and Hardy describe or suggest all limitations of claim 1 other than the “digital image receiving device” of element 1.3. *See* PO Resp. 21–33 (only addressing prior art’s alleged failure to disclose the “digital image receiving device”). Petitioner’s argument and evidence summarized above, which we adopt as our own, persuades us that the combination of Whitehouse, Antonissen, and Hardy collectively disclose or suggest all elements of claim 1 other than the “digital image receiving device.” We address Petitioner’s argument and evidence as it relates to the “digital image receiving device” separately immediately below.

b. Patent Owner’s Counterarguments

Patent Owner argues that Petitioner’s arguments that claim 1 is obvious fail for two reasons. First, Patent Owner argues that Whitehouse and Antonissen alone or in combination fail to disclose the “digital image receiving device” recited in element 1.3. PO Resp. 21–32. Second, Patent Owner argues that an ordinarily skilled artisan would not have had a reasonable expectation of success in combining the teachings of Whitehouse and Antonissen as Petitioner proposes. *Id.* at 35–41. Petitioner’s arguments are persuasive on both issues.

i. Digital Image Receiving Device of Element 1.3

Patent Owner contends that Whitehouse’s sensor 4 is not a “digital image receiving device” as implied by Petitioner (Pet. 19) because sensor 4 “is a length scanner” that does not generate an image. PO Resp. 22–24 (citing Ex. 2035 ¶¶ 70–74, 137–148). We need not resolve whether Whitehouse’s sensor constitutes a “digital image receiving device” because

Petitioner persuasively demonstrates that Antonissen’s camera, A/D converter, and frame grabber collectively constitutes the claimed “digital image receiving device.”

Patent Owner contends that Antonissen’s camera is not the “digital image receiving device” because an ordinarily skilled artisan would view Antonissen’s camera as producing images in analog form rather than digital form. *Id.* at 24–28. Although we agree with Patent Owner that Antonissen’s camera 6 produces an analog output and thus, alone, is not a “digital” device, Petitioner consistently relies upon more than Antonissen’s camera as constituting the claimed “digital image receiving device.” Pet. 20 (identifying Antonissen’s camera 6, A/D converter 13, and frame grabber). In its Reply, Petitioner points out that Antonissen’s camera “performs analog-to-digital conversion and image processing like the camera in the ’089 patent,” which also sends analog signals to an external A/D conversion circuit to generate digital images. Reply 3–4. We agree with Petitioner that Antonissen discloses the claimed “digital image receiving device.”

Antonissen’s camera 6 is “an asynchronous CCD” (i.e., a charge coupled device). Ex. 1006, 3:17–20; Ex. 1003 ¶ 63; Ex. 2035 ¶ 79. Antonissen explains that: “Using an A/D [analog-to-digital] converter 13 and conventional frame grabbing techniques the output from the camera 6 is converted into an array of pixels for processing by the image processing hardware 14.” Ex. 1006, 3:21–25. Both experts agree that Antonissen’s conversion process generates an image in a digital format. Ex. 1003 ¶ 64; Ex. 2035 ¶ 79. Antonissen’s digital images have a resolution of 500 by 500 pixels with the gray level of each pixel recorded within a range of 0–250.

Ex. 1006, 3:54–57. Antonissen’s captured images are “transferred to a frame store in computer memory for analysis.” *Id.* at 4:30–31.

Similarly, the ’089 patent indicates that its “digital image receiving device” preferably includes a commercially available CCD type camera called the Electrim EDC-1000N having a resolution of 640x480 pixels. Ex. 1001, 3:62–63. The EDC-1000N camera head produces “analog output signals” that are “digitized by an A/D converter on the interface card,” which is “connected into the motherboard of the computer.” Ex. 1038, 2; Ex. 1035 ¶ 10. The ’089 patent indicates that the EDC-1000N and “[d]igital frame grabber PC-104 printed circuit board” are both part of its image processing system 30. Ex. 1001, 3:63–65. However, the “frame grabber PC-104 printed circuit board” may alternatively be located externally in CPU 12. *Id.* at 4:6–7; *see also* Figs. 1, 2 (illustrating image processing system 30 and CPU 12 in separate locations). After a digital image is captured by the claimed digital image receiving device, software running “in the system 30 or in the CPU 12 can then perform various analyses on the digital image data.” *Id.* at 4:33–34. The software analyzes the gray level of each pixel in the image, which is recorded on a scale of 0–255. *Id.* at 4:37–39. The ’089 patent indicates that the “mathematical analysis of pixel data can be as described in [Antonissen], herein incorporated by reference.” *Id.* at 4:53–55.

Based on the record before us, we determine that the ’089 patent describes the claimed “digital image receiving device” as encompassing the CCD camera (EDC-1000N), A/D converter (on the “interface card” of the EDC-1000N), and frame grabber (PC-104), which are materially the same as Antonissen’s CCD camera 6, A/D converter 13, and frame grabber. The

'089 patent's reliance upon Antonissen's methods of mathematically analyzing the digital image data collected by its own hardware demonstrates the material equivalence of the digital imaging hardware described in the '089 patent and Antonissen. Accordingly, we determine that Petitioner has proven by a preponderance of evidence that Antonissen describes the claimed "digital image receiving device" recited in element 1.3.

ii. Reasonable Expectation of Success

Patent Owner argues that an ordinarily skilled artisan "would not have had a reasonable expectation of success in combining Whitehouse and Antonissen" for two reasons, neither of which is persuasive. PO Resp. 36–41. First, Patent Owner contends that "Whitehouse's one-dimensional output of length data is incompatible with Antonissen's analog image data." *Id.* at 36–38. Second, Patent Owner contends that an ordinarily skilled artisan "would have appreciated that Antonissen's camera and image processing technique could not be reasonably used in Whitehouse's slicer." *Id.* at 39–41. The preponderance of evidence persuades us that an ordinarily skilled artisan would have had a reasonable expectation of success in combining teachings of Whitehouse and Antonissen to position a camera in a slicer system such as Whitehouse.

a) Allegedly "Incompatible" Data Formats of Whitehouse and Antonissen

Patent Owner argues that an ordinarily skilled artisan would not have combined Whitehouse's "array of numbers" with the "analog image output by Antonissen's camera 6," because the data output by Whitehouse's sensor 4 and Antonissen's camera 6 are "incompatible." *Id.* at 36–37. Petitioner persuasively responds that it need not prove that an ordinarily skilled artisan could or would swap Whitehouse's sensor 4 with

Antonissen's camera 6. "[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review." *In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983). The relevant inquiry is whether the claimed subject matter would have been obvious to those of ordinary skill in the art in light of the *combined teachings* of those references. See *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). "Combining the *teachings* of references does not involve an ability to combine their specific structures." *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973).

Petitioner has proposed only that an ordinarily skilled artisan would have been motivated to use Antonissen's higher fidelity imaging technique on the meat after slicing, just as Whitehouse uses sensor 4. Pet. 15, 32–33; Ex. 1035 ¶ 25. Petitioner persuades us that an ordinarily skilled artisan would not have been hindered by the allegedly "incompatible" data output of Whitehouse's sensor 4 and Antonissen's camera 6 when considering whether to use Antonissen's imaging techniques with Whitehouse's meat slicer.

b) Alleged Difficulty Substituting Antonissen's Image Processing Technique in Whitehouse's Slicer

Patent Owner contends that an ordinarily skilled artisan would not have reasonably expected to be able to use Antonissen's imaging technique, which requires illuminating the image target from below, with Whitehouse's slicer, which directs a sensor to the top slice of a stack. PO Resp. 39–40 (citing Ex. 1006, 4:56–60, Fig. 1; Ex. 2035 ¶¶ 203–214). The cited portion of Antonissen states: "The face of the product is illuminated asymmetrically from below, so that the area of the advancing product face is fully illuminated and the area above the product boundary receives no direct illumination and generally appears almost black, as viewed by the camera."

Ex. 1006, 4:56–60. Based upon this quoted statement, Dr. Howard concludes that Antonissen suggests to an ordinarily skilled artisan that “a camera cannot be mounted to a position directly above the conveyor, as the conveyor surface would reflect light (and thus not appear black).” Ex. 2035 ¶ 212 (quoting Ex. 1006, 4:56–60). Dr. Howard cites no other objective evidence to support his conclusion. *Id.* Dr. Howard also opines that Whitehouse and Antonissen fail to provide “any guidance” to an ordinarily skilled artisan for how to reorient Antonissen’s light source in a slicer like Whitehouse so that Antonissen’s imaging technique would remain effective. *Id.* ¶¶ 212–214.

Relying upon testimony from Dr. Hooper, Petitioner counters that machine vision systems were commonly used above products moving along a conveyor to judge the quality of those products. Reply 19 (citing Ex. 1003 ¶¶ 91–92). Dr. Hooper supports his testimony with objective evidence. Ex. 1003 ¶¶ 91–92 (citing Ex. 1011, 32; Ex. 1009, 67; Ex. 1022, 137). Petitioner also contends that Dr. Howard’s work demonstrates that “reorienting Antonissen’s camera above a conveyor to classify food products would have yielded predictable results.” Reply 19 (citing Ex. 2035 ¶ 132; Ex. 1036, 45:3–46:2, 83:10–84:1, 86:24–87:8, 92:9–17). The cited testimony relates to Dr. Howard’s experience using prior art downward facing camera systems substantially the same as Antonissen’s to track robots within the field of view so that the robots could be controlled to avoid obstacles. Ex. 1036, 45:3–46:2, 83:10–84:1, 86:24–87:8, 92:9–17. Petitioner also points out that Dr. Howard testified that he worked on prior art systems in which the quality of food products on a conveyor were imaged by downward-facing digital cameras and judged based on pixel-by-pixel

analysis of the captured images. Reply 20 (citing Ex. 1036, 131:22–132:8, 133:6–18, 134:2–25, 138:25–139:10, 142:3–22). This cited testimony persuades us that an ordinarily skilled artisan would have reasonably expected to be able to place an imaging system such as Antonissen’s above a food conveyor such as Whitehouse’s, capture digital images of those products, analyze those images to evaluate the quality of the food product, and divert the products based on their adjudged quality. *Id.* at 20.

c. Conclusion

For the reasons expressed above, we conclude that Petitioner has proven by a preponderance of evidence that the combined teachings of Whitehouse, Antonissen, and Hardy render claim 1 unpatentable as obvious.

5. Independent Claim 9

Claim 9 is directed a “system” rather than a method but recites substantively similar limitations to those set forth in claim 1 and an apparatus capable of performing the method of claim 1, as follows:

9. A system for classifying slices from a slicing machine based on fat content, comprising:

[9.1] a high speed slicing apparatus arranged to cut off a series of slices from a food loaf;

[9.2] a conveyor arranged to receive said slices from said slicing apparatus in a stack of slices;

[9.3] a control having a memory section and a data processing section;

[9.4] an image capturing device arranged above the conveyor, said image capturing device signal-connected to said control to input into said memory section a two-dimensional pixel field corresponding to an image captured of a surface area of a top slice of said stack of slices located on said conveyor, each pixel classified by said control as either a fat or lean portion of the surface area, depending on image, said control

data processing section adapted to sum fat pixels and compare said sum of fat pixels to a predetermined limit; and

[9.5] a classifying conveyor signal-connected to said control, said classifying conveyor movable to direct the stack of slices to a destination depending on the number of fat pixels.

Ex. 1001, 6:37–58 (with bracketed labels added to ease discussion).

Rather than reciting a “digital image receiving device” as in claim 1, claim 9 recites an “image capturing device.” The dispute here focuses on whether Whitehouse and Antonissen collectively describe or suggest the “image capturing device.” PO Resp. 34–35; Sur-reply 10–11.

Patent Owner argues that Petitioner relies solely upon Whitehouse’s sensor 4 as the “image capturing device.” PO Resp. 34–35. Petitioner persuasively responds that it has always contended that Whitehouse in view of Antonissen describes the “image capturing device.” Reply 14 (citing Pet. 52, 59); *see also* Pet. 55 (contending that an ordinarily skilled artisan “would have been motivated to use Antonissen’s camera and image processing technique in Whitehouse’s slicer”).

We have concluded that Petitioner has persuasively proven that Antonissen’s camera 6, A/D converter 13, and frame grabber collectively constitute the “digital image receiving device” of claim 1. *See* Part II.E.4.b.i above. We have also concluded that Petitioner has persuasively proven that an ordinarily skilled artisan would have been motivated to modify Whitehouse in view of Antonissen and would have had a reasonable expectation of succeeding in doing so. *See* Part II.E.4.b.ii above. For the same reasons, Petitioner persuades us that an ordinarily skilled artisan would have been motivated to modify Whitehouse in view of Antonissen to meet include an “image capturing device” recited in element 9.4.

Patent Owner does not dispute that Petitioner has demonstrated that the combined teachings of Whitehouse, Antonissen, and Hardy describe or suggest all limitations of claim 9 other than the “image capturing device” of element 9.4. *See* PO Resp. 34–35; Sur-reply 10–11. Petitioner’s argument and evidence as set forth in the Petition (Pet. 46–58), which we adopt as our own (*see NuVasive*, 841 F.3d at 974), persuades us that the combination of Whitehouse, Antonissen, and Hardy collectively disclose or suggest all elements of claim 9 other than the “image capturing device.”

For all these reasons, we conclude the Petitioner has proven by a preponderance of evidence that the combined teachings of Whitehouse, Antonissen, and Hardy render claim 9 unpatentable as obvious.

6. Dependent Claim 10

Claim 10 depends from claim 9, and further recites “said image capturing device comprises a digital camera.” Ex. 1001, 6:59–60. Patent Owner attacks Petitioner’s showing on claim 10 for the same reasons advanced in connection with the alleged failure to show that Whitehouse and Antonissen collectively describe or suggest a “digital image receiving device.” *See* PO Resp. 21–33 (arguing against unpatentability of claims 1 and 10 together). We discern no material differences in Patent Owner’s arguments in favor of claim 10 from those advanced in favor of claim 1. Accordingly, for the reasons expressed in Parts II.E.4 and II.E.5 above and based upon Petitioner’s argument and evidence directed to claim 10 (Pet. 58–59), which we adopt as our own (*see NuVasive*, 841 F.3d at 974), we conclude that Petitioner has proven by a preponderance of evidence that the combined teachings of Whitehouse, Antonissen, and Hardy render claim 10 unpatentable as obvious.

7. Independent Claim 13

Claim 13 is directed a “system” rather than a method but recites virtually identical limitations to those set forth in claim 1 in the form of an apparatus, as follows:

13. A method of classifying stacks of slices cut from a food product, comprising the steps of:

removing a plurality of slices from a food product by cutting said food product using a high speed slicing apparatus and collecting said slices in a current stack;

passing a slice that represents a top slice of said current stack into an image field of a digital image receiving device;

generating pixel-by-pixel image data of the top slice using the digital image receiving device;

determining a surface area of the top slice from the data;

determining a fat content of said top slice on a pixel-by-pixel basis;

comparing the fat content to at least two predetermined limits that define pass, grade off and reject classifications; and

classifying the current stack according to said fat content and said limits; and

conveying said pass, said grade off and said reject classified stacks to corresponding destinations.

Compare Ex. 1001, 7:3–8:8 (claim 13), *with id.* 5:48–6:2 (claim 1).

Patent Owner attacks Petitioner’s showing on claim 13 for the same reasons advanced in connection with claim 1. *See* PO Resp. 21–33 (arguing against unpatentability of claims 1 and 13 together). We discern no material differences in Patent Owner’s arguments in favor of claim 13 from those advanced in favor of claim 1. Accordingly, for the reasons expressed in Parts II.E.4 and II.E.5 above and based upon Petitioner’s argument and

evidence directed to claim 13 (Pet. 60–67), which we adopt as our own (*see NuVasive*, 841 F.3d at 974), we conclude that Petitioner has proven by a preponderance of evidence that the combined teachings of Whitehouse, Antonissen, and Hardy render claim 13 unpatentable as obvious.

8. Dependent Claims 3–5, 8, and 14

Claims 3–5 and 8 depend directly or indirectly from claim 1, and claim 14 depends directly from claim 13. Ex. 1001, 6:6–20 (claims 3–5), 6:34–36 (claim 8), 8:9–12 (claim 14). Patent Owner does not argue separately that the combined teachings of Whitehouse, Antonissen, and Hardy fail to disclose or suggest all limitations of claims 3–5, 8, and 14. *See generally* PO Resp. 21–33 (arguing against unpatentability of independent claims 1 and 13). Rather, Patent Owner relies on its arguments relating to claims 1 and 13, which we have already found unpersuasive. *See* Parts II.E.4 and II.E.7 above. Based on our prior analysis of claims 1 and 13 and our review of Petitioner’s argument and evidence of record for claims 3–5, 8, and 14 (Pet. 38–45, 67–68), which we adopt as our own (*see NuVasive*, 841 F.3d at 974), we determine that Petitioner has demonstrated by a preponderance of evidence that the combined teachings of Whitehouse, Antonissen, and Hardy render dependent claims 3–5, 8, and 14 unpatentable as obvious.

9. Summary

For all the reasons expressed above, we conclude that Petitioner has proven by a preponderance of evidence that the combined teachings of Whitehouse, Antonissen, and Hardy renders claims 1, 3–5, 8–10, 13, and 14 unpatentable as obvious.

F. DEPENDENT CLAIMS 2, 6, 7, 11, AND 12: OBVIOUSNESS IN VIEW OF
WHITEHOUSE, ANTONISSEN, HARDY, AND WYSLOTSKY

Petitioner argues that the combination of Whitehouse, Antonissen, Hardy, and Wyslostsky renders claims 2, 6, 7, 11, and 12 unpatentable as obvious. Pet. 68–75. Petitioner relies upon Wyslotsky as disclosing the concept of weighing and imaging the stack of food products at the same time. *Id.* For the reasons expressed below, we conclude that Petitioner has demonstrated that claims 2, 6, and 7 are unpatentable, but has not done so for claims 11 and 12.

Dependent claims 2, 6, 7, 11, and 12 require various ways of weighing and imaging the stack of food products. For example, claims 2 and 6, each of which depends directly from claim 1, recite “the further step of weighing the stack at the same time as the step of generating pixel-by-pixel image data.” Ex. 1001, 6:3–5 (claim 2), 6:21–23 (claim 6). Claim 6 recites additional limitations, and claim 7, which depends from claim 6, adds further limitations. *Id.* at 6:23–33. By contrast, claims 11 and 12 each depend directly from claim 9 (directed to a “system for classifying slices” and further recite “said camera is located above said weigh conveyor and is directed downward on said stack located on said weigh conveyor.” *Id.* at 6:61–64 (claim 11), 6:65–7:2 (claim 12). Thus, claims 2, 6, and 7 require that the stack is imaged and weighed at the same time, while claims 11 and 12 require that a camera is located above and aimed at a scale used to weigh the stack. Because of the differences between these two groups of claims, we analyze the two groups separately below.

1. *Wyslotsky*

Wyslotsky discloses a meat slicer that “automatically produc[es] a draft of slices, each having a substantially uniform weight, from a work

piece of variable density, such as bacon, wherein such draft of slices is composed of a selected integral number of slices per draft.” Ex. 1008, 3:51–56. “After such first slice has been cut, an indicium of its weight is detected.” *Id.* at 3:60–61. “From that indicium of weight, the weight for a second slice is determined so as to bring the average weight of the slices substantially to the preferred slice weight.” *Id.* at 3:62–64. Wyslotsky’s Figure 1 (reproduced below) illustrates the processing steps used by Wyslotsky to generate drafts of substantially the same weight.

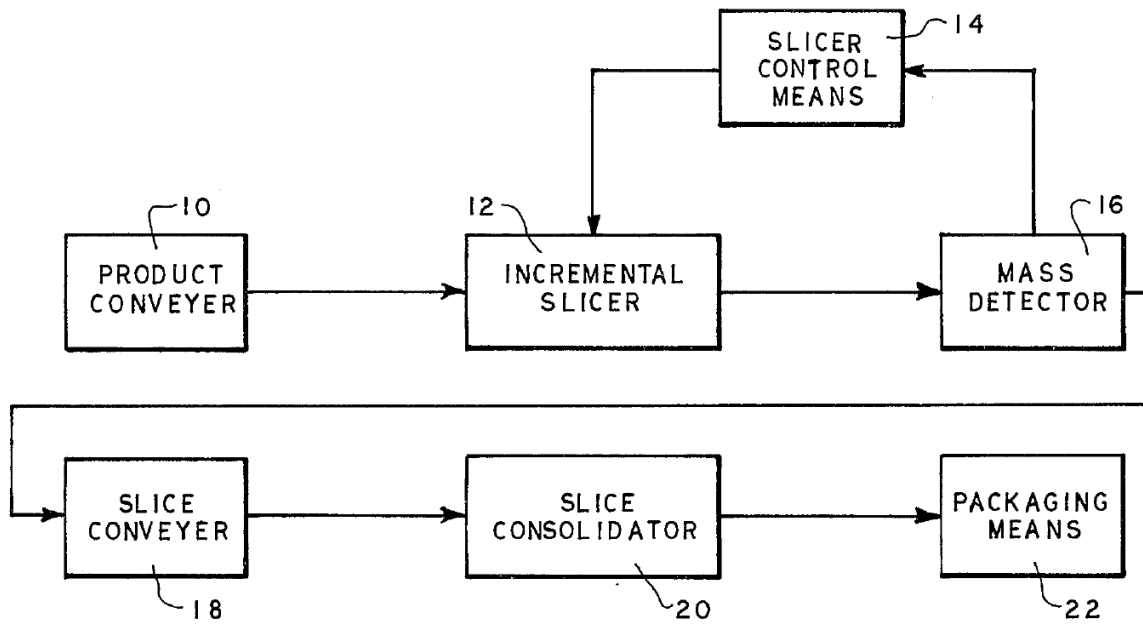


FIG. 1

Wyslotsky’s Figure 1 “is a block diagram showing, inter alia, the slicing and weight detecting steps connected by a feedback control.” *Id.* at 3:36–38.

In Wyslotsky’s first embodiment, meat is sliced by incremental slicer 12 at a preselected thickness chosen to approximate the correct weight for each slice (e.g., one ounce) of a draft stack (e.g., of sixteen slices) so that the stack will weigh a targeted value (e.g., one pound). *Id.* at 5:22–34. The

first slice is weighed at mass detector 16 to and slicer control means 14 adjusts the thickness of subsequent slices so that the weight target of the draft is met. *Id.* at 34–38. One form of Wyslotsky’s mass detector is photoscanning camera 40, which can also detect excessive fat-to-lean ratio or defects, such as voids. *Id.* at 2:38–45, 3:43–47, 4:40–48, 6:39–44. Petitioner relies upon Wyslotsky’s photoscanning camera 40 as meeting the limitations introduced in claims 2, 6, 7, 11, and 12. Pet. 68–75.

2. Claims 2, 6, and 7

Petitioner recognizes that Whitehouse in view of Antonissen does not disclose weighing the stack “at the same time” as the combined system generates a digital image of the stack, but relies upon Wyslotsky as disclosing this concept. Pet. 69. Petitioner identifies Wyslotsky’s photoscanning device 40 illustrated in Figure 3 (reproduced right) as the device that weighs and images slices at the same time. *Id.* (citing Ex. 1008, 2:38–45, 3:43–47, 4:40–48, 6:39–44; Ex. 1003 ¶ 173).

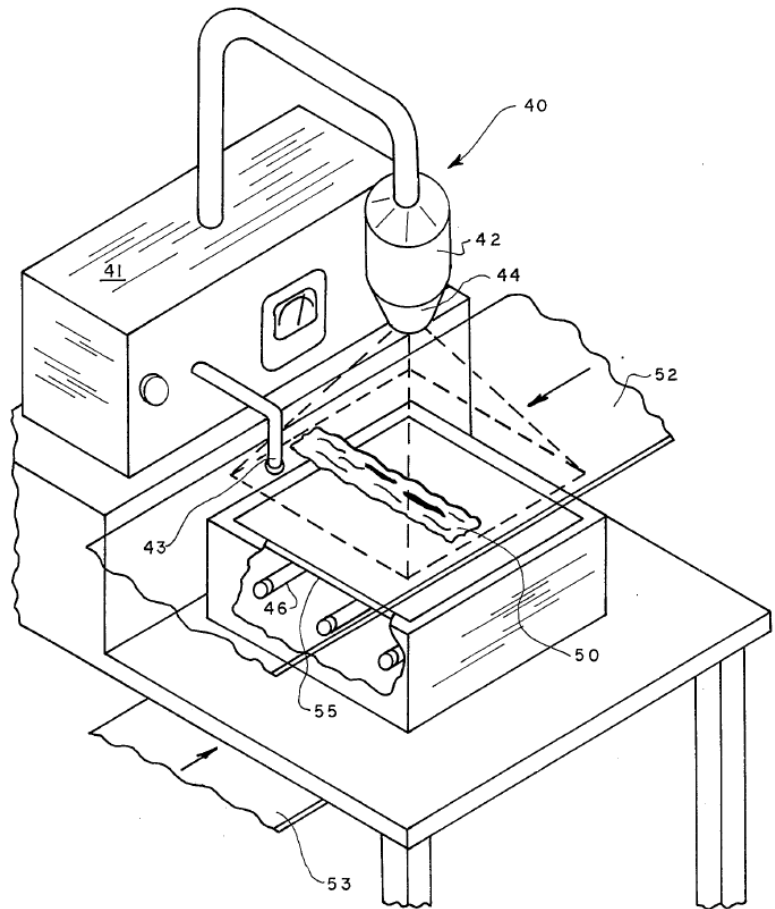


FIG. 3

Patent Owner contends that Wyslowsky does not disclose the claimed weighing and generating the image data at the same time as required in claims 2, 6, and 7. PO Resp. 42. We disagree.

Wyslowsky expressly indicates the photoscanning device 40 is a “form of such mass or weight detection means.” Ex. 1008, 6:39. Wyslowsky further states:

Product slice 50 is supplied to belt conveyor 52 from the incremental slicer 12 for detection of an indicia of mass, such as for example its cross-sectional area. By programming the control means 14 with data for an assumed average density of the particular workpiece, and having stored and recalled the amount of the incremental advance which produced the given slice, an indicium of the weight of the slice may be computed for feedback to control the thickness of the next successive slice.

Id. at 6:67–7:8. Thus, Wyslowsky expressly discloses that its photoscanning device collects image data and control means 14 calculates the weight of each slice based upon the image data and density parameters. Wyslowsky adjusts the weight of each slice to ensure that the stack meets a weight target. *Id.* at 5:22–54. Accordingly, we conclude that Petitioner has proven by a preponderance of evidence that Wyslowsky discloses weighing and imaging slices at the same time, and totaling the weight of the slices to ensure that the weight of the stack is controlled.

Patent Owner also argues that “there was no motivation or reasonable expectation of success to combine Wyslowsky with the other asserted references.” PO Resp. 44 (citing Ex. 2035 ¶¶ 221–223). Patent Owner reasons that an ordinarily skilled artisan would not combine the references because they each disclose different imaging techniques. *Id.* at 45. Dr. Howard cites no objective evidence to support the testimony upon which Patent Owner relies. Ex. 2035 ¶¶ 221–223.

Petitioner persuasively responds that it identified removing a conveyor from the system as the reason motivating an ordinarily skilled artisan to have incorporated teachings relating to Wyslotsky's photoscanning device. Reply 23–25 (citing Pet. 70–71; Ex. 1003 ¶ 174). Patent Owner's expert recognized that removing a conveyor would have been beneficial. Reply 24 (citing Ex. 1036, 59:24–61:3, 62:7–16). Additionally, the '089 patent itself suggests using Wyslotsky's "calculations and routines utilized to capture and evaluate slice image data" when it incorporates Wyslotsky for that purpose. Ex. 1001, 4:50–52 (incorporating Wyslotsky).

For all the reasons expressed above, and the argument and evidence stated in the Petition with respect to the other limitations of claims 2, 6, and 7, Pet. 68–73, which we adopt as our own, we conclude that Petitioner has demonstrated by a preponderance of evidence that the combined teachings of Whitehouse, Antonissen, Hardy, and Wyslotsky render claims 2, 6, and 7 unpatentable as obvious.

3. *Claims 11 and 12*

Unlike claims 2, 6, and 7, which focus on the timing of imaging and weighing, claims 11 and 12 recite a specific physical arrangement of a camera and a weighing conveyor. Namely, claims 11 and 12 recite: "said camera is located above said weigh conveyor and is directed downward on said stack located on said weigh conveyor." *Id.* at 6:61–64 (claim 11), 6:65–7:2 (claim 12). Patent Owner argues that "Wyslotsky does not disclose or render obvious . . . placing a camera above a 'weigh conveyor.'" Surreply 26. We agree.

Wyslotsky's Figure 3 illustrates photoscanning device 40 that is an alternative to a scale for weighing slices and indicates that the image data

collected by device 40 is used by control means 14 along with density parameters to calculate the weight of a slice. Ex. 1008, 6:67–7:8. Petitioner’s reliance upon Wyslotsky’s statement that “[a]lso, the actual weight of the slices may be detected by weighing on an automated scale” (Pet. 69) is unavailing. This passage fails to mention or establish where the “automated scale” is located and wholly fails to disclose such a scale being located under photoscanning device 40. Moreover, Figure 3 illustrates a “substantially transparent belt conveyor 52” under device 40, not a “weighing conveyor” as required in claims 11 and 12. Ex. 1008, 6:60–61. Because none of the prior art marshalled by Petitioner discloses the claimed physical arrangement of the camera and weighing conveyor recited in claims 11 and 12 and Petitioner offers no persuasive reason why an ordinarily skilled artisan would have modified the references to achieve such an arrangement, Petitioner’s challenge to these claims as being obvious in view of Whitehouse, Antonissen, Hardy, and Wyslotsky fails.

III. PATENT OWNER’S MOTION TO EXCLUDE EVIDENCE

Patent Owner moves to exclude evidence contained within Exhibits 1037, 1038, 1039, paragraphs 9–16 of Exhibit 1035, and the redirect testimony elicited from Dr. Hooper during his deposition of October 15, 2020 (Ex. 2037, 209:6–221:1). Mot. 2. All the evidence that Patent Owner seeks to exclude relates to the characteristics of various cameras made by Electrim, including the EDC-1000N mentioned in the Specification of the ’089 patent, Exs. 1037–1039, or testimony from Dr. Hooper regarding the Electrim cameras, Ex. 1035 ¶¶ 9–16, Ex. 2037, 209:6–221:1.

A. WHETHER EXHIBITS 1037–1039 AND ¶¶ 9–16 OF EXHIBIT 1035 ARE RELEVANT UNDER FED. R. EVID. 401

Patent Owner argues that because Exhibits 1037–1039 and ¶¶ 9–16 of Exhibit 1035 reflect information about the EDC-1000, not the EDC-1000N, the evidence is irrelevant under Fed. R. Evid. 401. Mot. 3–4. Patent Owner also contends that “Weber and Dr. Hooper have not explained the relevance of Exhibits 1037 and 1039 to the EDC-1000N model disclosed in the patent, when both clearly relate only to the EDC-1000 base model.” *Id.* at 4 (citing Ex. 2037, 137:1–141:10, 148:19–150:13, 162:5–163:22, 147:16–149:6; Ex. 1035, ¶ 9).

Petitioner responds that the contested exhibits are relevant on their face because they reflect details of the manner in which the base camera in Electrim’s line of cameras, the EDC-1000 operates, which also reflects how the EDC-1000N mentioned in the ’089 patent operates. Mot. Opp. 2–4. Petitioner provides Exhibit 1061, first presented during Dr. Hooper’s deposition to establish this relevance. Exhibit 1061 contains information from Electrim’s website archived on May 25, 2000, that is styled as information about the “EDC-1000 Series Cameras.” Ex. 1061, 1. The EDC-1000 and EDC-1000N are both listed, among others, with the primary difference between the two models being the resolution of the CCD image sensor of the two cameras. *Id.* at 1–2.

Based upon our review of Exhibits 1037–1039, ¶¶ 9–16 of Exhibit 1035, and Exhibit 1061, we determine that the contested exhibits are not only relevant, but highly probative of the manner in which the EDC-1000N camera that is mentioned in the ’089 patent operates.

For all these reasons, we overrule Patent Owner’s objections to Exhibits 1037–1039 and ¶¶ 9–16 of Exhibit 1035 as being inadmissibly irrelevant under Fed. R. Evid. 401.

B. WHETHER EXHIBITS 1037–1039 AND ¶¶ 9–16 OF EXHIBIT 1035 SHOULD BE EXCLUDED UNDER FED. R. EVID. 403

Patent Owner argues that Exhibits 1037 and ¶¶ 9–16 of Exhibit 1035 should be excluded under Fed. R. Evid. 403 because the evidence is “likely to confuse the issues and waste time.” Mot. 5. As we have already discussed, based on our review of this evidence, we consider the evidence to be highly probative of how the camera mentioned in the ’089 patent operates and have not had any difficulty considering and applying the evidence to the issues disputed in this proceeding.

For all these reasons, we overrule Patent Owner’s objections to Exhibits 1037–1039, ¶¶ 9–16 of Exhibit 1035 as being inadmissible under Fed. R. Evid. 403.

C. WHETHER PETITIONER HAS FAILED TO AUTHENTICATE EXHIBITS 1037–1039 AS REQUIRED UNDER FED. R. EVID. 901

Patent Owner argues that Exhibits 1037–1039 should be excluded because Petitioner has failed to authenticate the exhibits as required under Fed. R. Evid. 901. Mot. 6–7. For example, Patent Owner argues that printouts from websites, such as Exhibit 1038, are “generally not self-authenticating.”

Petitioner responded to Patent Owner’s objections to Exhibits 1037–1039 by timely serving supplemental evidence in the form of Exhibits 1047–1060, 1061 on October 14, 2020. Ex. 1062; *see also* 37 C.F.R. § 42.64(b)(2) (permitting service of supplemental evidence in response to evidentiary objections). Mot. Opp. 7–9. We note that a

proponent’s “burden of proof for authentication is slight.” *Lexington Insurance Co. v. Western Pennsylvania Hospital*, 423 F.3d 318, 328 (3rd Cir. 2015). Under FRE 901, the proponent must make a showing “sufficient to support a finding that the item is what the proponent claims it is.” Fed. R. Evid. 901(a).

Based on our review of Exhibit 1049, we determine that Exhibit 1037 is self-authenticating as a periodical under Fed. R. Evid. 902(6). Based on our review of Exhibit 1047, which is a declaration from a representative of the Internet Archive, we determine that Exhibit 1038 is authenticated as a printout of material that was captured from the internet on May 25, 2000. Based on Dr. Hooper’s uncontested testimony, we determine that Exhibit 1039 is what it purports to be on its title page, namely the “EDC-1000 Computer Camera Technical Manual.” *See* Ex. 1060 ¶¶ 7–8; *see also* Ex. 1039, 1.

For all these reasons, we overrule Patent Owner’s objections to Exhibits 1037–1039 as being inadmissible unauthenticated evidence under Fed. R. Evid. 901.

D. WHETHER EXHIBITS 1037–1039 CONSTITUTE INADMISSIBLE HEARSAY UNDER FED. R. EVID. 802

Patent Owner argues that Exhibits 1037–1039 are out of court statements relied upon for the truth of the matter asserted and thus are inadmissible hearsay under Fed. R. Evid. 802 and should be excluded from evidence. Mot. 7–8. Petitioner responds that all three Exhibits are admissible under the “ancient documents” exception set forth in Fed. R. Evid. 803(16). Mot. Opp. 9–10. This exception states: “(16) Statements in Ancient Documents. A statement in a document that was prepared before January 1, 1998, and whose authenticity is established.” Fed. R.

Evid. 803(16). Petitioner persuasively contends that each of Exhibits 1037–1039 was prepared before January 1, 1998. Mot. Opp. 9 (citing Ex. 1037, 1; Ex. 1049, 1–7; Ex. 1050, 1–3, 14; Ex. 1038, 1; Ex. 1039, 2). Petitioner also persuasively contends that all three documents have been authenticated. *Id.*; *see also* Part III.C above.

For all these reasons, we overrule Patent Owner’s objection to Exhibits 1037–1039 as being inadmissible hearsay.

E. WHETHER THE REDIRECT TESTIMONY BY DR. HOOPER WAS IMPROPER

Patent Owner argues that we should exclude Dr. Hooper’s redirect testimony from the transcript of his deposition. Mot. 8–10. Patent Owner contends that the testimony was untimely and beyond the scope of the deposition. *Id.* Petitioner responds that the redirect testimony was within the scope of proper testimony because Patent Owner’s cross-examination focused heavily upon the evidence relating to the operation of the EDC-1000 camera. Mot. Opp. 11 (citing Ex. 2037, 123:21–163:22). We agree. Dr. Hooper’s testimony provides highly probative evidence on the manner in which Electrim cameras operate including the EDC-1000N that is specifically identified in the ’089 patent.

We also consider the redirect testimony to have been timely enough. Although Petitioner might have been able to supply such evidence with its Reply, Patent Owner had a full and fair opportunity to respond to Dr. Hooper’s redirect testimony and the newly presented Exhibit 1061 at his deposition. We touched upon the propriety of the proponent of a witness being able to elicit redirect testimony at the witness’s deposition in our Order of October 21, 2020. Paper 26. In that Order, we noted that such

redirect testimony and the use of new exhibits at depositions is proper under our Rules. *Id.* at 4 (citing 37 C.F.R. § 42.53(c), (f)).

For all these reasons we overrule Patent Owner’s objection to Dr. Hooper’s redirect testimony.

F. WHETHER PETITIONER’S USE OF EXHIBITS 1037–1039 AND ¶¶ 9–16 OF EXHIBIT 1035 WAS “UNDULY PREJUDICIAL”

Patent Owner argues that we should exclude Exhibits 1037–1039 and ¶¶ 9–16 of Exhibit 1035 as being “unduly prejudicial” because the evidence was untimely. Mot. 10–11. Patent Owner rests its argument upon 35 U.S.C. § 312(a)(3), which requires that a petition must identify evidence “with particularity.” *Id.* at 10. We understand Patent Owner to be complaining that Petitioner should have supplied and analyzed Exhibits 1037–1039 and ¶¶ 9–16 of Exhibit 1035 with the Petition rather than the Reply. Patent Owner’s request amounts to a motion to strike evidence supplied with Petitioner’s Reply on the grounds that the Reply is not responsive to its Patent Owner Response as required under 37 C.F.R. § 42.23(b), which states: “A reply may only respond to arguments raised in the corresponding opposition, patent owner preliminary response, patent owner response, or decision on institution.” 37 C.F.R. § 42.23(b).

Patent Owner’s argument is unpersuasive. We have already determined that the disputed evidence responds to Patent Owner’s argument that Antonissen’s imaging hardware is not akin to the imaging hardware that is described in the Specification and recited in every claim in the ’089 patent. *See, e.g.*, Part II.E.4.b.i above. We consider Exhibits 1037–1039 and ¶¶ 9–16 of Exhibit 1039, not only to be responsive to Patent Owner’s argument and thus proper, but also highly probative and persuasive. Our view of this evidence should have been understood from

our refusal to authorize Patent Owner to file a motion to strike related evidence, Dr. Hooper's redirect testimony and Exhibit 1061. Paper 26. As already noted, Patent Owner had a full and fair opportunity at Dr. Hooper's deposition to meet the evidence as reflected in the extensive cross-examination on this evidence. Patent Owner also had the opportunity to submit argument responding to this evidence in its Sur-reply.

For all these reasons, we overrule Patent Owner's objections to Exhibits 1037–1039 and ¶¶ 9–16 of Exhibit 1035 as being untimely and unduly prejudicial.

G. CONCLUSION

For all the reasons expressed above, Patent Owner's Motion to Exclude Evidence is *denied* in all respects.

IV. CONCLUSION⁷

In summary,

Claim(s)	35 U.S.C. §	Reference(s)	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1, 3–5, 8–10, 13, 14	103	Whitehouse, Antonissen, Hardy	1, 3–5, 8–10, 13, 14	

⁷ 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).

Claim(s)	35 U.S.C. §	Reference(s)	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
2, 6, 7, 11, 12	103	Whitehouse, Antonissen, Hardy, Wyslotsky	2, 6, 7	11, 12
Overall Outcome			1–10, 13, 14	11, 12

V. ORDER

For the reasons given, it is:

ORDERED, based on a preponderance of evidence, that claims 1–10, 13, and 14 of U.S. Patent 6,997,089 B2 are *unpatentable* as obvious under 35 U.S.C. § 103;

FURTHER ORDERED that claims 11 and 12 of U.S. Patent 6,997,089 B2 have not been shown to be unpatentable;

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

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence (Paper 30) is *denied*.

IPR2019-01466
Patent 6,997,089 B2

For PETITIONER:

Ralph W. Powers III
Donald R. Banowit
Daniel E. Yonan
Daniel S. Block
Tyler J. Dutton
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
tpowers-PTAB@sternekessler.com
dbanowit-PTAB@sternekessler.com
dyonan-PTAB@sternekessler.com
dblock-PTAB@sternekessler.com
tdutton-PTAB@sternekessler.com
PTAB@sternekessler.com

For PATENT OWNER:

Michael G. Babbitt
Sara T. Horton
Ren-How H. Harn
WILLKIE FARR & GALLAGHER LLP
MBabbitt@willkie.com
SHorton@willkie.com
RHarn@willkie.com