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Paper 46
Date: May 17, 2023

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, FRANCES L. IPPOLITO, and JON M. JURGOVAN, *Administrative Patent Judges.*

WEATHERLY, *Administrative Patent Judge.*

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

I. INTRODUCTION

A. Trial 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 entered a Final Written Decision (Paper 36, "Dec." or "Decision") concluding that Petitioner had demonstrated by a preponderance of evidence that claims 1–10, 13, and 14 were unpatentable, but it had failed to do so for claims 11 and 12. Dec. 36.

B. The Appeal to the Federal Circuit

On September 27, 2022, the Federal Circuit affirmed-in-part, vacated-in-part, and remanded-in-part our prior Decision. *Provisur Techs., Inc. v. Weber, Inc.*, 50 F.4th 117, 127 (Fed. Cir. 2022); Paper 42.[5] The Federal Circuit affirmed our decision denying Provisur's motion to exclude. *Provisur*, 50 F.4th at 122. The Federal Circuit vacated our determination that independent claims 1, 9, and 13 and their dependent claims were obvious in view of Whitehouse, Antonissen, and Hardy. *Id.* at 124, 127. The Federal Circuit also vacated our determination that dependent claims 12 and 13 were not obvious in view of Whitehouse, Antonissen, Hardy, and Wyslotsky. *Id.* at 126–27.

The Federal Circuit remanded the case for us to reconsider the obviousness of independent claims 1, 9, and 13 in view of Provisur's arguments that the combined teachings of Whitehouse, Antonissen, and Hardy fail to teach or suggest the claimed subject matter. *Id.* at 123–24, 127. The Federal Circuit also did not "otherwise disturb" our determinations that dependent claims 2, 6, and 7 were obvious in view of Whitehouse, Antonissen, Hardy, and Wyslotsky. *Id.* at 127. In view of that ruling, the Federal Circuit instructed us to determine that claims 11 and 12 were obvious in view of Whitehouse, Antonissen, Hardy, and Wyslotsky if we

[5] The Federal Circuit issued its mandate on January 11, 2023. Paper 41.

were to conclude that independent claims 1, 9, and 13 were obvious in view of Whitehouse, Antonissen, and Hardy. *Id*.

C. Remand Background

On remand, we authorized the parties to concurrently file papers listing, without argument, citations to the record that are probative for deciding the issues remaining on remand. Paper 43, 3. The parties agreed, and we concurred, that no new evidence would be submitted during the remand proceeding. *Id.* Each party filed its paper with the citations they considered to be relevant. Papers 44, 45. Accordingly, we decide the issues on remand based on the record that was submitted during the original trial.

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 Weber has demonstrated by a preponderance of evidence that claims 1–14 are unpatentable as obvious.

D. 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.

E. 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 were 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)).[6] 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).

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

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 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 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.[7] *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."

[7] Neither party proffered such evidence.

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 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

On remand, we address Provisur's arguments relating to the "surface-area limitations" (defined below) with respect to Weber's challenges to the patentability of claims 1, 3–5, 8–10, 13, and 14 as obvious based on the combination of Whitehouse, Antonissen, and Hardy. *See* PO Resp. 31–32. Each of independent claims 1 and 13 recite the step of "determining a surface area of the top slice from the data," Ex. 1001, 5:61 (claim 1), 7:13 (claim 13), and independent claim 9 recites a substantively similar limitation[8] as element 9.4 (collectively the "surface-area limitations"), *id.* at 6:45–54. Claims 3–5, and 8 depend from claim 1, claim 10 depends from claim 9, and claim 14 depends from claim 13.

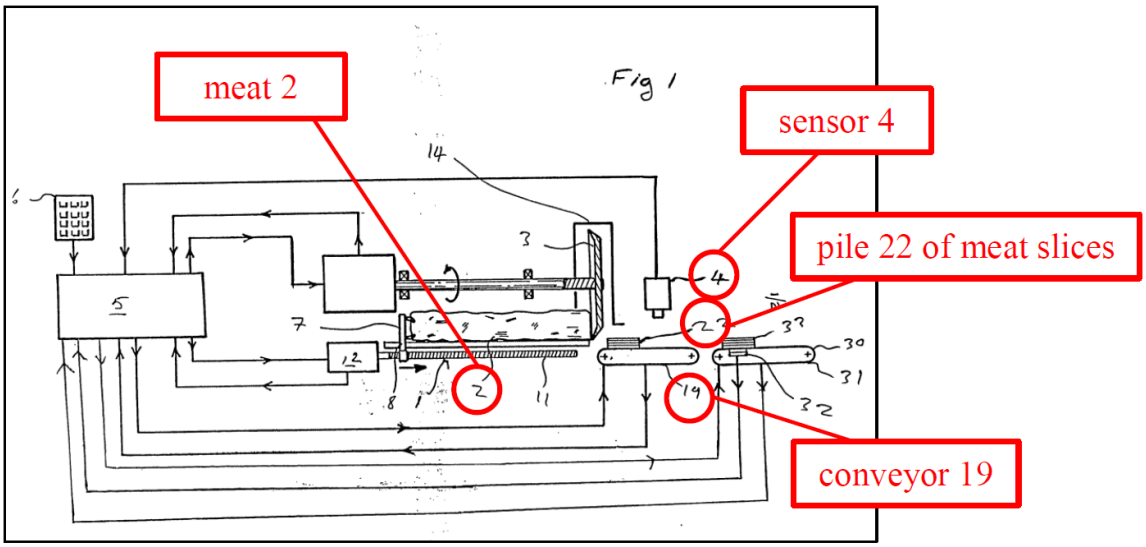
[8] Element 9.4 recites:

> 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.

Ex. 1001, 6:45–54 (emphasis added). While addressing the surface-area limitation recited in claim 1, the Federal Circuit stated: "This element appears in claim 1, and an identical or substantially similar element appears in each of the other independent claims." *Provisur*, 50 F.4th at 123.

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.

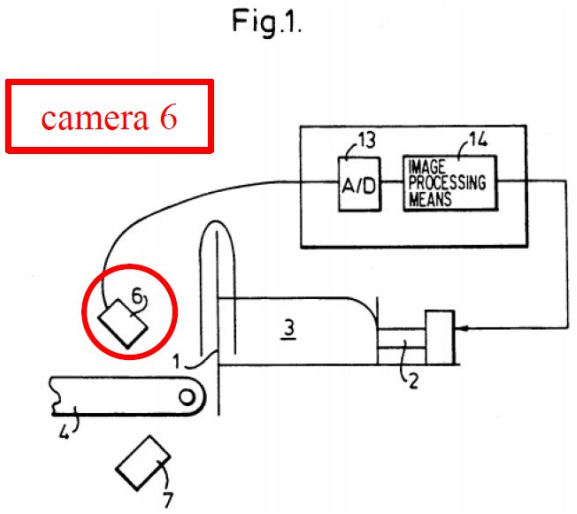


Petitioner's annotated version of Whitehouse's Figure 1 is a partial sectioned schematic side view of Whitehouse's apparatus. Pet. 3, Ex. 1005, 7.

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

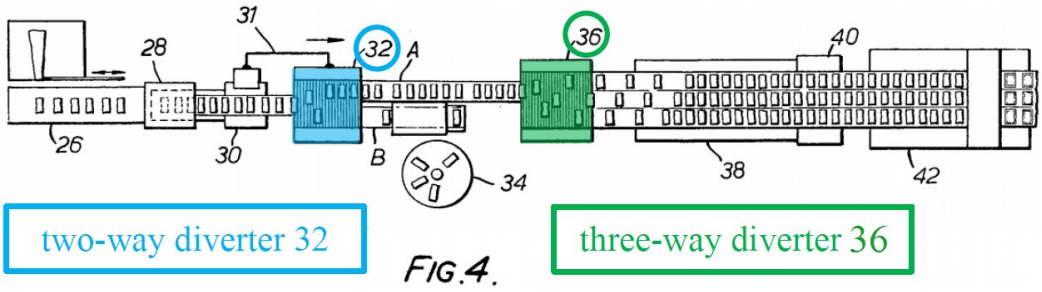
Antonissen relates to a "slicing machine . . . for slicing food products, particularly cheese, meat and pressed or moulded meat products." Ex. 1006, 1:6–10. Antonissen's slicing machine is illustrated in Petitioner's annotated version of Figure 1, reproduced at right. The "slicing machine includes a slicing blade 1 and a feed mechanism 2 arranged to advance a product 3 towards the blade 1." *Id.* at 2:66–68. Camera 6 (circled in red) is positioned to view end-face 5 (not labeled in Figure 1) of product 3 during slicing. *Id.*, Abstract. Camera 6 captures a gray scale image of product 3 and determines pixel values corresponding to fat areas and lean areas of product 3. *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

Hardy's Figure 4,[9] 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 enable "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. Analysis

Weber relies upon the combined teachings of Whitehouse and Antonissen as suggesting the surface area limitations. Pet. 21 (claim 1), 52–55 (claim 9), 62 (claim 13). Weber identifies Whitehouse as describing the step of determining the surface area of the top slice using its sensor 4 "to

[9] 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."

provide a measure of the area of the face of the meat 2." *Id*. at 21, 52–53 (citing Ex. 1005, 9, 10, Figs. 1, 2; Ex. 1003 ¶¶ 67, 134). Weber identifies Antonissen as describing that surface area of a slice can be measured using pixel data, which Antonissen captures in a 500 by 500 array of picture elements (i.e., pixels). *Id*. at 20–21, 54–55 (citing Ex. 1006, 3:54–57, 4:8–16, 4:32:35, Fig. 2C; Ex. 1003 ¶¶ 68, 136–139).

Petitioner also contends that an ordinarily skilled artisan would have been motivated to combine teachings of Whitehouse and Antonissen to arrive at the surface area limitations and would have expected to be successful in doing so. *Id*. at 28–35. 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 ¶¶ 84–94 (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. 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)).

Provisur contends that Weber failed to show how the combination of Whitehouse and Antonissen "would have worked to determine a 'surface area' from the 'pixel-by-pixel image data' [of a top slice of the stack]" as in element 1.5. PO Resp. 31 (citing Ex. 2023 ¶¶ 170–183). Provisur argues that Whitehouse does not "generate image data" and Antonissen's camera is "adjusted to *exclude the bottom and side shear edges*." PO. Resp. 31 (quoting Ex. 1006, 6:20–24) (citing Ex. 2035 ¶¶ 82, 174–182) (emphasis in original). Further, Provisur argues that Antonissen's camera "splits the image into 'zones' and looks at each 'area of interest' separately" when determining fat content. PO Resp. 31–32 (citing Ex. 1006, 6:20–39,

7:17–22; Ex. 2035 ¶¶ 155, 174–183). Provisur contends that these shortcomings demonstrate that "Antonissen's camera does not view the entire surface of the product and does not determine 'surface area' from the 'pixel-by-pixel image data.'" PO Resp. 32. Lastly, Provisur alleges that Weber offered "no explanation on how [Whitehouse and Antonissen] would be combined to disclose this claim limitation." *Id.*

We determine that Weber has persuasively proven that the combined teachings of Whitehouse and Antonissen describe the surface area limitations. Although Whitehouse does not expressly disclose a camera, Whitehouse does disclose measuring the surface area of the top slice using "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." Ex. 1005, 10 (emphasis added). Dr. Howard, Provisur's expert, agreed that Whitehouse describes using a sensor to determine the surface area of the top slice. *See* Ex. 1036, 123:4–6 ("Q. So Whitehouse calculates the surface area of the top slice? A. It does.").

Provisur implies that Weber relies solely upon Antonissen as measuring the total surface area of a slice. PO Resp. 31–32. But Weber relies upon Whitehouse as describing measuring the surface area of a slice of meat and upon Antonissen as suggesting that using pixel-by-pixel image data for measuring characteristics of the slice of meat, such as its fat and lean content, was known. Pet. 21. "Non-obviousness cannot be established by attacking the references individually where the rejection is based upon the teaching of a combination of references." *In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019) (arguments individually attacking the references

in an obviousness combination are not persuasive). Even if, as Patent Owner contends, Antonissen's camera excluding the bottom and side shear edges of meat from its image used to analyze fat-to-lean ratios or its splitting an image into zones might result in Antonissen's system not calculating total surface area of a slice of meat, Weber persuades us that an ordinarily skilled artisan would have combined the functionality of Whitehouse's scanner and Antonissen's image processor to calculate surface area using pixel data.

Further, Weber also persuasively addresses how to combine Antonissen's camera with Whitehouse's slicer. Pet. 21–22. Weber explains that Antonissen's "image processing means 14 removes background pixels and enhances the remaining pixels after capturing an image." *Id.* at 21 (citing Ex. 1006, Fig. 4A; Ex. 1003 ¶ 68). Weber contends that Antonissen describes that the processor "then masks the digital image, leaving the area of interest," i.e., the top slice. Pet. 21 (citing Ex. 1006, Fig. 6; Ex. 1003 ¶ 68). Weber also explains that Antonissen's image processing means 14 then "uses pixel data to determine a surface area of the meat slice." Pet. 21 (citing Ex. 1006, Fig. 2C; Ex. 1003 ¶ 68). Weber persuasively contends that Antonissen's camera and image processing methods were applied to sliced meat, just as Whitehouse used its sensor 4 to analyze sliced meat, and that an ordinarily skilled artisan "would have been motivated to use Antonissen's classification *after slicing*—e.g., in the location of Whitehouse's sensor 4." Pet. 15; *see also* Reply 12. For all these reasons, we determine that Weber has proven by a preponderance of evidence that the combined teachings of Whitehouse and Antonissen suggest the step of "determining a surface area of the top slice from the [pixel-by-pixel image] data [of a top slice of the stack]."

5. Summary

For the reasons discussed above and in the Final Decision regarding the remaining limitations of claims 1, 3–5, 8–10, 13, and 14, we determine that Weber has proven by a preponderance of evidence that the combined teachings of Whitehouse, Antonissen, and Hardy render 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 Wyslotsky renders claims 2, 6, 7, 11, and 12 unpatentable as obvious. Pet. 68–75. 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. 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 11 and 12 require that a camera is located above and aimed at a scale used to weigh the stack.

The Federal Circuit held that "should the Board find the independent claims obvious after considering the surface-area limitations, claims 11 and 12 are also obvious in view of the Board's determinations regarding claims 2, 6, and 7." *Provisur*, 50 F.4th at 127. As explained in Part II.E above, we have concluded that independent claim 9, the claim from which

claims 11 and 12 depend, is unpatentable as obvious. Accordingly, we also conclude that claims 11 and 12 are unpatentable as obvious in view of our prior determinations that claims 2, 6, and 7 were unpatentable as obvious in view of Whitehouse, Antonissen, Hardy, and Wyslotsky. Dec. 26–28. We also reaffirm our prior conclusion that claims 2, 6, and 7 are unpatentable as obvious in view of Whitehouse, Antonissen, Hardy, and Wyslotsky. *Id.*

III. CONCLUSION[10]

In summary,

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 3–5, 8–10, 13, 14	103	Whitehouse, Antonissen, Hardy	1, 3–5, 8–10, 13, 14	
2, 6, 7, 11, 12	103	Whitehouse, Antonissen, Hardy, Wyslotsky	2, 6, 7, 11, 12	
Overall Outcome			1–14	

[10] 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).

IV. ORDER

For the reasons given, it is:

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

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.

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