

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

WEBER, INC.,  
Petitioner,

v.

PROVISUR TECHNOLOGIES, INC.,  
Patent Owner.

---

Case IPR2019-01461  
Patent No. 7,533,513

---

**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 February 10, 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 1–5 and 8–12 of U.S. Patent No. 7,533,513 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.

(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: April 12, 2021

By: /s/ Michael G Babbitt  
Counsel for Patent Owner  
Reg. No. 59,288  
WILLKIE FARR &  
GALLAGHER LLP  
300 North LaSalle  
Chicago, IL 60654  
Tel: (312) 728-9000  
mbabbitt@willkie.com

**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 12th day of April, 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 12th day of April, 2021, and the filing fee was paid electronically.

Pursuant to 37 C.F.R. § 42.6(e), on April 12, 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  
IPR2019-01461

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.

---

Case IPR2019-01461  
Patent 7,533,513 B2

---

Before MITCHELL G. WEATHERLY, FRANCES L. IPPOLITO, and  
JON M. JURGOVAN, *Administrative Patent Judges*.

JURGOVAN, *Administrative Patent Judge*.

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

## I. INTRODUCTION

### A. Background and Summary

On August 9, 2019, Petitioner, Weber, Inc., filed a Petition requesting *inter partes* review of claims 1–12 of U.S. Patent No. 7,533,513 B2 (Ex. 1001, the “’513 Patent”). Paper 2 (“Petition” or “Pet.”). Patent Owner, Provisur Technologies, Inc., filed a Preliminary Response to the Petition on November 19, 2019. Paper 6 (“Prelim. Resp.”).

On February 14, 2020, applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we instituted an *inter partes* review of claims 1–12. Paper 9 (“Institution Dec.”). In the Institution Decision, we determined that Petitioner demonstrated a reasonable likelihood that it would prevail on at least one of the challenged claims, so we instituted trial on all challenged claims and all grounds in the Petition. Institution Dec. 46–47.

On June 11, 2020, Patent Owner filed its Response to the Petition. Paper 18 (PO Resp.). On September 3, 2020, Petitioner filed a Reply to Patent Owner’s Response, and on October 1, 2020, Patent Owner filed a Sur-Reply. Paper 22 (“Reply”); Paper 27 (“Sur-Reply”). Also, Patent Owner filed an authorized listing of alleged new arguments and evidence in Petitioner’s Reply, and Petitioner filed an authorized response to Patent Owner’s listing. Paper 32; Paper 34.

An oral hearing took place on November 17, 2020. The Hearing Transcript (“Tr.”) is included in the record as Paper 35. After considering the parties’ arguments and supporting evidence, we determine that Petitioner has proved by a preponderance of the evidence that claims 1–5 and 8–12 of

IPR2019-01461  
Patent 7,533,513 B2

the '513 Patent are unpatentable. 35 U.S.C. § 316(e) (2018). Petitioner has not proved claims 6–7 unpatentable.

*B. Real Parties in Interest*

Petitioner Weber, Inc. identifies the following real parties in interest:

Textor, Inc.;

Weber Maschinenbau GmbH Breidenbach;

Weber Maschinenbau GmbH Neubrandenburg; and

Textor Maschinenbau GmbH.

Pet. 69.

Patent Owner identifies itself as the real party in interest. Paper 4, 2.

*C. Related Matters*

Patent Owner asserted the '513 Patent against Petitioner in *Provisur Technologies, Inc. v. Weber, Inc. et al*, Case No. 5-19-cv-06021 (MOWD), filed February 22, 2019. Pet. 69–70.

The '513 Patent is a continuation of U.S. Patent No. 7,065,936 B2, which is the subject of the same litigation and IPR2019-01462. *Id.*

Also involved in the same litigation are:

US Patent No. 6,320,141, the subject of IPR2019-01467;

U.S. Patent No. 6,669,005, the subject of IPR2019-01463;

U.S. Patent No. 6,997,089, the subject of IPR2019-01466;

U.S. Patent No. 8,322,537, the subject of IPR2019-01468; and

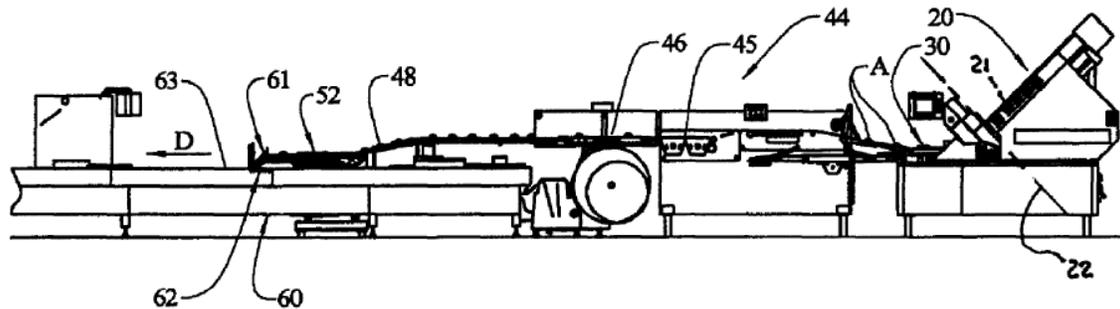
U.S. Patent No. 9,399,531, the subject of IPR2019-01464 and IPR2019-01465.

Paper 4, 2.

*D. The '513 Patent*

The '513 Patent relates to packaging “drafts” of food product using specialized machinery. Ex. 1001, 1:9–11, 2:16–17. “Drafts” are sliced food product from a loaf, which may be arranged in piles, bunches or groups. *Id.* at 3:39–43. Figure 1, shown below, provides further details of the slicing and packaging line of machinery. *Id.* at 3:20–21.

***FIG. 1***

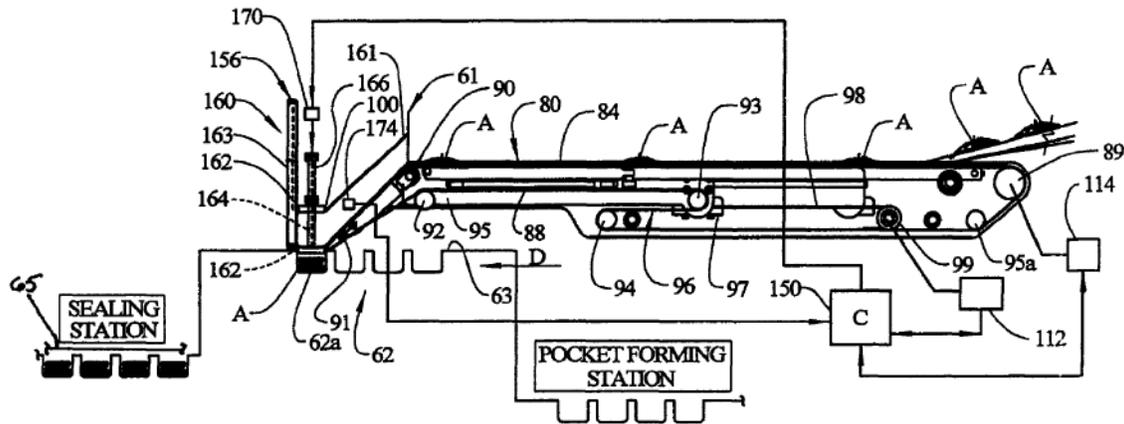


In Figure 1 above, slicer 20 cuts food slices from loaf 21 and deposits the slices on output conveyor assembly 30, forming shingled or stacked drafts A. *Id.* at 3:39–42. Conveyor assembly 30 moves drafts A to staging conveyor 44 that rearranges a single file stream of drafts laterally into rows. *Id.* at 3:52–55. The rows of drafts move to ramp conveyor 48 which delivers them to shuttle conveyor 52. *Id.* at 3:59–64.

Conveyors 46, 48, 52 carry drafts above the packaging machine 60. *Id.* at 3:65–66. At fill station 61, shuttle conveyor 52 delivers rows of drafts into containers of a group of rows of pockets 62 formed in lower web of film 63 by packaging machine 60. *Id.* at 3:67–4:3. Downstream of fill station 61, in the direction D, pockets 62, filled with product, are sealed by an upper web of film 65. *Id.* at 4:3–5.

Shuttle conveyor 52 is shown in further detail in Figure 2 below. *Id.* at 4:6–7.

**FIG. 2**

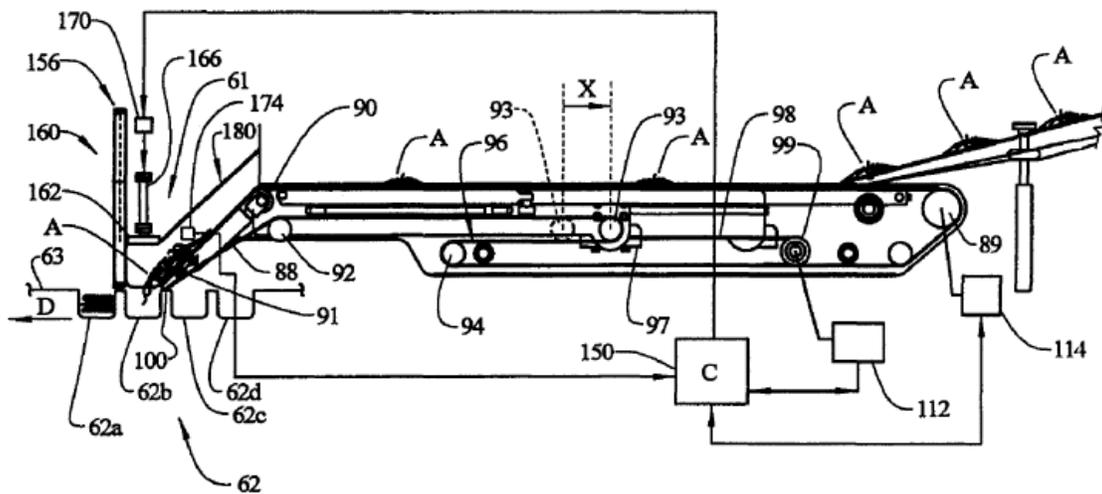


In Figure 2, shuttle conveyor 52 includes endless belt 80 wrapped around drive roller 89 and rollers 90, 91, 92, 93 rotationally mounted to side plates 95. *Id.* at 4:6–14. Controlled translation of side plates 95 controls extension or retraction of end region 100 of belt 80. *Id.* at 4:17–21. Specifically, carriages 97 connect to side plates 95 and are driven by servomotor 112 to control extension or retraction of end region 100. *Id.* at 4:22–35. Servomotor 114 controls the speed of conveying belt 80. *Id.* at 4:35–37. Controller 150 synchronizes movement of the end region 100 of the conveyor 80 via servomotor 112, and the speed of belt 80 via servomotor 114, with the movement of the web of film 63 in which pockets 62 are formed at a pocket forming station. *Id.* at 4:41–47.

Tamping apparatus 156 includes a row of tamping mechanisms 160 mounted with tamp plates 162 and rods 164 driven by pneumatic cylinders 166 to pack drafts A more tightly into respective pockets 62. *Id.* at 4:48–67. Controller 150 connects to pneumatic cylinders 166 to control tamping mechanisms 160. *Id.* at 5:1–3.

In Figure 2, servomotor 112 drives end region 100 so it is positioned to fill a first row of pockets 62a with drafts A. *See id.* at 4:33–35. Figure 3, below, shows the end region 100 has been driven by servomotor 112 an incremental distance X where it is positioned to fill a second row of pockets 62b with drafts A.

**FIG. 3**



Specifically, in Figure 3, servomotor 112 drives carriages 97, side plates 95, and rollers 90, 91, 92, 93 supporting belt 80 to position end region 100 to deposit the next row of drafts A into the second row of pockets 62b. *Id.* at 5:10–16. Tamping mechanisms 160 are also shifted to a position above the second row of pockets 62b to tamp drafts therein. *Id.* at 5:16–19. The process is then repeated for each subsequent row 62c, 62d. *Id.* at 5:19–20.

End region 100 is part of ramp conveyor region 180 of belt 80. *Id.* at 5:21–22. Ramp conveyor region 180 is steeply inclined to “tighten” drafts A entering pockets 62. *Id.* at 5:25–27.

Groups of rows of pockets are preferably filled while the web of film 63 is stationary at fill station 61, i.e., during the dwell period of the packaging operation. *Id.* at 5:28–30. During the dwell period, downstream of the filling station, the sealing station seals pockets with film, while upstream of the filling station, the packaging machine forms another group of empty pockets. *Id.* at 1:27–36. After the group is filled and the dwell period is over, the web of film 63 is moved in direction D to reveal a new group of rows of pockets for filling. *Id.* at 5:30–33. Alternatively, the row of pockets could be filled in the reverse order, with the row furthest upstream in direction D filled first, and successive rows filled in order in the downstream direction. *Id.* at 5:36–44.

#### *E. Challenged Claims*

Claim 1 is independent, and claims 2–12 depend directly or indirectly from claim 1. Claim 1 is set forth below:

1. A method for filling food product drafts into packages, comprising the steps of:

supplying open top container portions arranged in rows that are spaced-apart along a longitudinal direction and having a first row and a longitudinally spaced-apart second row and connected to move longitudinally together, said first and second rows movable together along said longitudinal direction into a fill station;

providing a conveyor having a retractable and extendable conveying surface, said conveying surface arranged above said fill station and having an end region longitudinally movable to a first position arranged to deposit food product drafts into said container portions of said first row by said conveying surface, moving said end region to said first position and depositing food drafts into container portions of said first row; and

while said first and second rows are in said fill station, retracting or extending said conveying surface to reposition said end region to a second position arranged to deposit food product drafts

carried on said conveying surface into said container portions of said second row.

Ex. 1001, 5:54–6:9.

*F. Evidence*

Petitioner relies upon the following prior art references<sup>1</sup>:

Honsberg	US 5,078,259	Jan. 7, 1992	Ex. 1005
Hollymatic	EP 0104142 A2	Mar. 28, 1984	Ex. 1006
Weber446	WO 02/22446 A1	March 21, 2002	Ex. 1007
Mello	US 5,054,266	Oct. 8, 1991	Ex. 1008
Mahaffy535	US 4,709,535	Dec. 1, 1987	Ex. 1009
Schefflow	US 4,685,364	Aug. 11, 1987	Ex. 1010
Sandberg	US 5,810,149	Sep. 22, 1998	Ex. 1011

Petitioner also supports its challenges with two declarations from Dr. Claire Koelsch Sand (Ex. 1003; Ex. 1021). Patent Owner supports its contentions with a declaration from Mr. John T. Palmer (Ex. 2002). During

---

<sup>1</sup> The '513 Patent has an effective filing date prior to March 16, 2013, the effective date of the applicable provisions of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”). We thus apply the pre-AIA versions of 35 U.S.C. §§ 102 and 103 in this Decision. Petitioner alleges that all of the prior art references with the exception of Weber446 issued or published more than one year before the '513 Patent's earliest alleged priority date of December 18, 2002. Pet. 15–16. Petitioner thus contends that these prior art references are prior art under pre-AIA 35 U.S.C. § 102(b). *Id.* Petitioner alleges Weber446 issued on March 21, 2002 and is prior art under pre-AIA 35 U.S.C. § 102(a). Patent Owner does not refute these assertions. We treat these references as prior art in this decision.

the trial, each declarant was cross-examined, and the record includes their deposition transcripts. *See* Ex. 1020, Ex. 2010, Ex. 2014.

*G. Prior Art and Asserted Grounds*

Petitioner asserts the following grounds of unpatentability (Pet. 16):

<b>Challenged Claim(s)</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>
1, 4, 6, 12	103(a)	Honsberg, Hollymatic
5, 7–11	103(a)	Honsberg, Hollymatic, Mello
2	103(a)	Honsberg, Hollymatic, Mahaffy535
3	103(a)	Honsberg, Hollymatic, Mahaffy535, Schefflow, Sandberg
1, 4, 6, 12	103(a)	Weber446, Hollymatic

II. ANALYSIS

*A. Legal Standards*

Petitioner bears the ultimate burden of persuasion to show unpatentability of the challenged claims by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d) (2019). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1378–79 (Fed. Cir. 2015). In contrast to the burden of persuasion, the burden of production on other issues, such as proving that a patent or publication renders a claim obvious, may shift between Petitioner and Patent Owner as each side presents evidence. *Id.*; *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1376 (Fed. Cir. 2016).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) where present, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

*B. Level of Ordinary Skill in the Art*

“The person of ordinary skill in the art is a hypothetical person who is presumed to know the relevant prior art.” *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). Factors that may be considered in determining the level of ordinary skill in the art may include: (A) “type of problems encountered in the art;” (B) “prior art solutions to those problems;” (C) “rapidity with which innovations are made;” (D) “sophistication of the technology; and” (E) “educational level of active workers in the field.” “In a given case, every factor may not be present, and one or more factors may predominate.” *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696 (Fed. Cir. 1983). Prior art references may provide evidence of the level of ordinary skill in the art. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Petitioner contends a person of ordinary skill in the art in the technical field of the '513 Patent at the relevant time 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. 14–15; Ex. 1003 ¶ 29. Petitioner further contends a person of ordinary skill in the art in the technical field of the '513 Patent would have had knowledge of the technical literature concerning food processing and packaging systems, before December 18, 2002, which is the priority date of the '513 Patent. Pet. 15; Ex. 1003 ¶ 30. Petitioner contends that a person of ordinary skill in the art may have worked as part of a multidisciplinary team and drawn upon not only his or her own skills, but of others on the team, e.g., to solve a given problem. Pet. 15. Patent Owner does not dispute Petitioner's definition of the level of ordinary skill in the art. *See generally* PO Resp.

Petitioner's undisputed definition of the level of ordinary skill in the art is consistent with our understanding on the evidence before us. The prior art addressed the same or similar problem as the '513 Patent, specifically, the filling of packages with food product during the dwell period when the machinery is stationary while a new group of packages is being formed. Ex. 1001, 1:22–41; Ex. 1005, 2:10–18; Ex. 1006, 8–9, Fig. 4; Ex. 1007, 1–2; Ex. 1003 ¶¶ 7, 12, 57, 108–111, 133, 206–207. Other problems recognized in the art include food insertion accuracy, non-disturbance of shingled or stacked food product during deposition in containers, and efficiency in filling containers with food product. Ex. 1001, 1:42–47; Ex. 1005, 2:5–9; Ex. 1006, 1–3; Ex. 1007, 1–2. The prior art also taught solutions to these problems, and the technology needed to carry out those solutions. Ex. 1005, 2:10–18; Ex. 1006, 8–9, Fig. 4; Ex. 1007, 1–2. Petitioner's statement of the educational level and experience is consistent with that needed to implement

the solutions set out in the '513 Patent and in the prior art. Accordingly, we apply this level of ordinary skill in the art in this decision.

*C. Claim Construction*

We use the same claim construction standard that would be used to construe a claim in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b). This includes construing the claim in accordance with the ordinary and customary meaning of such claims as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. *Id.* This is the same claim construction standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc) and its progeny.

Only claim terms in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

*1. Construction of “drafts”*

Petitioner asserts that the claim terms should be construed according to their ordinary and customary meanings as understood by a person of ordinary skill in the art in view of the specification. Pet. 15 (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005)). Petitioner contends that no term needs an explicit construction to resolve the controversy between the parties. *Id.* (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). Petitioner further contends that “a [person of ordinary skill in the art] would have understood that ‘sliced foods’ are called ‘drafts.’” Pet. 18 (citing Ex. 1003 ¶ 80).

Patent Owner contends that “food product drafts” recited in the claims is a term of art that means “piles, bunches or groups of thin sliced product.” PO Resp. 4 (citing Ex. 1001, 3:42–43); *see also* Ex. 1001, 1:48–52, 2:12–17,

2:22–30, 5:53–54; Ex. 2002 ¶ 35. Patent Owner does not contend, however, that its proposed construction of “drafts” would have any effect on interpretation of the steps recited in the claims. Accordingly, we decline to construe “drafts” as Patent Owner proposes, but instead apply the ordinary and customary meaning of “drafts” as “sliced foods” or “sliced food product.” Ex. 1003 ¶ 80.

2. *Construction of “moving said end region to said first position and depositing food drafts into container portions of said first row” and “while said first and second rows are in said fill station, retracting or extending said conveying surface to reposition said end region to a second position arranged to deposit food product drafts carried on said conveying surface into said container portions of said second row”*

Petitioner asserts that we should apply the ordinary and customary meanings, as understood by a person of ordinary skill in the art in view of the specification, to the limitations identified above. Pet. 15 (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005)). Patent Owner interprets these claim limitations as requiring a conveyor end region to deposit multiple drafts at a time from a first position and a second position. PO Resp. 22–26; Sur-Reply 1–2. Patent Owner refers to these limitations as the “multi-fill” or “multi-draft, multi-row deposit” limitations. PO Resp. 6, 8, 14, 35–36. Petitioner does not dispute Patent Owner’s interpretation of these claim limitations as requiring “multi-fill” deposition. Reply 2–3 (citing Ex. 1021 ¶ 5).

As evidence to support its interpretation, Patent Owner notes that the ’513 Patent states “the shuttle conveyor is used to *fill the first row* of pockets with *drafts* and then retracted to *fill the second row* of pockets with *drafts*, and then retracted to fill each subsequent row of pockets with *drafts* until all

of the rows of the group are filled.” PO Resp. 24 (citing Ex. 1001, 2:50–54 (emphasis added); 5:36–40); *see also* Ex. 2002 ¶¶ 73–75. Similar language appears elsewhere in the ’513 Patent. Ex. 1001, code (57), 2:4–11, 5:10–20.

We agree with Patent Owner that this claim language encompasses “multi-fill” depositing of a row of drafts at a time. But the claim language is broader and also covers “piece-by-piece” or “one by one” deposition, for example, when drafts have a staggered arrangement on the conveyor belt, and drafts are deposited one by one in the pockets of each row. We find no language in the ’513 Patent, its claims, or its file history, that restricts the claims to “multi-fill” deposition as Patent Owner uses the term. More particularly, the claims do not recite any particular timing or order for how the drafts are deposited: the claims merely require depositing a row of drafts in package pockets at each of the first and second positions.

Patent Owner further contends that the ’513 Patent touts that multi-draft deposit with a 4x4 array of drafts is deposited into four rows, which increases production speed by 400%. PO Resp. 24–25 (citing Ex. 1001, 3:4–11; Ex. 2002 ¶ 38). The cited part of the ’513 Patent does not mention increasing production. It does, however, convey that the dwell time may be quite short, lasting a few to several seconds, from which one might surmise that “multi-fill” deposition may be advantageous in saving time in depositing drafts during the dwell period. But this falls far short of expressing a “manifest exclusion or restriction, representing a clear disavowal of claim scope.” *See Continental Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) (citing *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1306 (Fed. Cir. 2011) (quoting *Epistar*

*Corp. v. Int'l Trade Comm'n*, 566 F.3d 1321, 1335 (Fed. Cir. 2009)). We decline to restrict the claim only to “multi-fill” deposition.

Patent Owner also contends that the prosecution history emphasized that “[t]he filling of multiple rows during the dwell period is an important advantage of the invention,” leading to allowance of the claims. *Id.* at 25 (citing Ex. 1002, 139, 158–159). The Examiner’s reasons for allowance, however, go toward filling multiple rows during the dwell time *without indexing the containers*, and not to “multi-fill” deposition of drafts in each row of containers. In the reasons for allowance, the Examiner found that this “depositing without indexing” feature was not disclosed in Lindee (US 7,056, 936, issued June 6, 2006). Ex. 1002, 158. Earlier in prosecution, Patent Owner argued to the Examiner that the “depositing without indexing” feature was not disclosed by Hoyland (US 5,692,362, issued December 2, 1997). *Id.* at 112–113, 139–140. The Examiner appears to have accepted that argument by withdrawing the rejection of claims in view of Hoyland.

To summarize, Petitioner and Patent Owner agree on an interpretation of the claims that is more restrictive than the ordinary and customary meaning of the claims would allow. We agree with the parties that the claim language encompasses “multi-fill” deposition of drafts at the same time in each row of containers. But it also encompasses “piece-by-piece” deposition of drafts. There is simply no language in the claims requiring deposition of drafts at the same time or in a certain order into the rows of containers at the first and second positions. Nor does the Specification of the ’513 Patent or its file history require this feature. *See generally* Ex. 1001; Ex. 1002. Accordingly, we proceed in our analysis by applying the ordinary and

customary meaning of the “first row” and “second row” limitations, which encompasses both “multi-fill” deposition and “piece-by-piece” deposition.

*D. Ground 1: Asserted Obviousness of Claims 1, 4, 6, and 12 based on Honsberg and Hollymatic*

Petitioner contends that claims 1, 4, 6, and 12 are obvious under 35 U.S.C. § 103(a) based on the combination of Honsberg and Hollymatic. Pet. 18–44.

*1. Honsberg (Ex. 1005)*

Honsberg discloses an apparatus for inserting sliced foods into a packing machine. Ex. 1005, 3:52–53. The apparatus is shown below in Honsberg’s Figure 1.

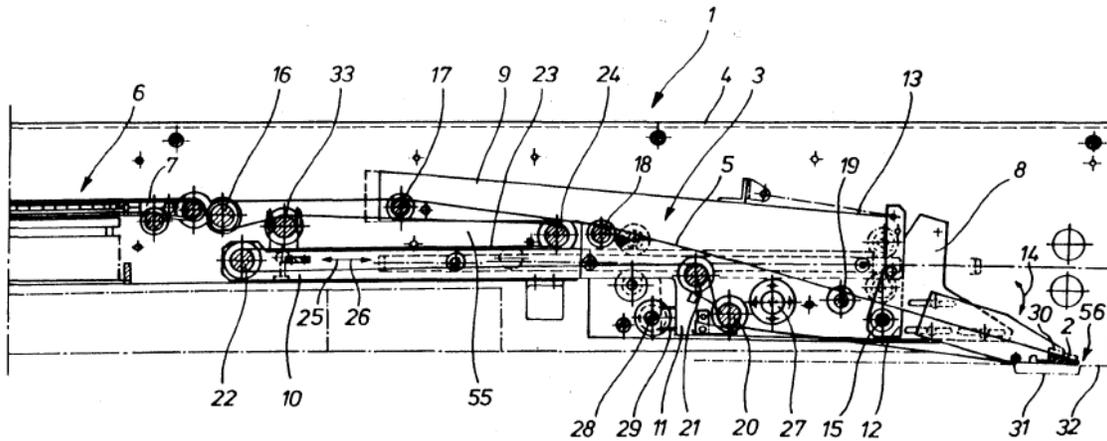


FIG 1

Honsberg’s apparatus includes slide 3 mounted in machine frame 4. *Id.* at 3:64–67. Conveyor belt 5 loops around slide 3 and guides on rollers. *Id.* at 3:67–4:2. Supply means 6 delivers sliced food 30 on its conveyor belt 7 to a food delivery point. *Id.* at 4:3–9. Specifically, supply means 6 provides sliced food 30 onto the top of conveyor belt 5 near its drive roller 16. *Id.*

Honsberg’s apparatus has a front edge provided by knife edge shoulder 2, around which conveyor belt 5 loops, and a dipping beak-like

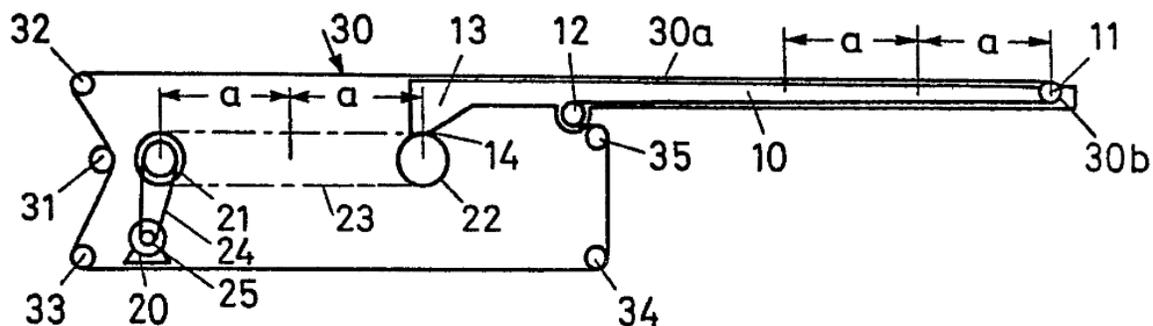
member 8, which is part of slide 3. *Id.* at 4:10–14. Driving gear wheel 28 and toothed belt 29 drive slide 3 in machine frame 4 in the directions indicated by arrows 25, 26. *Id.* at 4:53–56.

From the food delivery point, food is driven by conveyor belt 5 to food depositing point 56 on top of knife edge shoulder 2. *Id.* at 4:60–68. The drive for conveyor belt 5 is then switched off. *Id.* at 4:68–5:2. The drive for driving gear wheel 28 is switched on whereby slide 3 moves rearwardly away from food depositing point 56, causing the “ground [to be] taken under the feet” of the food 30, which thereby drops into receptacle 31 in deep drawn sheet 32 therebeneath. *Id.* at 5:3–11. Food insertion occurs when the machine is stationary during a forming cycle of dish-like receptacles. *Id.* at 2:10–18; 3:28–33, 7:1–4.

## 2. Hollymatic (Ex. 1006)

Hollymatic discloses a device, as shown below in Figure 1, for placing objects into containers such as trays or cartons. Ex. 1006, 10, Fig. 1.

**Fig. 1**

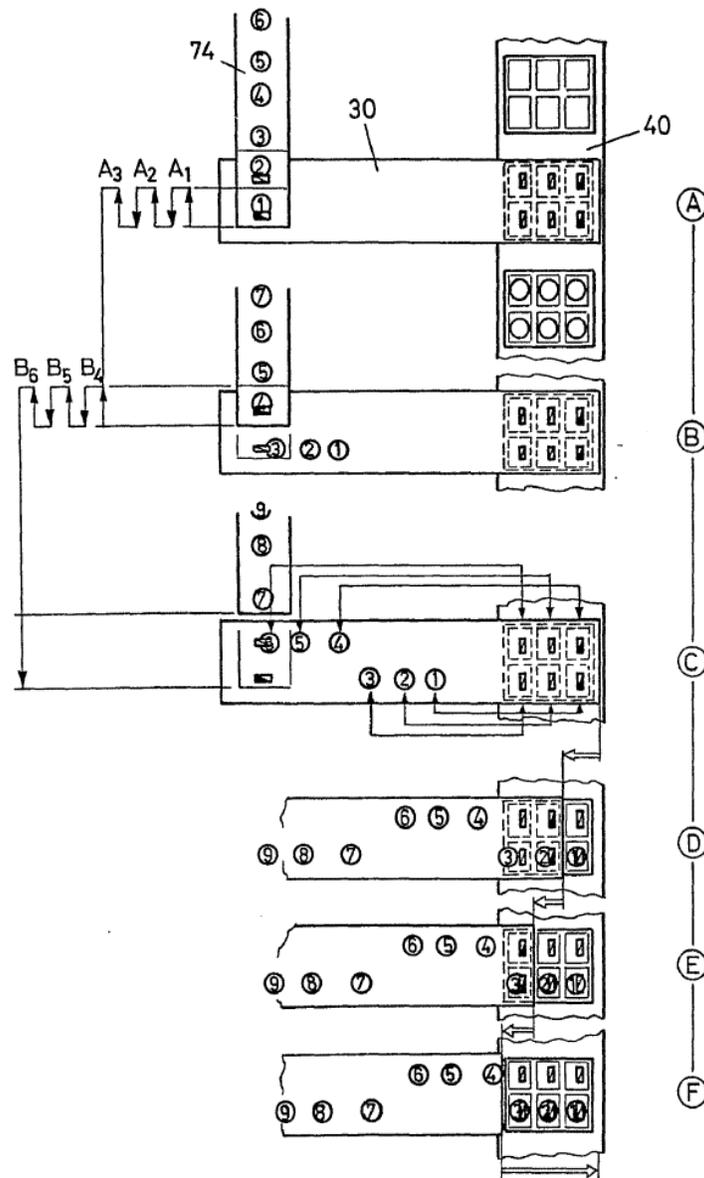


In Figure 1, rollers 11, 12, and 31–35 guide conveyor belt 30. Ex. 1006, 3–4. Roller 11 fastens to horizontally displaceable guided sled 10. *Id.* at 4. Arm 13 of sled 10 connects to transport chain 23, which is guided by rollers 21 and 22. *Id.* Roller 21 connects via drive belt 24 to belt pulley 25



sensors 61, 62, 63 where sled 10 is successively driven backward from a start position to drop objects G into a first row of three successive trays of double-row group 42a traveling on conveyor belt 40. *Id.* at 9. Sled 10 returns to the start position and is successively driven backward to drop three more objects G into a second row of the double-row group tray 42a. *Id.* at 5–7, 9. These actions can be repeated for tray groups 42b, 42c. *Id.* at 8.

Hollymatic's Figure 5 is shown below.



In Hollymatic Figure 5, sled 10 is fully extended at phase C, which, as will be seen, Petitioner views as the claimed “first position.” Sled 10 then withdraws at phase D to drop food object 1 into a container. *Id.* at 8–9. Petitioner regards the sled position at phase D as the claimed “second position.” Sled 10 withdraws again at phase E to drop food object 2 into the next container of the first row. *Id.* Sled 10 withdraws yet again at phase F to drop food object 3 into the last contained of the first row. *Id.* Sled 10 is

moved again to the position shown at phase C and phases C–F are repeated to drop food objects 4–6 into containers of the second row. *Id.*

3. *Claim 1*

Generally, Petitioner contends that Honsberg teaches a withdrawing conveyor that deposits articles into rows of container portions. Ex. 1003 ¶ 6. Petitioner contends that Hollymatic teaches a withdrawing conveyor that includes two withdraws to deposit articles into adjacent rows of containers. *Id.* According to Petitioner, a person of ordinary skill in the art would have been motivated to incorporate a second withdraw, like that taught by Hollymatic, into Honsberg to fill more stationary containers during a dwell time when containers are formed. Ex. 1003 ¶ 7. This, according to Petitioner, would reduce downtime when containers are not being formed or filled, and also would allow more throughput and higher efficiency. *Id.* Petitioner further contends that a person of ordinary skill in the art would have had a reasonable expectation of success in making the combination. *Id.*

Petitioner contends that both Honsberg and Hollymatic disclose claim 1’s preamble (Pet. 18–19), the “container supply” limitation (Pet. 19–24), the “shuttle conveyor” limitation (Pet. 25–26), and the “first row” limitation (Pet. 27–29). Petitioner also relies on both Honsberg and Hollymatic to disclose the “while said first and second rows are in said fill station” part of the “second row” limitation (Pet. 29–30). Petitioner relies on Hollymatic to teach the remainder of the “second row” limitation (Pet. 30–32). Petitioner’s reading of claim 1 on the Honsberg-Hollymatic combination is examined in further detail below.

a) *Petitioner's Reading of Claim 1 on the Honsberg-Hollymatic Combination*

Petitioner reads the preamble of claim 1 on the combined references as follows:

*A method for filling food product drafts into packages, comprising the steps of:*<sup>2</sup>

Ex. 1001, 5:53–54.

Petitioner contends that to the extent the preamble is viewed as limiting, Honsberg teaches the preamble. Pet. 18; Ex. 1003 ¶ 79. Petitioner asserts that the claimed “food product drafts” correspond to Honsberg’s “slices of continental sausage, cheese and the like” or “sliced foods.” Pet. 18; Ex. 1005, 1:21–24; Ex. 1003 ¶ 80. Petitioner contends that the claimed “packages” correspond to Honsberg’s “dish-like receptacles.” Pet. 18; Ex. 1005, 1:6–9, 1:52–57, 3:10–11; Ex. 1003 ¶ 80. Petitioner contends that Honsberg’s apparatus performs the claimed “method for filling food product drafts into packages.” Pet. 18; Ex. 1003 ¶ 80; Ex. 1005, Fig. 1.

Petitioner also contends that Hollymatic discloses a device for placing objects, such as hamburger patties, into trays or cartons of packaging, and

---

<sup>2</sup> We determine the preamble is not limiting because it does not recite essential structure or steps, nor is it necessary to give life, meaning, and vitality to the claim. *Shoes by Firebug LLC v. Stride Rite Children's Group, LLC*, 962 F.3d 1362, 1367 (quoting *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)). To the contrary, the claim body defines a structurally complete invention and the preamble merely states the purpose of the invention, which is to fill food product drafts into packages. *See id.* (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). Even assuming the preamble is limiting, Petitioner has shown it is taught by the prior art and Patent Owner does not dispute this evidence.

concludes that the combination of Honsberg and Hollymatic discloses the claim preamble. Pet. 19; Ex. 1006, 5, 10; Ex. 1003 ¶ 81.

Other than the “drafts” construction issue discussed in Section II.C.1, Patent Owner does not dispute this reading of claim 1’s preamble on the Honsberg-Hollymatic combination. *See generally* PO Resp.

Claim 1 further recites the “container supply” limitation as follows:

*supplying open top container portions arranged in rows that are spaced-apart along a longitudinal direction and having a first row and a longitudinally spaced-apart second row and connected to move longitudinally together, said first and second rows movable together along said longitudinal direction into a fill station.*

Ex. 1001, 5:56–61.

Petitioner alleges that Honsberg and Hollymatic disclose this “container supply” limitation. Pet. 20, 24; Ex. 1003 ¶¶ 82, 88. Specifically, Petitioner contends that Honsberg teaches “supplying open top container portions” and that the container portions are “arranged in rows that are spaced-apart along a longitudinal direction and having a first row and a longitudinally spaced-apart second row and connected to move longitudinally together.” Pet. 20–22; Ex. 1005, 1:28–35, 2:16–19, 2:30–32, 2:61–63, Figs. 1, 3; Ex. 1003 ¶¶ 83–85. Petitioner further alleges that Honsberg discloses “said first and second rows movable together along said longitudinal direction into a fill station.” Pet. 22–23; Ex. 1005, Figs. 1, 3; Ex. 1003 ¶¶ 86–87.

Additionally, Petitioner contends that Hollymatic discloses “supplying open top container portions arranged in rows that are spaced-apart along a longitudinal direction and having a first row and a longitudinally spaced-apart second row.” Pet. 23–24; Ex. 1006, 8, Fig. 4; Ex. 1003 ¶ 88.

Petitioner contends that Hollymatic discloses the trays are formed in two connected rows so that they “move longitudinally together” as claimed. Pet. 23–24; Ex. 1006, 5, 8; Ex. 1003 ¶ 88. Petitioner further alleges that Hollymatic discloses the claimed “first and second rows movable together along said longitudinal direction into a fill station.” Pet. 24; Ex. 1006, 5, 8, Figs. 4, 5; Ex. 1003 ¶ 88.

Patent Owner does not dispute Petitioner’s reading of the “container supply” limitation on the Honsberg-Hollymatic combination. *See generally* PO Resp.

Claim 1 further recites the “shuttle conveyor” limitation as follows:  
*providing a conveyor having a retractable and extendable conveying surface.*

Ex. 1001, 5:62–63.

Petitioner contends Honsberg and Hollymatic disclose the claim limitation of “providing a conveyor having a retractable and extendable conveying surface.” Pet. 25–26; Ex. 1005, 3:64–4:2, 4:7–9, Fig. 1; Ex. 1006, 4–5; Ex. 1003 ¶¶ 89–93.

Patent Owner does not dispute that the “shuttle conveyor” limitation reads on the Honsberg-Hollymatic combination. *See generally* PO Resp.

Claim 1 further recites the “first row” limitation as follows:

*said conveying surface arranged above said fill station and having an end region longitudinally movable to a first position arranged to deposit food product drafts into said container portions of said first row by said conveying surface, moving said end region to said first position and depositing food drafts into container portions of said first row.*

Ex. 1001, 5:63–6:4.

Petitioner contends that Honsberg and Hollymatic disclose the “first row” limitation. Pet. 27; Ex. 1003 ¶ 94. Specifically, Petitioner contends Honsberg’s conveying surface has a food depositing point corresponding to the claimed “first position” and “fill station.” Pet. 27; Ex. 1005, 4:21–25, Fig. 1; Ex. 1003 ¶ 95. Petitioner contends that a person of ordinary skill in the art would have understood that the area in Honsberg’s Figure 1 where food drops into a receptacle in the deep drawn sheet is a “fill station” because that is where the receptacle is filled with food. Pet. 27–28; Ex. 1005, 5:3–11; Ex. 1003 ¶ 95. Petitioner contends that Honsberg’s conveyor belt’s end region is longitudinally movable by the slide to the “first position” to deposit food into the first row of receptacles. Pet. 28; Ex. 1005, 5:3–11; Ex. 1003 ¶ 95.

Petitioner contends that Hollymatic discloses conveyor belt 30 in Figure 5 withdraws from position C to position D to drop a food object into the outermost tray of group 41b, and that position C corresponds to the claimed “first position.” Pet. 28; Ex. 1003 ¶ 96, Ex. 1006, 7, Fig. 5.

Patent Owner disputes Petitioner’s reading of the “first row” limitation on the Honsberg-Hollymatic combination. PO Resp. 22–29. We examine Patent Owner’s arguments in detail in Section II.D.3.d)(1) below.

Claim 1 further recites the “second row” limitation as follows:

*while said first and second rows are in said fill station, retracting or extending said conveying surface to reposition said end region to a second position arranged to deposit food product drafts carried on said conveying surface into said container portions of said second row.*

Ex. 1001, 6:5–9.

Petitioner contends that Honsberg and Hollymatic teach this claim limitation. Pet. 29; Ex. 1003 ¶ 98.

Specifically, Petitioner contends that Honsberg's rearward movement of its slide along a longitudinal direction deposits food into a receptacle. Pet. 30; Ex. 1005, 5:3–11; Ex. 1003 ¶ 99. Petitioner asserts that a person of ordinary skill in the art would have understood that the retracted position of the slide, after the food is deposited in the first row, is a "second position." Pet. 30; Ex. 1003 ¶ 99. Petitioner contends that a person of ordinary skill in the art would have understood that Honsberg's slide retracts or extends to the second position "while said first and second rows are in said fill station." Pet. 30; Ex. 1003 ¶ 99.

Petitioner further contends that Hollymatic teaches or suggests the "second row" limitation. Pet. 30–32. Specifically, Petitioner contends that, in Hollymatic's Figure 1, the sled withdraws inside a first withdraw area "a" to deposit a food product at a first location on a packaging substrate and then withdraws inside the second withdraw area "a" to deposit a second food product at a second, spaced-apart location on the same packaging substrate. Pet. 30; Ex. 1006, Fig. 1; Ex. 1003 ¶ 100.

Petitioner also contends that Hollymatic's Figure 5 teaches or suggests that when the first object reaches the end of the sled, an engine is switched and moves the sled to the position D and the object drops into the outermost tray of the group. Pet. 32; Ex. 1006, 7; Ex. 1003 ¶ 103. The successive withdraw process repeats for the next two objects. Pet. 32; Ex. 1006, 7; Ex. 1003 ¶ 103. Then, as Hollymatic's Figure 5 shows, the sled extends again to repeat the process for the second row of material. Pet. 32; Ex. 1006, Fig. 5; Ex. 1003 ¶ 103. Petitioner contends that a person of ordinary skill in the art would have understood that the fully extended position C is a "first position" and the first retracted position D is a "second

position” arranged to deposit another food product into another spaced-apart container portion of the same tray. Pet. 32; Ex. 1003 ¶ 103. Petitioner contends that Hollymatic’s Figure 5 shows “first and second rows are in said fill station” (i.e. remain stationary) as Hollymatic’s sled repositions “said end region to a second position.” Pet. 32; Ex. 1006, Fig. 5; Ex. 1003 ¶ 104.

Patent Owner disputes Petitioner’s reading of the “second row” limitation on the Honsberg-Hollymatic combination. PO Resp. 22–29. We examine Patent Owner’s arguments in detail in Section II.D.3.d)(1) below.

*b) Motivation to Combine*

Petitioner contends that a person of ordinary skill in the art would have been motivated to combine Honsberg and Hollymatic for several reasons. Pet. 32–36. Forming arrays with multiple rows and columns was an efficient way to organize containers. Pet. 33; Ex. 1012, Figs. 3–6, 3:1–5 (Mahaffy 1962 packing machine patent); Ex. 1013, Fig. 13, 6:37–40; Ex. 1003 ¶ 110. Forming multiple rows and columns of containers during each dwell time increases the number of containers that can be formed and improves the amount of product that can be loaded during the dwell time. Pet. 34; Ex. 1003 ¶¶ 110–111; Ex. 1012, Figs. 3–6, 3:1–5; Ex. 1013, 6:37–40, Fig. 13 (Mahaffy 1972 packing apparatus patent); Ex. 1008, Fig. 5. Filling as many containers as possible while a web is stopped and the next array of containers is being formed during the dwell time increases efficiency. Pet. 35; Ex. 1005, 2:10–18; Ex. 1003 ¶ 111. Petitioner also contends that using containers formed in webs, rather than pre-formed trays, as in Hollymatic, is less expensive. Pet. 35; Ex. 1015, 4 (combat ration technology final report); Ex. 1003 ¶ 147.

Furthermore, Petitioner contends that implementing a web of formed containers, like Honsberg's, with Hollymatic's double withdraw conveyor, improves a food product packaging system. Pet. 35; Ex. 1003 ¶ 112. According to Petitioner, filling an entire array of formed containers in the fill station while subsequent array of container portions is being formed and the container line is stopped, increases product throughput, lowers production costs, and increases profit. Pet. 36; Ex. 1003 ¶ 111. Petitioner concludes that a person of ordinary skill in the art would have been motivated to implement Hollymatic's double withdraw conveyor on Honsberg's line having double rows of containers. Pet. 36; Ex. 1003 ¶ 112.

Patent Owner disputes Petitioner's reasons to combine Honsberg and Hollymatic for reasons explained in Section II.D.3.d)(2) below.

*c) Reasonable Expectation of Success*

Petitioner contends that a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Honsberg to implement a second conveyor withdraw like that in Hollymatic. Pet. 37; Ex. 1003 ¶ 113. According to Petitioner, the only necessary modification to Honsberg's conveyor is implementing a second withdraw, like Hollymatic's. Pet. 37; Ex. 1003 ¶ 114. Petitioner contends that any additional modifications necessary to implement a second withdraw, such as repositioning pulleys, would have been within the ability of a person of ordinary skill in the art, requiring only routine mechanical skill to adjust the system of Honsberg according to Hollymatic's teachings. Pet. 37–38; Ex. 1003 ¶ 114.

Patent Owner disputes Petitioner's reasonable expectation of success for reasons explained in Section II.D.3.d)(2) below.

*d) Arguments and Analysis*

*(1) “First Row” and “Second Row” Limitations: “multi-fill” deposition*

Patent Owner contends that the Honsberg-Hollymatic combination does not disclose the “first row” and “second row” limitations of claim 1. PO Resp. 22–29; Sur-Reply 1–14. Patent Owner contends that the Honsberg-Hollymatic combination does not deposit multiple drafts at a time, but only “piece-by-piece,” and that Petitioner does not allege that any other reference deposits multiple drafts at a time. PO Resp. 22–29 (citing Ex. 2002 ¶¶ 81–85; Ex. 1005, 4:3–4, 4:64, 4:66, 5:1, 5:9–10, 5:60); Sur-Reply 1–14. According to Patent Owner, Petitioner relies on an unsupported statement of its expert that Honsberg shows that a single withdraw loads rows of products into the receptacles. PO Resp. 26 (citing Ex. 1003 ¶ 34). Patent Owner contends that Honsberg’s expert’s statement is demonstrably false in view of the actual text of Honsberg, Mr. Palmer’s detailed opinions, and a German patent discussing the Honsberg device, DE 4202915 A1 (the “DE ’915 application”) (Ex. 2007). *Id.* at 27. Patent Owner contends the DE ’915 application, filed by Honsberg’s owner, describes Honsberg as limited to “piece-by-piece” deposition. PO Resp. 1–2, 29; Ex. 2007.

Petitioner replies that “Honsberg teaches, or at least suggests, filling a row of containers with drafts simultaneously in a single withdraw.” Reply 3–4. Petitioner contends its understanding is supported by Honsberg’s teachings, common sense considerations, Patent Owner’s expert’s testimony, and the background art. *Id.* at 4.

At the outset of our analysis, we disagree with Patent Owner that the “first row” and “second row” limitations encompass “multi-fill” deposition

but not “piece-by-piece” deposition. *See* Section II.C.2. The claims recite no language limiting them to “multi-fill” deposition of drafts in a row at the same time. Although Patent Owner argues that the Honsberg-Hollymatic combination uses “piece-by-piece” deposition and not “multi-fill” deposition, the claims are sufficiently broad to encompass both forms of deposition. Consequently, the distinction that Patent Owner argues is not supported by the claims, and Patent Owner’s argument is unavailing.

Even if we assume Patent Owner is correct that the claims encompass “multi-fill” deposition but not “piece-by-piece” deposition, the conclusion of our decision would not be different at least because, on the evidence presented, we find that Honsberg teaches, or at least suggests, “multi-fill” deposition.

The parties do not dispute that Honsberg’s Figure 3 shows the food insertion apparatus’s conveyor belt providing multiple lanes of drafts to the containers 31 which are arranged in rows. Tr. 36–37. At several points, Honsberg addresses packing of food into dish-like receptacles (plural). Ex. 1005, 1:5–10, 3:28–33; 5:50–56, 7:1–3. As Petitioner notes, Honsberg describes conveying food to be packed to a depositing point, switching the conveyor off, and driving the slide in the opposite direction to the food transporting direction to take the “ground out from under the feet” of the food, thereby depositing it. Reply 4 (citing Ex. 1005, 2:45–63; Ex. 1021 ¶¶ 18–19). As Petitioner recognizes, Honsberg never describes any subsequent withdraws to deposit additional drafts into containers of the same row, suggesting that multiple drafts are deposited in a single withdrawal of the slide in the multi-laned apparatus. *Id.* at 5 (citing Ex. 1021 ¶ 20).

Furthermore, as Petitioner states, depositing one piece of food at a time would be inefficient because it would require seven steps to deposit, piece-by-piece, two slices in two containers whereas the same could be done using only three steps with “multi-fill” deposition. *Id.* at 5–6 (citing Ex. 1021 ¶¶ 24–27). In addition, Petitioner notes that “piece-by-piece” deposition would disturb or knock over food stacks behind the one being inserted, a problem that a person of ordinary skill in the art would have recognized and sought to avoid by using “multi-fill” deposition for rows of food stacks. *Id.* at 8–9 (citing Ex. 1021 ¶¶ 28–29).

Patent Owner argues that the DE ’915 application, filed by Honsberg’s owner, describes the Honsberg patent as limited to “piece-by-piece” deposition. PO Resp. 1–2, 29. Conversely, Petitioner contends that the DE ’915 application describes that Honsberg uses “multi-fill” deposition. Reply 11–13. We find that the DE ’915 application mentions both “piece-by-piece” deposition and “multi-fill” deposition as alternatives. Ex. 2007, 2 ¶¶ 2, 5. Specifically, the DE ’915 application mentions “foodstuff fed piece by piece on a feed belt” (“piece-by-piece” deposition) (Ex. 2007, 2 ¶ 2) and “foodstuffs to be packed in several lanes had to be arranged in the correct lane arrangement in parallel” (“multi-fill” deposition) (Ex. 2007, 2 ¶ 5).

Dr. Sand testifies that a person of ordinary skill in the art would have understood the DE ’915 application to describe Honsberg as using “piece by piece” placement of food products in one lane on the infeed belt, but that the pieces are also moving in “parallel” across the infeed belt in different lanes, confirming that “Honsberg deposited multiple drafts at a time.” Ex. 1021 ¶¶ 34–35; Ex. 2007, 2 ¶¶ 2, 5. While we agree with Dr. Sand’s testimony that the DE ’915 application describes Honsberg as disclosing “multi-fill”

deposition in a multi-lane packaging machine with transverse distributors for staging food products in parallel arrangements or rows (Ex. 2007, 2 ¶ 5), it also describes feeding foodstuff “piece by piece” on a feed belt and inserting it into the packaging mold of a packaging machine (Ex. 2007, 2 ¶ 2). Thus, the DE ’915 application seems to be describing a single-lane packaging machine in this paragraph. *Id.*

Mr. Palmer testifies that the DE ’915 application notes that “Honsberg only describes depositing one item at a time” (“piece by piece” deposition). Ex. 2002 ¶ 54. But then he acknowledges that the DE ’915 application implicitly recognizes that Honsberg is capable of “multi-fill” deposition because “using Honsberg to deposit rows at a time had several disadvantages” (“multi-fill” deposition). Ex. 2002 ¶ 58. Because of the inconsistency in Mr. Palmer’s testimony, we credit Dr. Sand’s testimony that the DE ’915 application suggests that Honsberg is capable of “multi-fill” deposition. *See also* Ex. 1021 ¶¶ 32–36. But we further find that the DE ’915 application supports that Honsberg teaches or suggests both “multi-fill” deposition and “piece-by-piece” deposition as alternatives.

Petitioner contends that Patent Owner’s argument that Honsberg is limited to “piece by piece” deposition subverts Honsberg’s goal of making efficient use of the dwell period when the production line is stopped to form packages. Reply 13 (citing Ex. 1005, 2:26–32, 8:1–4; Ex. 1021 ¶¶ 37–38). Petitioner contends a person of ordinary skill in the art would have understood Honsberg to fill containers efficiently during the dwell period with as few withdraws as possible, indicating that Honsberg deposits multiple drafts per withdraw. *Id.* Petitioner’s expert, Dr. Sand, confirms these contentions. Ex. 1021 ¶¶ 37–38. Patent Owner’s expert, Mr. Palmer,

testifies that “Honsberg can only do one at a time” but then he states that a person of ordinary skill in the art “would have a desire to have multiple deposits at the same time.” Ex. 1020, 178:1–179:14. Mr. Palmer’s testimony supports Petitioner’s argument that an ordinarily skilled artisan would have considered it advantageous to ensure that Honsberg’s device could deposit multiple drafts at a time. We find Petitioner’s position is sufficiently supported, and we credit Dr. Sand’s testimony. *Id.*

In sum, Patent Owner argues that the “first row” and “second row” limitations of the claims encompass “multi-fill” deposition but exclude “piece by piece” deposition from their scope. We disagree with Patent Owner’s contention because the claims do not recite “multi-fill” deposition in which drafts must be deposited at the same time in rows of containers, nor does the Specification or file history of the ’513 Patent require the claims to be interpreted to include only “multi-fill” deposition. Even if we assume the claims are limited to “multi-fill” deposition, which they are not, Petitioner shows sufficiently that Honsberg shows multiple lanes of drafts and depositing drafts into dish-like receptacles (plural). Additionally, Honsberg does not describe further action to deposit multiple food items in a row, and a person of ordinary skill in the art would have recognized that “multi-fill” deposition requires fewer steps and does not disturb staged drafts. Petitioner shows sufficiently that Honsberg teaches or at least suggests “multi-fill” deposition of drafts at the same time into a row of containers at a first position using a withdraw conveyor, and that Hollymatic teaches to implement a second withdraw during a dwell period while the containers are stationary to a second position to fill a second row of containers.

*(2) Redesigning Honsberg with Hollymatic's Second Withdraw*

Patent Owner disputes Petitioner's contention that "[t]he only necessary modification to Honsberg's conveyor is implementing a second withdraw, like Hollymatic's" and that "[t]his would have required only routine mechanical skill to adjust the system of Honsberg according to Hollymatic's teachings." PO Resp. 35 (citing Pet. 37–38; Ex. 1003 ¶¶ 113–115) (alterations in original).

Specifically, Patent Owner contends that (A) one of ordinary skill would not have been able to accomplish the precise upstream staging of food items necessary for multi-draft, multi-row deposition, (B) one of ordinary skill would not have known how to coordinate the downstream deposition of multiple items at a time into a row, and (C) adding a second withdraw to Honsberg would have unduly frustrated its purpose for precise and accurate deposition. *Id.* at 35. For the following reasons, we do not agree with Patent Owner's contentions.

*(a) Precise Upstream Staging of Rows of Drafts*

Patent Owner asserts that Honsberg's "piece-by-piece" deposition was not suited for multi-item, multi-row deposition, due to many potential problems with complexity, cost, and flexibility. PO Resp. 36 (citing Ex. 2002, Section X.A). Patent Owner further contends that a "person of ordinary skill would not have been motivated to deposit multiple items in multiple rows using Honsberg, nor would one of skill in the art have expected to be successful based on the known limitations of Honsberg and the strong teaching away of DE '915." *Id.*

We have already considered and rejected Patent Owner's contention that Honsberg is limited to "piece-by-piece" deposition; it addresses "multi-

fill” deposition as well. *Id.* at 36; *see* Sections II.C.2 and II.D.3.d)(1). Many of Patent Owner’s arguments hinge on this misunderstanding of the breadth of Honsberg’s disclosure, and we do not agree with them for this reason.

We disagree with Patent Owner’s contention that Honsberg and the DE ’915 application “teach away” from the claims of the ’513 Patent. PO Resp. 36–37; Sur-Reply 18–19. The prior art’s disclosure of “piece-by-piece” deposition and “multi-fill” deposition as alternatives does not “criticize, discredit, or otherwise discourage” the deposition claimed in the ’513 Patent, which encompasses either deposition technique. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004); Ex. 2007, 2 ¶¶ 2, 5. Nor does Honsberg’s stated goal of deposition using a “structurally simple slide arrangement” exclude the use of multiple lanes and “multi-fill” deposition. PO Resp. 36; Ex. 1005, 2:5–9, 2:64–66, Fig. 3. As Petitioner recognizes, there is no difference in the action of a withdrawing conveyor to deposit a single food item or multiple food items. Tr. 30–31.

Patent Owner further argues that upstream staging with a transverse distributor adds complexity and cost to the food processing line. PO Resp. 37–38 (Ex. 2002 ¶¶ 110–115; Ex. 2007, 2–3). Neither Patent Owner nor its expert attempt any analysis to explain why the added complexity and cost would not be worthwhile given that a multi-lane machine would be capable of packaging more product than a single lane machine. The fact that the DE ’915 application and Sandberg, for example, describe that transverse distributors were used in the art suggests that whatever complexity and cost they added was offset by greater productivity or other advantages. *See* Ex. 2007, 2 ¶ 5; Ex. 1011.

Patent Owner further argues that multi-item packaging using Honsberg would have reduced flexibility because upstream staging machinery limits the width of the insertion device's infeed belt so that it cannot be extended for multi-lane packaging. PO Resp. 38–39 (citing Ex. 2007, 2; Ex. 2002 ¶ 116). Patent Owner does not explain why the methods recited in the '513 Patent's claims are not also subject to this constraint. In any case, we find Petitioner's position to be more convincing on this point because Honsberg teaches that its conveyor belt can be enlarged to correspond with the width of the deep drawn sheet underneath. Ex. 1005, 3:18–23. Further, neither Patent Owner nor its expert, Mr. Palmer, explain why the upstream staging machinery cannot be moved or extended to accommodate a conveyor belt of greater width. To the contrary, Petitioner's expert, Dr. Sand, testifies that a person of ordinary skill in the art would have been able to resolve these alleged issues. See Ex. 1021 ¶ 36. We agree, and credit Dr. Sand's testimony on this point.

Patent Owner contends that the position of Honsberg's molding tool would prevent Honsberg from performing a second withdraw. PO Resp. 38–39 (citing Ex. 2002 ¶ 116). As Petitioner recognizes, Patent Owner's assertion amounts to bodily incorporation of one prior art reference, exactly as taught, into the other, which is an improper approach to the obviousness inquiry. Reply 24 (citing *ClassCo, Inc. v. Apple, Inc.*, 838 F.3d 1214, 1219 (Fed. Cir. 2016); *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2014)). Combining concepts taught by Honsberg and Hollymatic, Petitioner has shown sufficiently that the modifications necessary to perform a second withdraw were within the ability of a person of ordinary skill in the art. Pet. 37–38 (citing Ex. 1003 ¶ 114); Ex. 1021 ¶¶ 72, 75–77.

Patent Owner further contends that the DE '915 application states that, for the first time with its invention, it is possible to feed a multi-lane packaging machine from a single lane infeed belt. PO Resp. 41 (citing Ex. 2007, 3 ¶ 2). Patent Owner interprets this statement as meaning that the DE '915 application rejects the idea of modifying Honsberg to add multi-fill deposition or an additional withdrawal. *Id.* Patent Owner's reasoning is conclusory and does not explain why a person of ordinary skill in the art would consider the machine taught in the DE '915 application as the only option to use. As Petitioner's expert, Dr. Sand, testifies, one could use the transverse distributor taught by the DE '915 application (Ex. 2007, 2 ¶ 5, 3 ¶ 2), or the staging conveyor of Sandberg (Ex. 1011), to arrange parallel rows of food product on the infeed belt to the shuttle conveyor for simultaneous deposit in rows of package pockets in the Honsberg-Hollymatic combination. *See* Ex. 1021 ¶¶ 33, 42. Sandberg is, after all, the same reference that the '513 Patent mentions as providing upstream staging of lateral rows of drafts to supply its machine. Ex. 1001, 1:15–20. We agree with and credit Dr. Sand's testimony that Sandberg's staging conveyor or the transverse distributor of the DE '915 application would have been adequate for use with the Honsberg-Hollymatic combination. *See* Ex. 1021 ¶¶ 33, 42; Ex. 1011, Fig. 20; Ex. 2007, 2 ¶ 5; *see also* Reply 20–22. We further note that claim 1 of the '513 Patent does not recite staging of drafts, so Patent Owner's arguments regarding draft staging are directed to an unclaimed feature.

*(b) Coordinating downstream deposition of multiple items at a time into a row*

Patent Owner argues that the problems with upstream staging would lead to additional challenges downstream. PO Resp. 42 (citing Ex. 2002,

Section X.B). As Patent Owner has not shown inadequacy of upstream staging for the reasons just explained, we do not agree the downstream challenges would have been insurmountable for a person of ordinary skill in the art.

Patent Owner argues that Petitioner made no effort to explain how one of ordinary skill in the art would be expected to use (or not use) the different parts of Honsberg and Hollymatic to coordinate the deposition of multiple drafts/rows. *Id.* at 42–43. However, Petitioner explained in some detail how Hollymatic’s withdrawing conveyor operates, including the sled, conveyor belt, rollers, drive motor, transport chain, sensors, etc. Pet. 4–6. Patent Owner does not explain why detecting the position of a row of food items on a conveyor belt would be any different than detecting the position of a single food item assuming proper upstream staging in lateral rows of food product. PO Resp. 43 (citing Ex. 1006, 6; Ex. 2002 ¶¶ 122–124).

Petitioner also provides evidence that a person of ordinary skill in the art would have been able to implement a withdrawing conveyor with sensors, servomotors, and controllers, notwithstanding Patent Owner’s arguments to the contrary. PO Resp. 25–26; Reply 22–24; Sur-Reply 19–21; Ex. 1021 ¶ 73. In particular, Petitioner states that Patent Owner’s expert, Mr. Palmer, agreed it would be routine to change the programming of a controller, and to make modifications involving a servomotor, controller, conveyors, and sensors. Reply 22–23 (citing Ex. 1020, 40:25–43:8, 42:9–12, 43:3–8). We agree with Mr. Palmer and Dr. Sand that such modifications would have been straightforward for a person of ordinary skill in the art.

Patent Owner points to a food automation textbook as establishing that attempts to improve accuracy and performance of mechanical control systems caused complexity and lack of reliability, and this remained the case until the introduction of software into control system technology. PO Resp. 25–26; Ex. 2009, 120. Patent Owner contends “the ’513 patent elegantly uses much more sophisticated technology like servomotors and computer controllers for deposition.” PO Resp. 26. The textbook that Patent Owner references, however, was published in 1991, more than a decade before the ’513 Patent’s 2002 priority date. The textbook states “accuracy and reliability have *historically* been considered as conflicting control system design parameters”—meaning historically relative to 1991. Ex. 2009, 120 (emphasis added). Further, the excerpted part of the textbook discusses “early computer-controlled systems.” *Id.* The textbook does not establish that servomotors or computer controllers were something new to the industry in 2002. To the contrary, the textbook explains that food processing automation using computers and servomotors was known in 1991. *See, e.g., id.* at 21 (“Advanced machines now available use a separate servo motor for driving each unit operation within the machine”), 52–57 (control hardware includes PLCs, PCs, mini/micro computers, main frames), 60 (figure showing typical control system hierarchy), 75 (describing computers used in industrial applications).

Patent Owner contends that “[i]t is inconceivable how Honsberg or Hollymatic could reasonably achieve a centered row of multiple sliced food items or otherwise accomplish the precise deposition of multiple rows of items.” PO Resp. 44. Claim 1 of the ’513 Patent, however, does not recite anything pertaining to staging of drafts. And as Petitioner’s expert Dr. Sand

notes, Sandberg, which is evidence of the general knowledge of a person of ordinary skill in the art, teaches how to achieve proper staging of lateral rows of drafts. Reply 20–22; Ex. 1003 ¶¶ 10, 53–54; Ex. 1021 ¶ 42. Sandberg is the same reference the ’513 Patent mentions as teaching upstream staging for use with its food insertion apparatus. Ex. 1001, 1:15–21; Ex. 1003 ¶ 53. Sandberg demonstrates that it was known in the art how to stage multiple rows of food items in rows.

Accordingly, we do not agree with Patent Owner’s contentions.

*(c) Adding Second Withdraw to Honsberg*

Patent Owner contends that adding a second withdraw to Honsberg would have unduly frustrated its purpose for precise and accurate deposition. PO Resp. 44–48; Sur-Reply 16–18. Patent Owner contends Honsberg and Hollymatic are directed toward precision and accuracy of food product deposition, and that Petitioner does not explain how one would arrive at a process that significantly increases efficiency and throughput like the ’513 Patent. PO Resp. 44–45. Patent Owner contends that because thin-sliced food does not have the same structural or deformation concerns as single food items or meat patties, precision is not a high-priority concern. *Id.* at 45–46 (citing Ex. 2002 ¶¶ 139–143). Patent Owner contends that Honsberg and Hollymatic focus on precise, careful placement of items into packaging and not throughput, and that adding a second withdraw would have made the deposition process “completely unreliable.” *Id.* at 46–47 (citing Ex. 1005, 2:5–9; 2:19–23; Ex. 1006, 2; Ex. 2002 ¶ 127). Patent Owner concludes that adding the equipment and process steps needed for a second withdraw would frustrate the basic principles of Honsberg and Hollymatic. *Id.* at 48.

Petitioner replies that the claims of the '513 Patent do not require any particular level of precision in depositing drafts that would rule out the Honsberg-Hollymatic combination. Reply 26 (citing Ex. 1020, 200:6–10; Ex. 1021 ¶ 73). Petitioner further asserts that Patent Owner does not suggest that the Honsberg-Hollymatic combination would have resulted in a slowdown of throughput compared to each reference individually, and that Patent Owner “provides no credible evidence to suggest that a [person of ordinary skill in the art] would have been unable to modify the prior art to achieve a desired throughput or accuracy.” *Id.* (citing Ex. 1021 ¶ 73).

We agree with Petitioner’s contentions. The claims do not recite any required level of accuracy, precision, throughput or other parameter that would preclude the Honsberg-Hollymatic combination. Nor does Patent Owner’s evidence show that a person of ordinary skill in the art would not have been able to modify the prior art to achieve a desired accuracy, precision, throughput, etc.

Accordingly, we do not agree with Patent Owner’s contention that the Honsberg-Hollymatic combination would have frustrated Honsberg’s purpose.

*e) Conclusion for Claim 1*

In light of the foregoing discussion, we determine that the information presented in the Petition, Response, Reply, Sur-Reply, and accompanying exhibits and testimony, shows the unpatentability of claim 1 as obvious over the combination of Honsberg and Hollymatic. Petitioner makes a sufficient showing that each element of claim 1 is taught or suggested by the Honsberg-Hollymatic combination, considered as a whole, and that a person

of ordinary skill in the art had reason to combine the references, with a reasonable expectation of success in arriving at the claimed invention.

*4. Dependent Claims 4, 6, and 12*

*a) Claim 4*

Petitioner contends that Hollymatic teaches claim 4's limitation, which involves a conveyor surface advancing from a retracted position to an extended position to fill a new first row of a succeeding group of container portions. Pet. 38–40; Ex. 1006; Figs. 3, 5; Ex. 1003 ¶¶ 117–122. Patent Owner does not dispute Petitioner's reading of claim 4 on the Honsberg-Hollymatic combination. *See generally* PO Resp. We agree with Petitioner that Hollymatic's conveyor advances from a retracted position to an extended position when it cycles from phase F, after filling container group 42a, back to phase A or C to fill the next container group 42b. *See* Ex. 1006, 8–9, Figs. 4, 5.

*b) Claim 6*

Petitioner contends that Hollymatic teaches claim 6's limitation, which involves the conveyor surface moving from an extended position to a retracted position to fill a new first row of a succeeding group of container portions. Pet. 41–42; Ex. 1006, Fig. 5; Ex. 1003 ¶¶ 124–128. Patent Owner contends that the Honsberg-Hollymatic combination retracts when depositing food items, and that operating the combination as an advancing conveyor would double the number of steps necessary for deposition. PO Resp. 58–62 (citing Ex. 2002 ¶¶ 158, 160–163).

We agree with Patent Owner's contention that one of ordinary skill in the art would not have used the Honsberg-Hollymatic combination to carry out claim 6. *Id.* at 58–62; Sur-Reply 26–27. The Honsberg-Hollymatic

combination operates by “removing the ground from under the feet” of the food items when depositing them by moving the conveyor in the withdraw direction. Ex. 1005, 2:56–58; Ex. 1006, 5. As such, a person of ordinary skill in the art would have designed the Honsberg-Hollymatic combination to withdraw the conveyor belt successively in the withdrawing direction, rather than the advancing direction, when depositing rows of food items. The withdrawing direction requires less movement of the withdrawing conveyor to deposit food items as compared to the advancing direction. Specifically, Mr. Palmer testifies that depositing food items in the advancing direction would double the number of steps necessary for deposition, adding needless complexity and increasing the likelihood of malfunction. Ex. 2002 ¶¶ 162–163.

Mr. Palmer’s testimony stands to reason. A person of ordinary skill in the art would not have designed the Honsberg-Hollymatic combination to deposit food items for a container group starting from a retracted position of the withdraw conveyor, as recited in claim 6, because movement of the withdraw conveyor from retracted to advanced positions requires the conveyor to advance past the point of deposit, then to retract to deposit. The movement to advance past the point of deposit adds steps to the process that can be avoided by simply moving from advanced to retracted positions successively in the withdrawing direction.

Accordingly, we agree with Patent Owner that one of ordinary skill in the art would not use the withdrawing conveyor of the Honsberg-Hollymatic combination to carry out the action of claim 6.

*c) Claim 12*

Petitioner contends Honsberg and Hollymatic teach claim 12's limitation, which provides that the retracting or extending of the conveyor surface to fill the second row with drafts occurs while the first and second rows are stationary. Pet. 42–44; Ex. 1005, 2:24–33, 5:3–11; Ex. 1006, 10, Fig. 5; Ex. 1003 ¶¶ 130–134. Patent Owner provides no contentions for patentability specifically directed to claim 12's limitations. *See generally* PO Resp. We agree with Petitioner that the Honsberg-Hollymatic combination fills a second row with drafts while both the first and second row are stationary. *See, e.g.*, Ex. 1005, 2:34–35; Ex. 1006, 8–9, Figs. 4, 5.

*d) Summary*

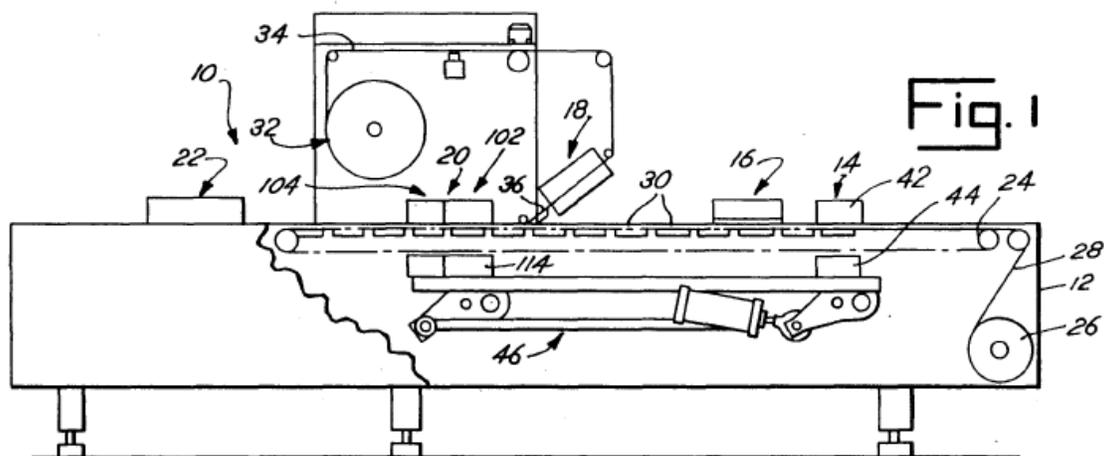
We determine that the information presented in the Petition, Response, Reply, Sur-Reply, and accompanying exhibits and testimony, shows the unpatentability of claims 4 and 12 as obvious over the combination of Honsberg and Hollymatic. Petitioner makes a sufficient showing that each element of claims 4 and 12 are taught or suggested by the Honsberg-Hollymatic combination, considered as a whole, and that a person of ordinary skill in the art had reason to combine the references, with a reasonable expectation of success in arriving at the claimed invention. Claim 6, however, has not been shown unpatentable for the reason explained.

*E. Ground 2: Asserted Obviousness of Claims 5 and 7–11 based on Honsberg, Hollymatic, and Mello*

Petitioner contends that claims 5 and 7–11 are obvious under 35 U.S.C. § 103(a) based on the combination of Honsberg, Hollymatic, and Mello. Pet. 44–50.

*1. Mello (Ex. 1008)*

Mello discloses a packaging machine shown below in Figure 1.



Mello's machine includes a container forming station 14 that forms containers 30 in an array of rows and columns from web 28. Ex. 1008, Figs. 1, 3, 3:30–31, 9:25–27; Ex. 1003 ¶ 47. Loading station 16 loads formed container 30 with product. Ex. 1008, 3:39–40; Ex. 1003 ¶ 47. Sealing station 20 seals lid 36 to the containers. Ex. 1008, 3:46–49, Fig. 1; Ex. 1003 ¶ 47.

*2. Analysis of Claims 5 and 7–11*

Petitioner contends that Mello teaches claim 8's limitation, which recites applying a cover to container portions to close them downstream of the fill station. Pet. 44–46; Ex. 1001, 6:40–42; Ex. 1008, 3:40–50, 6:40–42; Ex. 1005, 1:6–10; Ex. 1003 ¶¶ 136–140. Petitioner contends that a person of ordinary skill in the art would have been motivated to make the combination

of Honsberg, Hollymatic and Mello with a reasonable expectation of success. Pet. 45–46, 49; Ex. 1008, 3:40–42, 6:40–42; Ex. 1003 ¶¶ 139–141.

Petitioner contends that Mello teaches the limitations of claims 5, 7, and 9 requiring the step of supply container portions is further defined by forming concave formed portions in a continuous web of film. Pet. 47–49; Ex. 1001, 6:27–29, 6:37–39, 6:43–45; Ex. 1008, 3:24–43, 3:59–61; 6:36–42, Figs. 1, 5; Ex. 1005, 5:3–11; Ex. 1003 ¶ 144–150; Ex. 1015, 4. Petitioner contends that a person of ordinary skill in the art would have been motivated to combine Honsberg, Hollymatic and Mello with a reasonable expectation of success. Pet. 48–49; Ex. 1008, 3:38–43, 6:40–42; Ex. 1005, 5:3–11; Ex. 1003 ¶¶ 148–150.

Claim 10 is similar in scope to claims 5 and 8. Pet. 49; Ex. 1001, 6:46–49. Petitioner contends that Mello teaches claim 10 for the reasons stated for claims 5 and 8, and that a person of ordinary skill in the art would have been motivated to combine Mello with Honsberg and Hollymatic to obtain the claimed invention with a reasonable expectation of success for the reasons stated for claim 7. Pet. 44–49; Ex. 1003 ¶¶ 153, 155.

Claim 11 generally requires retracting or extending a conveying surface to deposit drafts into container portions of the second row while the web of film is stationary. Ex. 1001, 6:53–57. Petitioner contends that this limitation is similar to claim 12 but substitutes a web of film for first and second rows. Pet. 42–44, 50. Petitioner further contends a person of ordinary skill in the art would have been motivated to include Mello's feature with Honsberg and Hollymatic with a reasonable expectation of success. Pet. 42–44, 47–50; Ex. 1003 ¶¶ 158–159.

Patent Owner does not specifically address claims 5 and 7–11 in its arguments for patentability, but instead argues these dependent claims on the same basis as claim 1. *See generally* PO Resp.; Section II.D.3.

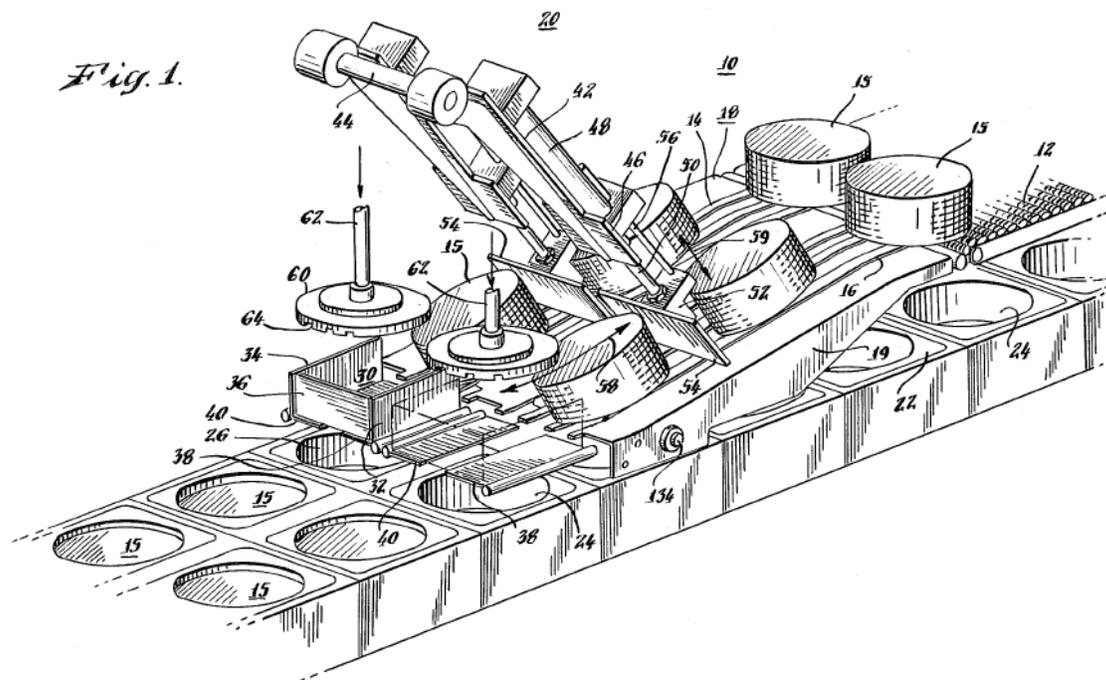
Reviewing the information presented in the Petition, Response, Reply, Sur-Reply, and accompanying exhibits and testimony, we determine that Petitioner shows by a preponderance of the evidence that claims 5 and 8–11 are unpatentable as obvious over the combination of Honsberg, Hollymatic, and Mello. Petitioner shows that each of the limitations of claims 5 and 8–11 is taught or suggested by the prior art, that a person of ordinary skill in the art would have been motivated to make the combination with a reasonable expectation of success in arriving at the claimed invention. Claim 7, however, depends from claim 6 for which Petitioner failed to demonstrate unpatentability as explained in Section II.D.4.b). Petitioner does not show that Mello cures the deficiencies of the Honsberg-Hollymatic combination noted with respect to claim 6. Consequently, claim 7 has not been shown unpatentable for the reasons stated for claim 6.

*F. Ground 3: Asserted Obviousness of Claim 2 based on Honsberg, Hollymatic, and Mahaffy535*

Petitioner contends claim 2 would have been obvious over Honsberg, Hollymatic, and Mahaffy535. Pet. 51–53.

*1. Mahaffy535 (Ex. 1009)*

Mahaffy535 discloses an apparatus for automatically loading stacks of sliced food products 15 into package receptacles, as shown below in Figure 1. Ex. 1009, code (57), Fig. 1.



In Figure 1, a retractable pusher arm 42 having pusher 54 mounted thereon is driven in a loading station 20 to engage and sweep a stack 15 of sliced food product into drop station 30, and is then retracted and returned to its initial ready position to perform the next sweeping action on a subsequent stack of sliced food product. Ex. 1009, code (57), 4:68–5:2, 5:43–47, Fig. 1. Ram 60 is actuated to force stack 15 of sliced food product through trap doors 38, 40 of drop station 30 into the package receptacle of a tray, and then is returned to its initial inactive position awaiting the arrival of the next stack of sliced product at drop station 30. Ex. 1009, code (57), 6:18–28.

## 2. Analysis of Claim 2

Claim 2 recites the further step of tamping food product drafts into container portions. Ex. 1001, 6:10–12. Petitioner contends Mahaffy535's retractable pusher arms are the claimed tamping apparatus, and that these pusher arms tamp food product drafts into container portions. Pet. 51; Ex. 1009, code (57), Figs. 1–5; Ex. 1003 ¶ 162. Petitioner contends one of

ordinary skill in the art would have combined Mahaffy535's tamping apparatus with Honsberg and Hollymatic because tamping of drafts reduces voids in packaging, giving the customer the perceptions the package is tightly packed with product, increasing the customer's perception of value. Pet. 51; Ex. 1003 ¶ 163. Petitioner's expert, Dr. Sand, further testifies that tamping provides an accurate fit while preserving the stacking of sliced products. Pet. 51–52; Ex. 1009, 2:13–23; Ex. 1003 ¶ 163. Dr. Sand testifies that tamping reduces the loose fitting of the product when using flexible packages formed from webs of film. Pet. 52; Ex. 1009, 2:13–23; Ex. 1003 ¶ 163. For these reasons, Dr. Sand testifies that a person of ordinary skill in the art would have been motivated to include a tamping apparatus. Pet. 52; Ex. 1003 ¶ 164. Petitioner further contends a person of ordinary skill in the art would have had a reasonable expectation of success in adding a tamping apparatus to the withdrawing conveyor of Honsberg and Hollymatic because the modification would have required simple welding or other attachment mechanisms readily apparent to a person of ordinary skill in the art. Pet. 52; Ex. 1003 ¶ 165. Petitioner further contends the combined system would use predictable prior art elements, such as the tamper and conveyor, according to their established functions under *KSR*, such that a person of ordinary skill in the art would have had a reasonable expectation of success when combining Mahaffy535's tamping apparatus with Honsberg and Hollymatic's food depositing apparatus. Pet. 52; Ex. 1003 ¶ 166.

Patent Owner does not refute that Mahaffy535 teaches or suggests the limitation of claim 2. *See generally* PO Resp. We agree with Petitioner that the Honsberg-Hollymatic-Mahaffy535 combination teaches the tamping of claim 2, and that a person of ordinary skill in the art would have had a

reason to combine Mahaffy535's tamping apparatus with Honsberg and Hollymatic's food depositing apparatus, with a reasonable expectation of success at arriving at claim 2 for the reasons that Petitioner states. Thus, Petitioner has shown claim 2 to be unpatentable.

*G. Ground 4: Asserted Obviousness of Claim 3 based on Honsberg, Hollymatic, Mahaffy535, Schefflow, and Sandberg*

Petitioner contends claim 3 would have been obvious over Honsberg, Hollymatic, Mahaffy535, Schefflow, and Sandberg. Pet. 53-57.

*1. Schefflow (Ex. 1010)*

Schefflow discloses rotary slicer 20 for comestible products, as shown in Figure 1 below. Ex. 1010, code (57), Fig. 1.

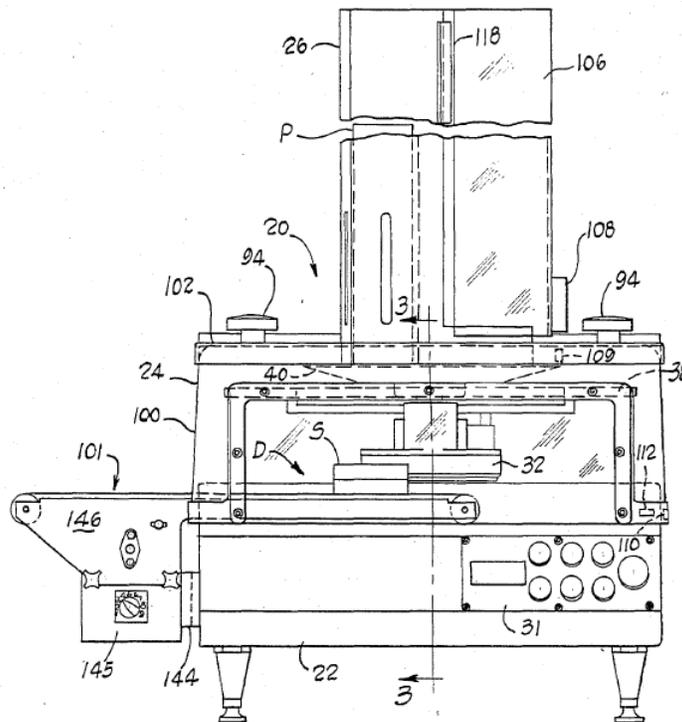


Fig. 1

In Figure 1, stationary magazine 26 supports a product upright as rotary table 38 carries rotary knife 40 in an orbit that passes beneath the magazine.

*Id.* Freely rotatable center plate 80 of the blade facilitates movement of the blade through the product. *Id.* Slices of the product fall to the drop area where they exit by continuous operation or indexing of conveyor 101. *Id.* at 1:45–48, 4:31–38, 8:26–32.

2. *Sandberg (Ex. 1011)*

Sandberg discloses a system for accepting streams of product input and converting the streams into a format suitable for automatic loading of a subsequent machine. Ex. 1011, code (57), 1:8–21. The system includes row staging conveyor 65 to align product in one or more rows. *Id.* at 4:27–30, 4:36–40, Fig. 20. Sandberg mentions use of conveyor systems for stacked or shingled meat. Ex. 1011, 1:12–21.

3. *Analysis of Claim 3*

Claim 3 depends from claim 2 and recites “the further steps of holding a loaf in a cutting plane to slice drafts from said loaf; slicing plural slices and forming said slices in a plurality of piles; [and] forming said piles into rows and transporting said rows onto said conveying surface.” Ex. 1001, 6:13–19.

Petitioner thus contends Schefflow teaches the part of claim 3 reciting “the further steps of holding a loaf in a cutting plane to slice drafts from said loaf; slicing plural slices and forming said slices into a plurality of piles” as recited in claim 3. Pet. 53–54; Ex. 1003 ¶ 172. Specifically, Petitioner contends Schefflow teaches a product magazine 26 holds a product such as a loaf of meat. Pet. 53; Ex. 1010, 4:4–13; Ex. 1003 ¶ 171. Petitioner further contends Schefflow teaches that a blade cuts a slice from the loaf with each rotation, and the slices fall into a product drop area. Pet. 53; Ex. 1010, 4:9–13, 4:21–25, 4:30–35, 5:62–64; Ex. 1003 ¶ 171. A conveyor transports the

sliced product from the drop area to its end. Pet. 54; Ex. 1010, 8:26–30; Ex. 1003 ¶ 171.

Petitioner contends Sandberg discloses the part of claim 3 reciting “forming said piles into rows and transporting said rows onto said conveying surface” as recited in claim 3. Pet. 54; Ex. 1003 ¶ 173. Specifically, Petitioner contends Sandberg discloses “a conveyor system for accepting one or more streams of product input and convert[s] the one or more streams to a format that is suitable for automatic loading to a subsequent machine.” Pet. 55; Ex. 1011, code (57); Ex. 1003 ¶ 174. Petitioner contends the ’513 Patent acknowledges that Sandberg is “a staging conveyor” that converts “conveyed spaced-apart” drafts into “lateral rows of drafts.” Pet. 54; Ex. 1001, 1:10–21; Ex. 1003 ¶ 174. Petitioner contends that a person of ordinary skill in the art would have identified a conveying surface as one of the “subsequent machines” to which Sandberg’s staging machine transfers the piles. Pet. 55; Ex. 1003 ¶ 174.

Petitioner contends a person of ordinary skill in the art would have been motivated to use a slicing machine in conjunction with a packaging system, such as Honsberg’s and Hollymatic’s because it streamlines production. Pet. 55; Ex. 1003 ¶ 176. Petitioner contends Scheflow’s conveyors to carry food product away from the slicer are similar to those in Honsberg and Hollymatic and were in common use. Pet. 55; Ex. 1010, 1:45–48; Ex. 1003 ¶ 176. Petitioner argues a person of ordinary skill in the art would have been motivated to use Sandberg’s staging conveyor to form piles of food into rows when using Scheflow’s slicing apparatus with Honsberg’s depositing apparatus which deposits articles by the row. Pet. 55–56; Ex. 1003 ¶ 176. Petitioner contends a person of ordinary skill in

the art would have readily identified the need to form products into rows before depositing them on a row-by-row basis. Pet. 56; Ex. 1003 ¶ 176. Petitioner further contends a person of ordinary skill in the art would have been motivated to use Mahaffy's tamping mechanism with Schefflow's slicing apparatus for the reasons stated in Section II.F. Pet. 56; Ex. 1003 ¶ 177.

Petitioner further contends that a person of ordinary skill in the art would have had a reasonable expectation of success when incorporating Schefflow's slicer and Sandberg's staging apparatus and Honsberg's and Hollymatic's food depositing apparatus. Pet. 56; Ex. 1003 ¶ 179. Petitioner contends Schefflow describes using the slicing apparatus with conveying systems. Pet. 56; Ex. 1010, 1:45–48; Ex. 1003 ¶ 179. Petitioner contends a person of ordinary skill in the art would have had a reasonable expectation of success in implementing the formation of rows of drafts because the '513 Patent admits that this was known in the art. Pet. 56; Ex. 1001, 1:10–21; Ex. 1003 ¶ 179. Petitioner contends the modification would have required simply locating the slicer and the staging conveyor such that the slices are transferred to the withdraw conveyor, which would have been readily apparent to a person of ordinary skill in the art. Pet. 56; Ex. 1003 ¶ 179. Petitioner further contends the combined system would use predictable prior art elements such as slicers and conveyors according to their established functions. Pet. 56–57; *KSR*, 550 U.S. at 417; Ex. 1003 ¶ 179. Petitioner contends a person of ordinary skill in the art would have recognized that the slicer and staging apparatuses would operate to slice and stage the drafts to move them to the withdraw conveyor for packaging. Pet. 57; Ex. 1003 ¶ 179.

Patent Owner does not dispute Petitioner's contentions with respect to claim 3. *See generally* PO Resp.

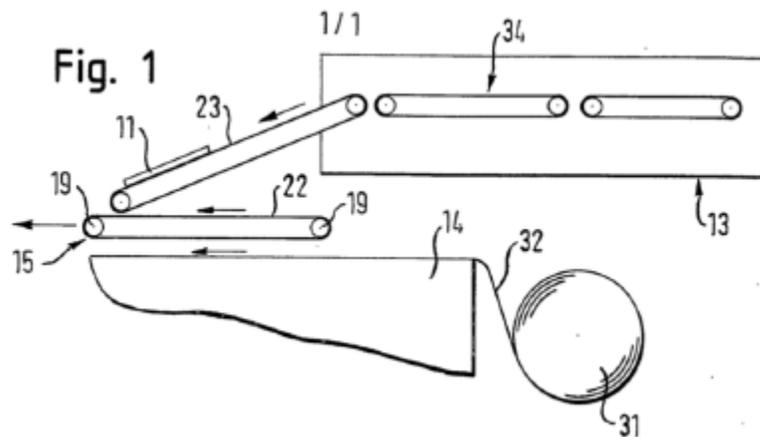
Petitioner has shown sufficiently that the combination of Honsberg, Hollymatic, Mahaffy, Schefflow, and Sandberg teach or suggest the limitations of claim 3, that a person of ordinary skill in the art would have had reason to combine the references, with a reasonable expectation of success. *See* Pet. 57; Ex. 1003 ¶ 180. Accordingly, Petitioner has shown sufficiently that claim 3 is unpatentable as obvious over the combination of Honsberg, Hollymatic, Mahaffy535, Schefflow, and Sandberg. *See* Pet. 57; Ex. 1003 ¶ 181.

*H. Ground 5: Asserted Obviousness of Claims 1, 4, 6, and 12 based on Weber446 and Hollymatic*

Petitioner contends claims 1, 4, 6, and 12 would have been obvious over Weber466 and Hollymatic. Pet. 57–69.

*1. Weber466 (Ex. 1007)*

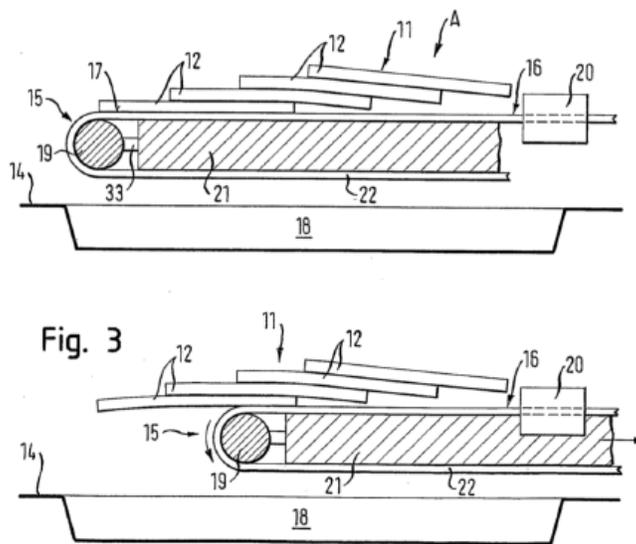
Weber466's apparatus is shown below in Figure 1. Ex. 1007, Fig. 1.



Weber466's Figure 1 above shows slicing unit 13 with feeder 34 comprising conveyor belts which convey portions of sliced food from the slicing site to transfer apparatus 23. *Id.* at 7. Transfer apparatus 23, which is a conveyor

belt, transfers portions 11 of sliced product slices arranged in an overlapping or stacked manner, to transfer unit 15. *Id.* Transfer unit 15 in turn transfers the portions 11 to packaging machine 14 without changing the relative position of portions 11. *Id.* Packaging machine 14 uses packaging film 32 wound on drum 31 to package the portions 11. *Id.*

Details of the transfer unit 15 are shown below in Figure 3. *Id.* at 10, Fig. 3.



In Figure 3 above, transfer unit 15 moves to a transfer position where portion 11 is arranged above product receiver 18 of the packaging machine 14. *Id.* at 10, Fig. 3. To transfer product 11 without disturbing its structure, endless belt 22 is clamped, and metal support plate 21 and deflection rolls 19 are moved abruptly to the right, causing portion 11 to drop vertically downwards without losing its structure. *Id.* at 10–12, Fig. 3. Weber466 likens this action to the portion 11 having the ground cut from under its feet. *Id.* at 11.

2. *Claim 1*

a) *Petitioner's Reading of Claim 1 on the Honsberg-Hollymatic Combination*

Petitioner reads the preamble of claim 1 on the combined references as follows:

*A method for filling food product drafts into packages, comprising the steps of:*

Petitioner contends Weber446 discloses transfer unit 15 conveying portions 11 of stacked product slices 12 to packaging machine 14. Pet. 57; Ex. 1007, code (57), Fig. 3; Ex. 1003 ¶ 183.

Petitioner also contends that Hollymatic discloses a device for placing objects such as hamburger patties into containers, such as trays or cartons of packaging. Pet. 58; Ex. 1006, 10; Ex. 1007, 5; Ex. 1003 ¶ 184.

Petitioner concludes that Weber446 and Hollymatic disclose claim 1's preamble. Pet. 58; Ex. 1003 ¶ 184.

Other than the "drafts" issue previously discussed in Section II.C.1, Patent Owner does not dispute that the Weber446-Hollymatic combination discloses claim 1's preamble. *See generally* PO Resp.

Claim 1 recites the "container supply" limitation as follows:

*supplying open top container portions arranged in rows that are spaced-apart along a longitudinal direction and having a first row and a longitudinally spaced-apart second row and connected to move longitudinally together, said first and second rows movable together along said longitudinal direction into a fill station;*

Petitioner contends that Weber466 discloses product receivers 18 are open top containers. Pet. 58; Ex. 1007, 12, Figs. 2, 3; Ex. 1003 ¶ 187.

Petitioner alleges Weber446's packaging machine moves product receiver 18 in a longitudinal direction. Pet. 59; Ex. 1007, Fig. 1; Ex. 1003

¶ 188. Petitioner further contends that Weber446's packaging film 32 moves in a longitudinal direction and, when advanced to product receiver 18, transfer unit 15 withdraws to deposit portions 11 into product receiver 18. Pet. 60; Ex. 1007, 7, 11, 12, Fig. 1; Ex. 1003 ¶ 189. Petitioner contends that a person of ordinary skill in the art would have understood the location where product is deposited to be a fill station. Pet. 60; Ex. 1003 ¶ 189. Petitioner concludes that Weber466 discloses this "container supply" limitation. Pet. 61; Ex. 1003 ¶ 190.

Petitioner also contends Hollymatic teaches this limitation for the reasons set forth in Section II.D.3. Pet. 61; Ex. 1003 ¶ 191.

Patent Owner does not dispute that the Weber446-Hollymatic combination discloses the "container supply" limitation. *See generally* PO Resp.

Claim 1 recites the "first row" limitation as follows:

*providing a conveyor having a retractable and extendable conveying surface, said conveying surface arranged above said fill station and having an end region longitudinally movable to a first position arranged to deposit food product drafts into said container portions of said first row by said conveying surface, moving said end region to said first position and depositing food drafts into container portions of said first row; and*

Petitioner contends that Weber446 discloses providing a shuttle conveyor having a retractable and extendable conveying surface. Pet. 61; Ex. 1003 ¶ 193. Petitioner alleges that Weber446 discloses a transfer unit 15 that is longitudinally movable, with an endless belt 22 with an upper run on which the portion 11 of food slices rests. Pet. 61; Ex. 1007, 7-9; Ex. 1003 ¶ 194. Petitioner contends that a person of ordinary skill in the art would have understood Weber446's transfer unit is a conveyor having a retractable

and extendable conveying surface, as claimed. Pet. 61–62; Ex. 1007, 7, Figs. 1, 3; Ex. 1003 ¶ 194.

Petitioner also contends that Hollymatic teaches a conveyor having a retractable and extendable conveying surface for the reasons set forth in Section II.D.3. Pet. 63; Ex. 1003 ¶ 195.

Petitioner concludes that Weber446 and Hollymatic disclose the “shuttle conveyor” limitation of “providing a conveyor having a retractable and extendable conveying surface.” Pet. 63; Ex. 1003 ¶ 196.

Petitioner contends that Weber446 discloses its transfer unit 15 has an end region that is longitudinally movable from a retracted to extended position, and can be arranged above product receiver 18 of packaging machine 14. Pet. 63–64; Ex. 1007, 10–11, Figs. 1–3; Ex. 1003 ¶ 198.

Petitioner contends that a person of ordinary skill in the art would have understood this disclosure as a “first position arranged to deposit food product drafts into said container portions of said first row by said conveying surface.” Pet. 63–64; Ex. 1003 ¶ 199.

Petitioner contends that Hollymatic also teaches a sequential row loading process with a first position (position C) for the reasons set forth in Section II.D.3. Pet. 64; Ex. 1003 ¶ 200.

Petitioner concludes that Weber446 and Hollymatic teach the “first row” limitation. Pet. 64; Ex. 1003 ¶ 201.

Patent Owner contends that the “first row” deposition requires “multi-fill” deposition of food items into containers of a row, and that the Weber446-Hollymatic combination does not disclose this feature of claim 1. PO Resp. 29–34. As explained in Section II.C.1, Patent Owner and Petitioner agree that the “first row” deposition of claim 1 requires “multi-

fill” deposition of drafts, but we determine the ordinary and customary meaning of the “first row” limitation is broader and includes both “multi-fill” deposition and “piece-by-piece” deposition. *See* Section II.C.2. We address Patent Owner’s arguments concerning the “first row” limitation in a subsequent section.

Claim 1 recites the “second row” limitation as follows:

*while said first and second rows are in said fill station, retracting or extending said conveying surface to reposition said end region to a second position arranged to deposit food product drafts carried on said conveying surface into said container portions of said second row.*

Ex. 1001, 6:5–9.

Petitioner contends that Hollymatic discloses that the slide retracts or extends the conveying surface to reposition the end region at a second position, which is the retracted position of phase D. Pet. 65; Ex. 1006, Fig. 5. Petitioner contends that when Weber446 is modified to include an array of containers as taught by Hollymatic, Weber446 and Hollymatic teach this limitation for the reasons set forth in Section II.D.3 of this decision. Pet. 65; Ex. 1003 ¶ 203.

Patent Owner contends that the “second row” limitation requires “multi-fill” deposition of food items into containers of a row, and Petitioner agrees. *See* Section II.C.2. We determine the ordinary and customary meaning of the “second row” limitation to be broader, however, encompassing both “multi-fill” and “piece-by-piece” deposition. Patent Owner contends that the Weber446-Hollymatic combination does not disclose the “second row” feature of claim 1. PO Resp. 29–34. We address Patent Owner’s arguments in Section II.H.2.d)(1) below.

*b) Motivation to Combine*

Petitioner contends that a person of ordinary skill in the art would have recognized that use of double row containers increases the rate at which food product is filled into container portions and increases production of reasons set forth previously in Section II.D.3. Pet. 65; Ex. 1003 ¶ 204. Petitioner contends that a person of ordinary skill in the art would have modified Weber446's product depositing apparatus to include Hollymatic's second withdraw to deposit articles in a second row of containers during a container-formation dwell time for reasons set forth in Section II.D.3. Pet. 65; Ex. 1003 ¶ 205. Petitioner alleges that using Hollymatic's shuttle conveyor with Weber446's apparatus is consistent with Weber446's goal of depositing food portions without disturbing their stacked or overlapping arrangement, and that Weber446's shuttle conveyor operates similarly to Hollymatic's conveyor. Pet. 65–66; Ex. 1007, 1; Ex. 1003 ¶¶ 206–208. Petitioner concludes that a person of ordinary skill in the art would have been motivated to use Weber446's conveyor with Hollymatic's second withdraw to deposit drafts into successive rows of containers. Pet. 66; Ex. 1003 ¶ 209.

Patent Owner disputes Petitioner's reasons to combine Weber446 and Hollymatic for reasons explained in Section II.H.2.d)(2) below.

*c) Reasonable Expectation of Success*

Petitioner contends that a person of ordinary skill in the art would have recognized the ease of implementing the proposed modification to Weber446 it incorporate a second withdraw to fill a second row of container portions. Pet. 66; Ex. 1003 ¶ 210. Petitioner contends that Weber446's systems already include a first withdraw to deposit articles, and the only

modification necessary would have been to implement a second withdraw to fill a second row of container portions, which would have been straightforward. Pet. 66; Ex. 1003 ¶ 210.

Petitioner contends that a person of ordinary skill in the art would have appreciated that Weber446's transfer unit could be longer to accommodate a second row of drafts and a second withdraw, and any additional modification necessary, such as repositioning pulleys, would have been within the skill of a person of ordinary skill in the art. Pet. 66–67; Ex. 1003 ¶ 211. Petitioner contends that this would have required only routine mechanical skill to adjust Weber446's system. Pet. 67; Ex. 1003 ¶ 211.

Patent Owner disputes Petitioner's reasonable expectation of success for reasons explained in Section II.H.2.d)(2) below.

*d) Arguments and Analysis*

Patent Owner's arguments against the combination of Weber446 and Hollymatic are similar to those against the combination of Honsberg and Hollymatic, which we previously discussed in Section II.D.3.d). We disagree with Patent Owner's arguments for similar reasons.

*(1) "First Row" and "Second Row" Limitations: "multi-fill" deposition*

Patent Owner contends that Weber446 and Hollymatic fail to disclose or suggest "multi-fill" deposition. PO Resp. 32–33. We determine that the "first row" and "second row" limitations of claim 1 are not limited to "multi-fill" deposition, but cover "piece-by-piece" deposition as well. See Section II.C.2. Patent Owner thus urges a distinction that is not supported by the claim, and we do not agree with Patent Owner's contention for this reason.

In addition, even if we assumed the “first row” and “second row” limitations are limited to “multi-fill” deposition, Petitioner has shown these limitations are taught or at least suggested by the Weber446-Hollymatic combination. Petitioner notes that Weber446 describes a “portion” as having “individual product slices.” Reply 18 (citing Ex. 1007, 2) (emphasis omitted). Weber446 further describes its transfer unit (a conveyor) has a product support that is moved abruptly away so that “the ground is cut . . . from underneath the feet” of the portions (plural) into a product receiver (singular). Ex. 1007, 2.

Hollymatic teaches multi-lane deposition. Ex. 1006, Fig. 4. Dr. Sand testifies that Hollymatic’s food products “are deposited in a fast cycle in trays that are arranged in double-row groups.” Ex. 1003 ¶ 204; Ex. 1006, 8. Dr. Sand testifies one of ordinary skill in the art would use Hollymatic’s double-row containers because this increases the rate of production. *Id.* Petitioner modifies Weber446’s draft deposition to include multiple lanes of products and containers (an array) and to implement a second withdraw as disclosed by Hollymatic. Reply 19 (citing Pet. 65; Ex. 1003 ¶¶ 98–105, 203; Ex. 1021 ¶¶ 63–68).

Considering this evidence, we find there is sufficient basis for a person of ordinary skill in the art to modify Weber446’s transfer unit with Hollymatic’s second withdraw to perform “multi-fill” deposition of food products in rows of containers, leading one of ordinary skill in the art to the substance of claim 1.

*(2) Redesigning Weber446 with Hollymatic’s Shuttle Conveyor*

Patent Owner argues it would not have been obvious for one of ordinary skill in the art to redesign Weber446 with Hollymatic’s hamburger

shuttle conveyor. PO Resp. 48–58; Sur-Reply 24–26. For the following reasons, we do not agree with Patent Owner’s contentions.

*(a) Patent Owner’s Contention that Hollymatic’s Patty Shuttle Conveyor would not have worked to deposit overlapping sliced meats/cheeses required in Weber446*

Patent Owner argues that Weber446 fixes its conveyor while withdrawing it, causing a straight vertical drop of food product. PO Resp. 50 (citing Ex. 1007, 4; Ex. 2002 ¶ 137). Patent Owner argues that Hollymatic operates differently by moving its sled backward while moving its conveyor forward, which causes a patty to fall forward at an angle. *Id.* (citing Ex. 1006, 5; Ex. 2002 ¶ 136). Patent Owner contends that these are “fundamentally different ways of depositing food” making Weber446 and Hollymatic incompatible. *Id.* at 51 (citing Ex. 2002 ¶ 138).

Patent Owner’s expert testimony is conclusory (*see* 37 C.F.R. § 42.65(a)) and conflicts with Hollymatic’s teaching that food objects fall vertically downward, not at an angle, as a result of inertia. *Id.* at 50; Ex. 1006, 5. Patent Owner does not explain sufficiently why Hollymatic’s teaching may be incorrect and actually result in food objects falling at an angle, as Patent Owner asserts.

Patent Owner acknowledges Weber446 seeks to cause the “least possible disturbance in the structure of the portions that is formed in the course of overlapping or stacking.” PO Resp. 52 (citing Ex. 1007, 1). Nonetheless, Patent Owner contends the Weber446-Hollymatic combination would result in spreading of drafts and inaccurate deposition. *Id.* at 51–52 (citing Ex. 2002 ¶ 139; Ex. 1001, 1:48–55). Patent Owner does not explain sufficiently why Weber446’s technique would result in spreading out and inaccurate deposition for drafts when it seeks to cause the “least possible

disturbance” to its food portions. Ex. 1007, 1–2. Patent Owner states that the “violent jerking away” of Weber446’s product support causes spreading out of drafts, but Patent Owner does not explain why one of ordinary skill would choose to implement a withdraw that is “violent” and results in disturbance of drafts. PO Resp. 52; Ex. 1007, 1–2.

*(b) Patent Owner’s contention that adding Hollymatic’s shuttle conveyor into Weber446 would have caused many problems*

Patent Owner contends that introducing Hollymatic’s shuttle conveyor with multiple rows/portions into Weber446’s single deposit conveying system would have cause problems with design complexity, malfunctions, and operation flow. PO Resp. 52 (citing Ex. 2002, Section XI.B). Patent Owner contends avoiding these problems was of paramount concern to Weber446 and that Petitioner’s modification contravenes Weber446’s stated purpose. *Id.* at 52–53 (citing Ex. 1007, 1–2).

Specifically, Patent Owner contends that Petitioner does not explain how one of skill could use Hollymatic’s multi-sensor control system with Weber446’s simple synchronization system. *Id.* at 53 (citing Ex. 2002 ¶¶ 146–148). Petitioner counters that it has not argued that the Weber446-Hollymatic combination requires a multi-sensor control system, and that, in any case, both experts agree one of ordinary skill in the art would have been able to select and implement appropriate sensors, servomotors, and controllers. Reply 27.

We agree with Petitioner. Assuming proper staging of food product, Patent Owner does not show why a repositioning pulley could not be used to implement a second withdraw. *See* Ex. 1021 ¶¶ 68–71. Even if one chose to implement a multi-sensor control system, the experts testify that this too would not have been beyond the ability of a person of ordinary skill in the

art. Reply 27 (citing Ex. 1020, 40:25–43:11, 45:8–62:3; Ex. 1021 ¶ 73). Hollymatic teaches how multiple sensors can be used to control the withdrawing conveyor's sled. Ex. 1006, 6–9. Patent Owner does not explain why integrating Hollymatic's multi-sensor control system with Weber446 to accomplish a second withdraw would have posed any difficulty given Hollymatic's teachings.

Patent Owner asserts that Weber446 requires synchronization between different components operating at the same speed, but does not explain why this requirement is incongruent with Weber446's or Hollymatic's control system. PO Resp. 53–54. Patent Owner further contends that Weber446 rejects using Hollymatic's deflection (compensation) rollers due to added complexity and susceptibility to malfunctions. *Id.* But Patent Owner does not explain why one of ordinary skill in the art would not have simply used Weber446's solution, as Petitioner proposes, rather than Hollymatic's deflection rollers if their use would be problematic. Reply 27 (citing Pet. 65–66; Ex. 1021 ¶ 74).

Patent Owner contends Hollymatic uses “jerky withdraws” which would cause staged product to “scatter, slip, and shift” when implemented in Weber446. PO Resp. 54–56 (citing Ex. 2002 ¶¶ 149–152; Pet. 28; Ex. 1003 ¶ 101; Ex. 1006, 5; Ex. 1007, 1–3). Petitioner contends that incorporating Hollymatic's shuttle conveyor is not part of the proposed combination, and that Patent Owner's contention is irrelevant. Reply 28 (citing Ex. 1021 ¶ 74).

As Petitioner notes, the person of ordinary skill in the art is not an automaton, but is a person of ordinary creativity. *Id.* at 19 (citing *KSR*, 550 U.S. at 415, 418). Weber446's transfer unit 15 with endless belt 22 could be

implemented to transfer one row of food products at a time while the next row of food product is staged on transfer apparatus 23. Ex. 1007, 8, Fig. 1. As such, no staged product capable of disturbance would be on the transfer unit when it withdraws to deposit a row of drafts. Alternatively, the transfer unit's action may be sufficiently gentle as not to disturb successive rows of food product. And Weber446 states that withdrawal of its product support does not disturb food portions being deposited. *Id.* at 10. Patent Owner does not adequately explain why these options would not have been implemented by a person of ordinary skill in the art.

Patent Owner further contends that Petitioner's proposed modifications could negatively impact upstream operation flow. PO Resp. 56–57. According to Patent Owner, Hollymatic requires a specific operation flow upstream of its shuttle conveyor, which transfers a single stream of patties on a conveyor belt into staggered groups of three patties on a different conveyor belt. *Id.* at 57 (citing Ex. 1006, Fig. 4). According to Patent Owner, Petitioner does not indicate how Weber446 could be successfully modified to have this operation flow leading to a shuttle conveyor that deposits rows of drafts.

Petitioner, however, did not rely on Hollymatic's staging, nor is claim 1 limited to any particular type of staging. Also, the staging mentioned in the '513 Patent is that of Sandberg. Ex. 1001, 1:15–21; Ex. 1011. Patent Owner does not explain why Sandberg's staging of food product could not be used in the Weber446-Hollymatic combination.

Accordingly, Patent Owner's contentions do not expose any defects in Petitioner's Weber446-Hollymatic combination.

*e) Conclusion for Claim 1*

We determine that the information presented in the Petition, Preliminary Response, Reply, and Sur-Reply, and accompanying exhibits and testimony, shows by a preponderance of the evidence that claim 1 is unpatentable as obvious over the Weber446-Hollymatic combination. Under the stated meanings of the limitations, Petitioner makes a sufficient showing that each element of claim 1 is taught or suggested by the Weber446-Hollymatic combination, that a person of ordinary skill in the art had reason to combine the references, with a reasonable expectation of success in arriving at the claimed invention.

*3. Claims 4, 6, and 12*

Petitioner contends that Hollymatic discloses the limitations of claims 4, 6, and 12 for the reasons mentioned in Section II.D.4. Pet. 67–69 (citing Ex. 1003 ¶¶ 210–212, 215, 218, 221). Petitioner also contends that a person of ordinary skill in the art would have been motivated to combine Weber446 and Hollymatic with reasonable expectation of success for the reasons stated above in Sections II.H.2.b and II.H.2.c.

Patent Owner presents no other arguments for claims 4 and 12 beyond those presented for claim 1. We do not agree with these arguments for the reasons previously stated. *See* Section II.H.d.

Patent Owner contends that the Weber446-Hollymatic combination fails to render claim 6 obvious. PO Resp. 58–62; Sur-Reply 26–27. For similar reasons as noted in Section II.D.4.b), we agree with Patent Owner’s contention that Petitioner has not carried its burden to show by preponderance of the evidence that claim 6 is unpatentable over the Weber446-Hollymatic combination.

Specifically, as with the Honsberg-Hollymatic combination analyzed above, the Weber446-Hollymatic combination teaches a withdrawing conveyor that “takes the ground out from under the feet” of the food drafts being deposited. A person of ordinary skill in the art would have avoided operating such a withdrawing conveyor from the withdrawn (retracted) position toward the advanced (extended) position because it would double the number of steps required to deposit food portions. PO Resp. 58–62 (citing Ex. 2002 ¶¶ 158, 160–163).

Accordingly, claim 6 has not been shown to be unpatentable.

#### *I. Remaining Contentions*

Patent Owner asserts that Petitioner’s person of ordinary skill in the art would never have been able to combine the references as claimed. PO Resp. 62–63. Although Patent Owner frames its contention this way, the contention is more an effort to discredit Dr. Sand’s testimony than to argue the reasons to combine the references.

Specifically, Patent Owner contends that Dr. Sand indicated that any type of engineering degree or a business person with some years of experience with food would qualify as a person of ordinary skill in the art. *Id.* at 62 (citing Ex. 2010, 143:17–148:13). Reviewing the cited part of Dr. Sand’s deposition, however, we find no question asking for the definition of a person of ordinary skill in the art. How she would have understood that she was being questioned on this subject is not apparent from the lines of questioning in the cited portion of her deposition.

Patent Owner further contends Dr. Sand’s opinion that one of ordinary skill in the art would have found Petitioner’s combinations “routine” allegedly is “not credible, particularly given the lack of detail and support.”

PO Resp. 63 (citing Ex. 1003 ¶¶ 114, 211). Patent Owner further alleges Dr. Sand is inexperienced compared to Mr. Palmer; that her testimony is conclusory; and that a court has found she does not have demonstrated expertise in a number of areas in which she offers opinions. *Id.*

Petitioner replies that the court excluded Dr. Sand's testimony related to factual narratives and economic damages. Reply 30. At the same time, Petitioner contends, the court qualified Dr. Sand as a food packaging expert. *Id.* (citing Ex. 2013, 13; Ex. 1021 ¶ 78). Petitioner further contends Patent Owner's expert testified that changes to sensors, servomotors, and controllers were routine years before the relevant date. *Id.* at 30–31 (citing Ex. 1020, 45:8–62:3). In addition, Petitioner contends that Dr. Sand has designed food-packaging machinery, unlike Mr. Palmer who admits that he never designed a food article packaging machine. *Id.* at 31 (citing Ex. 1003 ¶¶ 15–27; Ex. 1020, 35:25–36:7).

To the extent Patent Owner seeks to discredit Dr. Sand's testimony, the record shows that she has more than thirty years of experience in food science and packaging. Ex. 1004. She is the owner and founder of Packaging Technology and Research, LLC, is an adjunct professor at the University of Minnesota, Michigan State University, and California Polytechnic University (CalPoly), is a columnist and author on food packaging, and has extensive leadership experience in this industry. *Id.* We decline to broadly discredit her testimony, if that is what Patent Owner seeks, given her considerable knowledge, experience, and credentials.

Patent Owner challenges the institution of *inter partes* review on the basis that the current structure of the Board is unconstitutional because the appointment of administrative patent judges allegedly violates the

Appointments Clause, U.S. Const. Art. II, § 2, cl. § 2. PO Resp. 21. We are bound by the Federal Circuit’s decision in *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019) (Moore, J., concurring in denial of rehearing) (“Because the APJs were constitutionally appointed as of the implementation of the severance, *inter partes* review decisions going forward were no longer rendered by unconstitutional panels.”).

Accordingly, we do not consider this issue any further.

Patent Owner alleges that Petitioner’s Reply exceeded its proper scope and submitted new arguments and evidence not present in the Petition. Paper 32 (citing Reply 14–17, Ex. 1021 ¶¶ 39–61; Ex. 1023; Ex. 1024; Ex. 1025; Ex. 1026; Ex. 1027). We did not rely on any of these alleged new arguments, testimony, or evidence in rendering our decision, so this matter is moot.

### III. CONCLUSION<sup>3</sup>

For the reasons discussed above, we conclude:

<b>Claims</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/ Basis</b>	<b>Claims Shown Unpatentable</b>	<b>Claims Not Shown Unpatentable</b>
1, 4, 6, 12	103(a)	Honsberg, Hollymatic	1, 4, 12	6

---

<sup>3</sup> 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).

<b>Claims</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/ Basis</b>	<b>Claims Shown Unpatentable</b>	<b>Claims Not Shown Unpatentable</b>
5, 7–11	103(a)	Honsberg, Hollymatic, Mello	5, 8–11	7
2	103(a)	Honsberg, Hollymatic, Mahaffy535	2	
3	103(a)	Honsberg, Hollymatic, Mahaffy535, Schefflow, Sandberg	3	
1, 4, 6, 12	103(a)	Weber446, Hollymatic	1, 4, 12	6
<b>Overall Outcome</b>			1–5, 8–12	6, 7

#### IV. ORDER

For the foregoing reasons, it is

ORDERED that claims 1–5, and 8–12 of the '513 Patent are unpatentable;

FURTHER ORDERED that Petitioner has not shown claims 6–7 of the '513 Patent to be unpatentable;

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

IPR2019-01461  
Patent 7,533,513 B2

For PETITIONER:

Ralph W. Powers III  
Daniel E. Yonan  
Donald R. Banowit  
Kyle E. Conklin  
James T. Buchanan  
Graham C. Phero  
STERNE, KESSLER, GOLDSTEIN & FOX  
tpowers-PTAB@sternekessler.com  
dyonan-PTAB@sternekessler.com  
dbanowit-PTAB@sternekessler.com  
kconklin-PTAB@sternekessler.com  
jbuchanan-PTAB@sternekessler.com and  
gphero-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