

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PROVISUR TECHNOLOGIES, INC.,

Petitioner,

v.

TEXTOR MASCHINENBAU GMBH,

Patent Owner

Case IPR2024-00224
U.S. Patent No. 9,457,487

**PATENT OWNER'S RESPONSE
TO PETITION FOR *INTER PARTES* REVIEW**

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I. INTRODUCTION

As set forth in the Motion to Amend filed concurrently with this Patent Owner Response, Challenged Claims 1-4, 6, 9, 10, 14, and 15 have been non-contingently amended to include the toolless removal/installation process of claim 16. Patent Owner also proposes contingently amending claim 22 to recite this same limitation. Accordingly, all Challenged Claims (contingently for claim 22) require a toolless installation/removal process. Petitioner has not and cannot show that the prior art anticipates or renders obvious this key concept.

The Petition relies on conveyor belt units described in the Konishi and McLaughlin references, both of which (1) are mounted horizontally, (2) depict a vertically open and physically unsecured contact point, and, by Petitioner's expert's admission, (3) are susceptible to popping out of place during operation if inadequately secured. Each proposed Ground relies on a theory that a POSITA would have understood (or found obvious) that Konishi's and McLaughlin's conveyor belt units would be left unsecured during operation and held in place by gravity alone. Yet neither Petitioner nor its expert identifies a single supporting example of this concept in the prior art. Further, Petitioner's expert conceded that both conveyor belt units would be susceptible to popping out of place during operation, but he made no attempt to quantify how heavy the conveyor belt units would need to be to remain in place from gravity alone. Petitioner's reliance on

unsupported expert testimony is, by itself, fatal. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 (August 24, 2022) (precedential) (finding an expert's opinion "without supporting evidence" is "particularly problematic . . . where, like here, expert testimony is offered not simply to provide a motivation to combine prior-art teachings, but rather to supply a limitation missing from the prior art").

Beyond this evidentiary failure, the record is replete with evidence contradicting Petitioner's theories. First, both Konishi and McLaughlin expressly ***teach away*** from conveyors that are so heavy they remain secured during operation through weight alone. Indeed, these references teach that their conveyor belt units should be *lightweight* (1) to allow their easy removal and re-installation and (2) to ensure their conveyed food products can be accurately weighed. Second, McLaughlin is a patent owned by Petitioner, which is embodied in multiple commercial embodiments. Petitioner and its expert deployed a head-in-sand approach to the IPR, ignoring that Petitioner's own commercial embodiment does in fact secure the conveyor belt unit in place using a tool-based mechanism and not by gravity alone. Third, ample evidence demonstrates that Patent Owner's products experienced great success in the marketplace as a direct result of having newly introduced a removable conveyor belt unit with toolless removal/installation. These and other secondary indicia further support a finding of non-obviousness.

Petitioner also cannot carry its burden to show that claim 22 is obvious. Claim 22 requires two separate motors that drive opposing sides of the claimed conveyor belt unit. Petitioner and its expert contend it would have been obvious to mirror the designs of Konishi and McLaughlin, converting each to dual-track and dual-motor conveyor belt units for moving food product. As with the toolless concept, neither Petitioner nor its expert identifies a single supporting example of this concept in the art.

In sum, all claims now recite toolless removal/installation, a dual-motor arrangement, or both (contingently amended claim 22). Yet Petitioner has failed to introduce evidence demonstrating that either concept was known in the art. Even if unsupported expert testimony on which Petitioner relies could be sufficient to carry its burden—it is not—the ample evidence contradicting Petitioner's theories is fatal.

II. BRIEF OVERVIEW OF THE '487 PATENT

The '487 Patent describes a “slicing apparatus for food products,” such as a high-performance slicer, that includes a belt conveyor configured as a removable conveyor belt unit. *'487 Patent* (Ex. 1001), Abstract, 1:15-18. High-performance slicers often include actively driven conveyor belts to both supply food products to a cutting plane (i.e., traction belts) and to collect recently cut slices for grouping into portions (i.e., portioning belts). *Id.*, 1:22-46; *see also id.*, Figs. 1-5 (depicted single-track traction conveyors), Figs. 8-10 (depicting single-track portioning conveyors).

In practice, both the traction belts and portioning belts “are customarily greatly contaminated during the operation of a slicing apparatus[,]” which can require daily cleaning, sometimes several times a day. *Id.*, 1:50-57. To thoroughly clean belts in a high-performance slicer, the belt bands or transport straps need to be removed. *Id.*

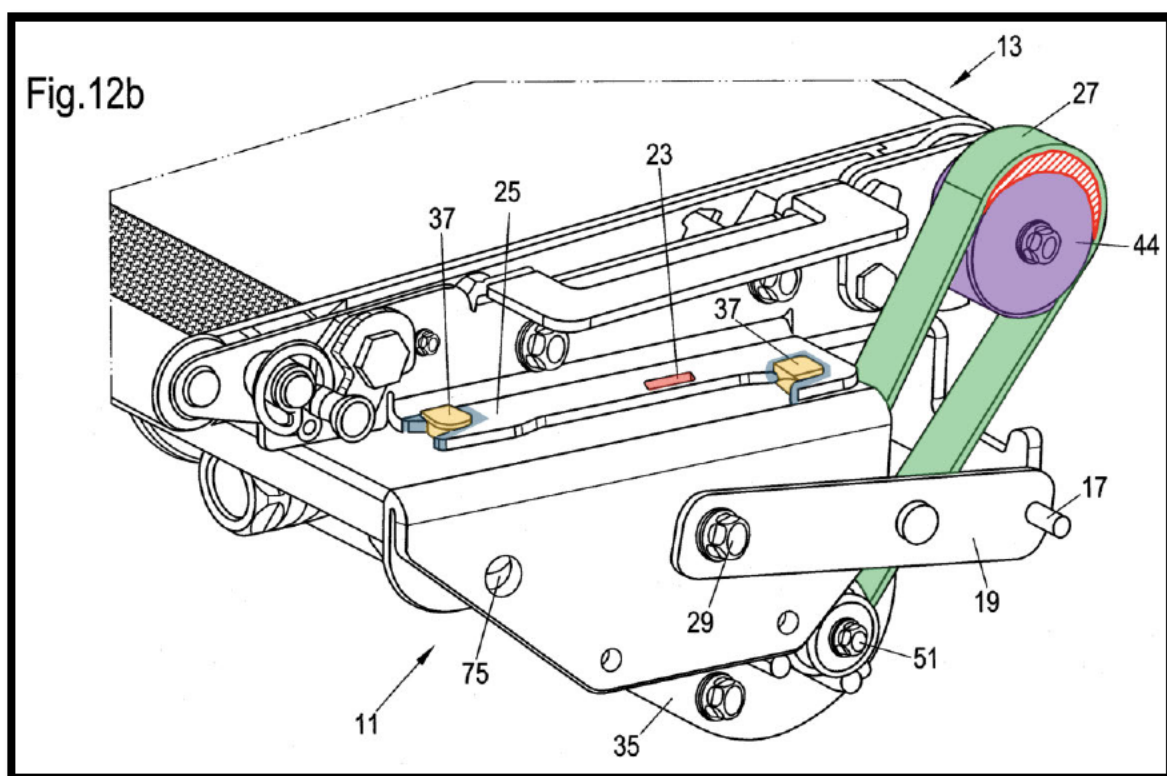
Conventionally, these belts were removed by suspending the conveyor unit at one side of the slicer and removing the belts while the conveyor unit that drove those belts remained on the slicer. *Id.*, 1:58-67. This disadvantageously required a lot of space next to the conveyor unit to remove these belts. *Id.* Other conventional methods were able to remove the conveying means entirely, but these conveyors were often coupled to a drive unit via a coupling. *Id.*, 2:1-16. In these setups, a drive motor usually had to be arranged next to a drive roller of a conveyor, resulting in a large width and the inability to connect multiple drives to a single removable conveyor. *Id.*

The '487 Patent describes a removable conveyor for a slicing apparatus that facilitates (1) easy cleaning, (2) a space-saving structure, and (3) inexpensive construction, comprising: a removable conveyor unit 13 having at least one track and a base 25, a substructure 41 with a mount 11 coupled to the base 25, and a drive 15 coupled to the conveyor belt unit 13 by a drive belt 27 that facilitates removal and installation of the conveyor belt unit by relaxing and tautening the drive belt 27

using a relative movement between the drive 15 and the conveyor belt unit 13. *Id.*, 2:20-25, 2:48-3:9; *see also id.*, claim 1.

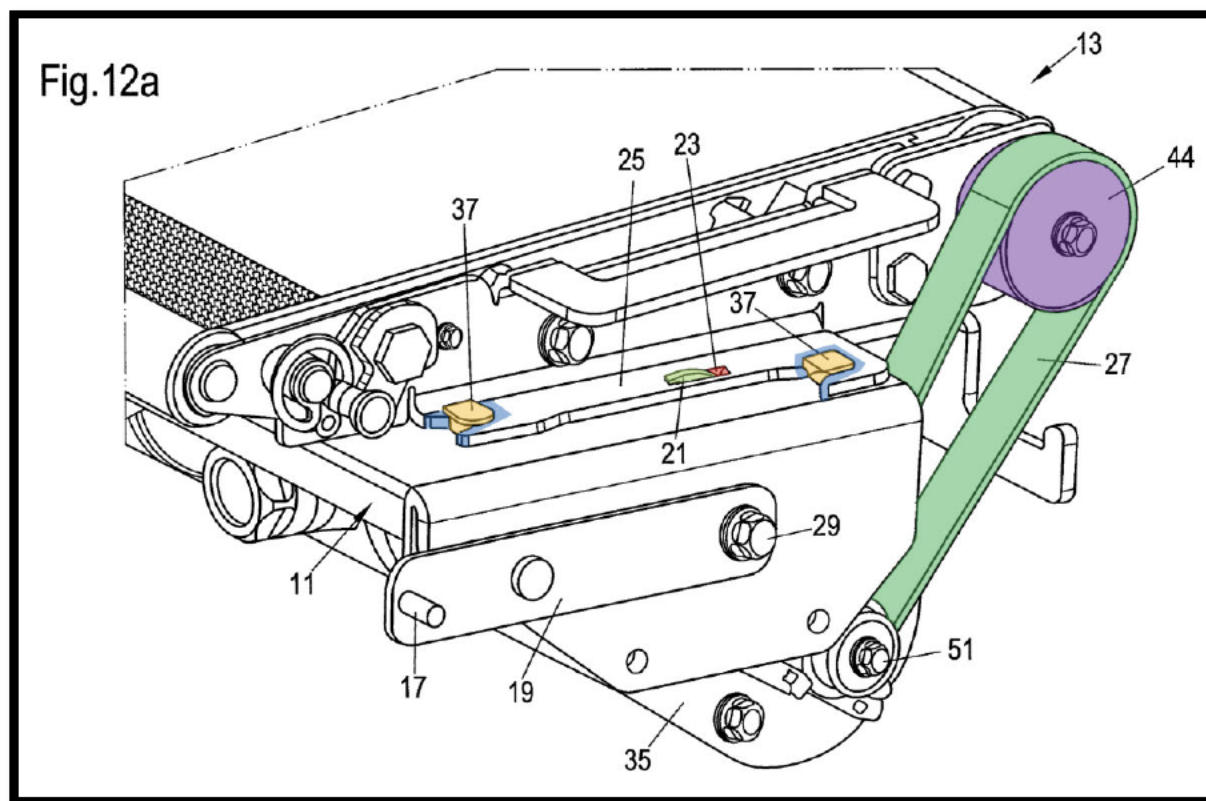
Multiple methods of toolless removal are described in the '487 Patent. In each method, a mechanism allows the user to remove the conveyor for cleaning from a fully secured state (i.e., the state in which the conveyor operates) without any tools.

In a first toolless method, lever 19 is used to engage/tighten the conveyor belt around its pulleys and to secure the conveyor belt unit in place. The unsecured state is shown in Fig. 12b, where the “drive belts 27 are relaxed and the conveyor belt unit 13 is unlatched, with the base 25 of the conveyor belt unit 13 still being in engagement with the coupling elements 37 of the mount 11.” *Id.*, 12:36-40. As shown in annotated Fig. 12b, the coupling elements 37 (orange) are engaged with the cut-outs 59 (blue) found on base 25, but slit 23 (red) is not yet engaged with latching member 21 (annotated light green in Fig. 12a). Further, drive belt 27 (green) is not yet engaged (red hatching) with drive roller 44 (purple) in this unsecured state with lever 19 positioned to the right.



'487 Patent, Fig. 12b (annotated).

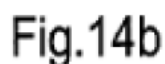
Annotated Fig. 12a below illustrates how toolless lever 19 moved 180 degrees counterclockwise both tightens the conveyor belt and secures the conveyor belt unit via latch 21 (light green).



'487 Patent, Fig. 12a (annotated).

Similar to Figs. 12a-b, Figs. 13a-b depict a lever-based toolless removal/installation process. In this alternative embodiment, the conveyor belt unit is similarly secured by latch 21 inserted into slit 23, but those components are oriented vertically, rather than horizontally.

A distinct toolless method is depicted in Figs. 14a-b. As shown in Fig. 14b, conveyor belt unit 13 pivots about axis 63. Pivoting about this axis 63 serves to tighten or relax the conveyor belt between drive wheel 44 and drive shaft 51 of the motor 15. '487 Patent, 13:26-30.



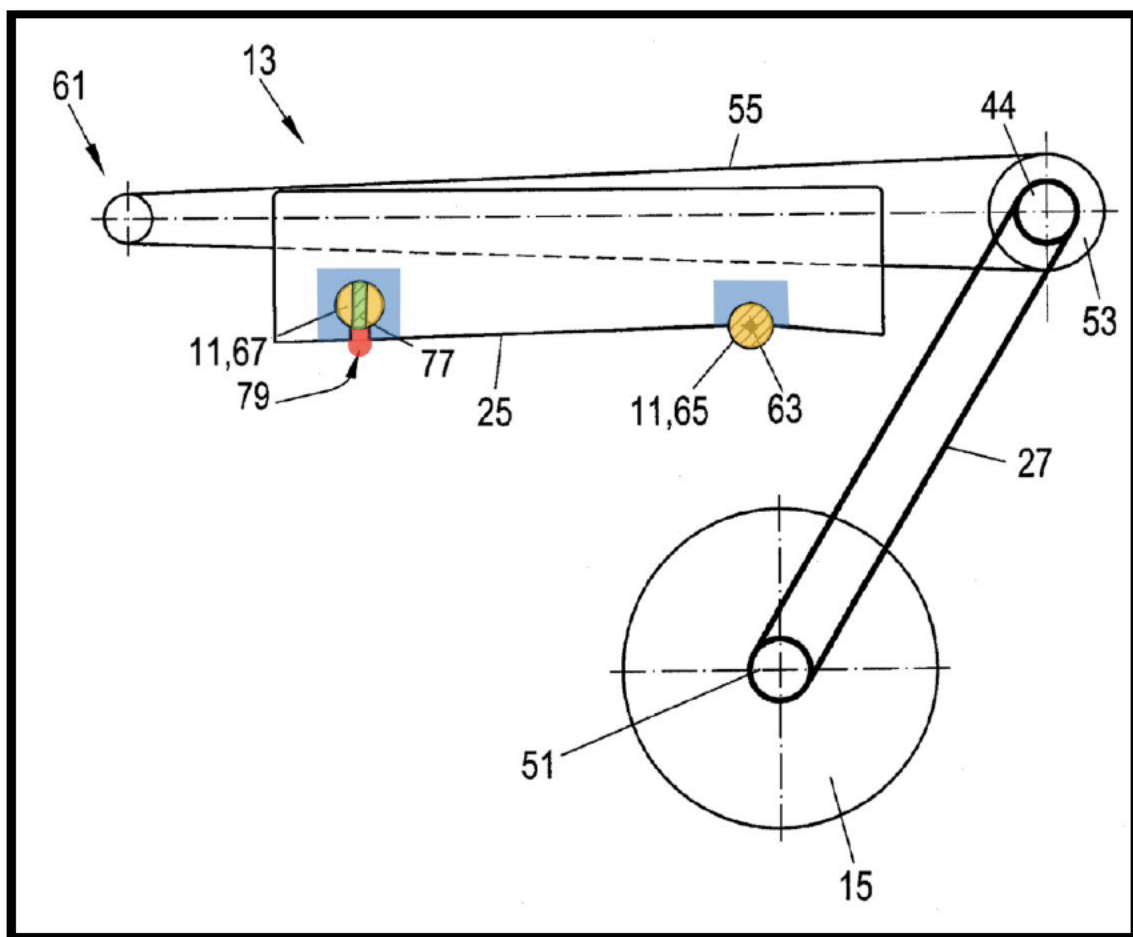
'487 *Patent*, Fig. 14b.

To install conveyor belt unit 13, the unit is pivoted into place onto support bar 67. When in place, latching section 77 is rotated 90 degrees, which secures the conveyor belt unit into place for operation. Specifically, the '487 Patent teaches that support bar 67 can be rotated "into the position in accordance with FIG. 14b so that the latching section 77 can move out of the mount 79 when the conveyor belt unit 13 is pivoted about the other support bar 65." *Id.*, 13:27-30.

This arrangement creates three effective states. First, as depicted in Fig. 14b above, there is a disengaged state in which the belt is relaxed and the conveyor belt

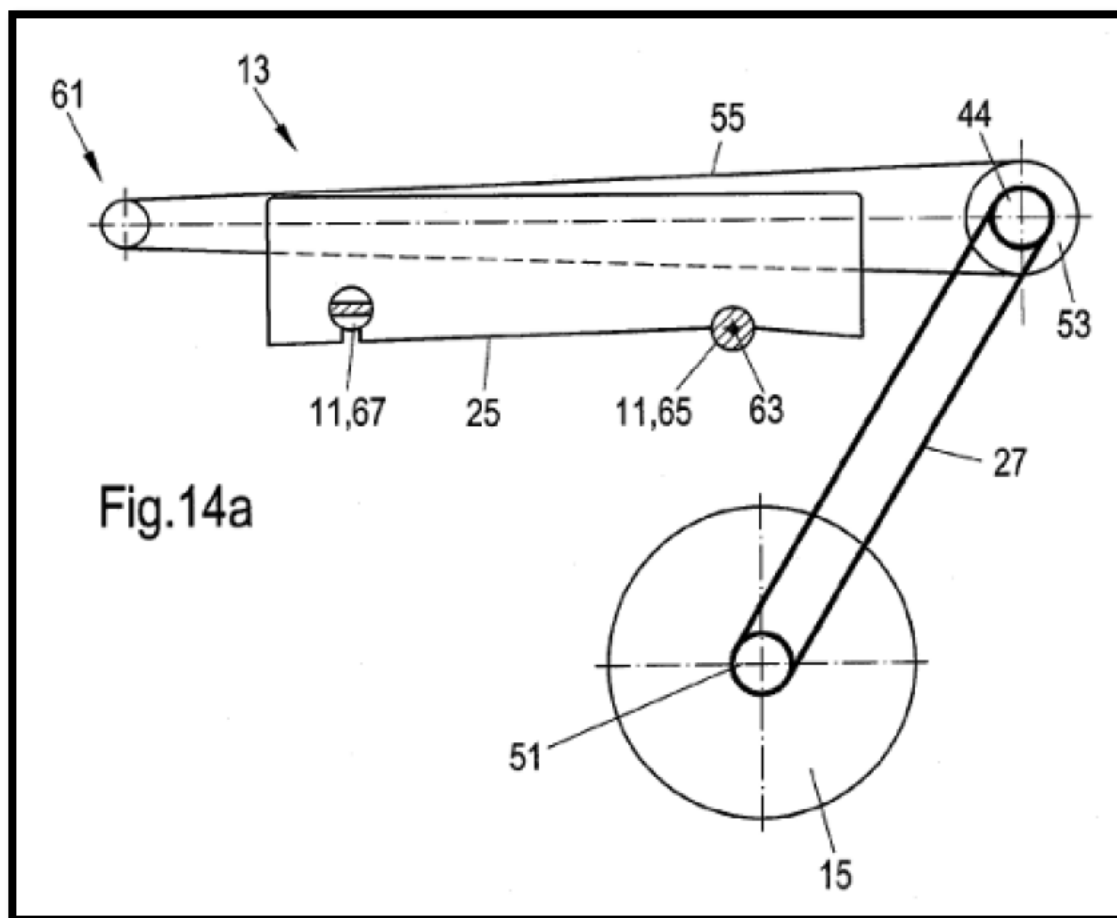
unit may be removed for cleaning. Second, depicted in modified Fig. 14a below, there is a ***transitional state*** in which conveyor unit 13 has been pivoted into place, but latch 77 has not yet been rotated to secure the unit for operation. Finally, as depicted in unmodified Fig. 14a, there is a fully secured state in which latch 77 has been rotated horizontally to secure the unit for operation.

Annotated and modified Fig. 14a below shows the transitional state. Namely, latching section 77 (light green) is rotated vertically (as depicted in Fig. 14b) such that it permits mount 79 (red) in the conveyor belt unit to be lowered over the support bar 67.



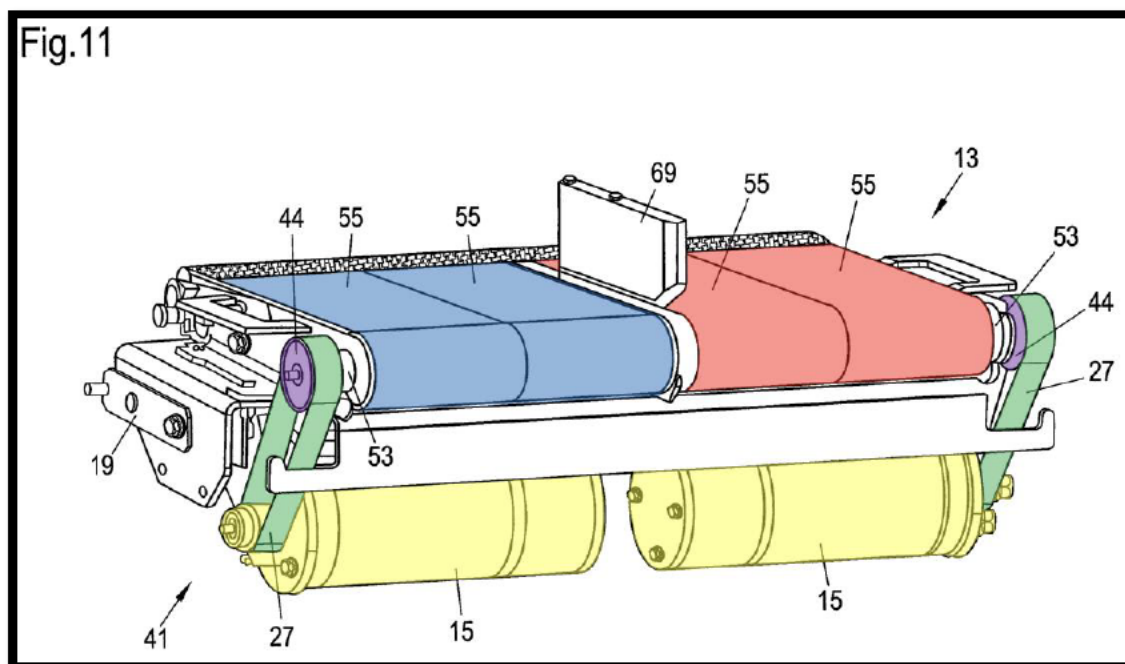
'487 Patent, Fig. 14a (modified and annotated).

Unmodified Fig. 14a below shows the fully secured state in which latch 77 has been rotated horizontally to secure the unit for operation.



'487 Patent, Fig. 14a.

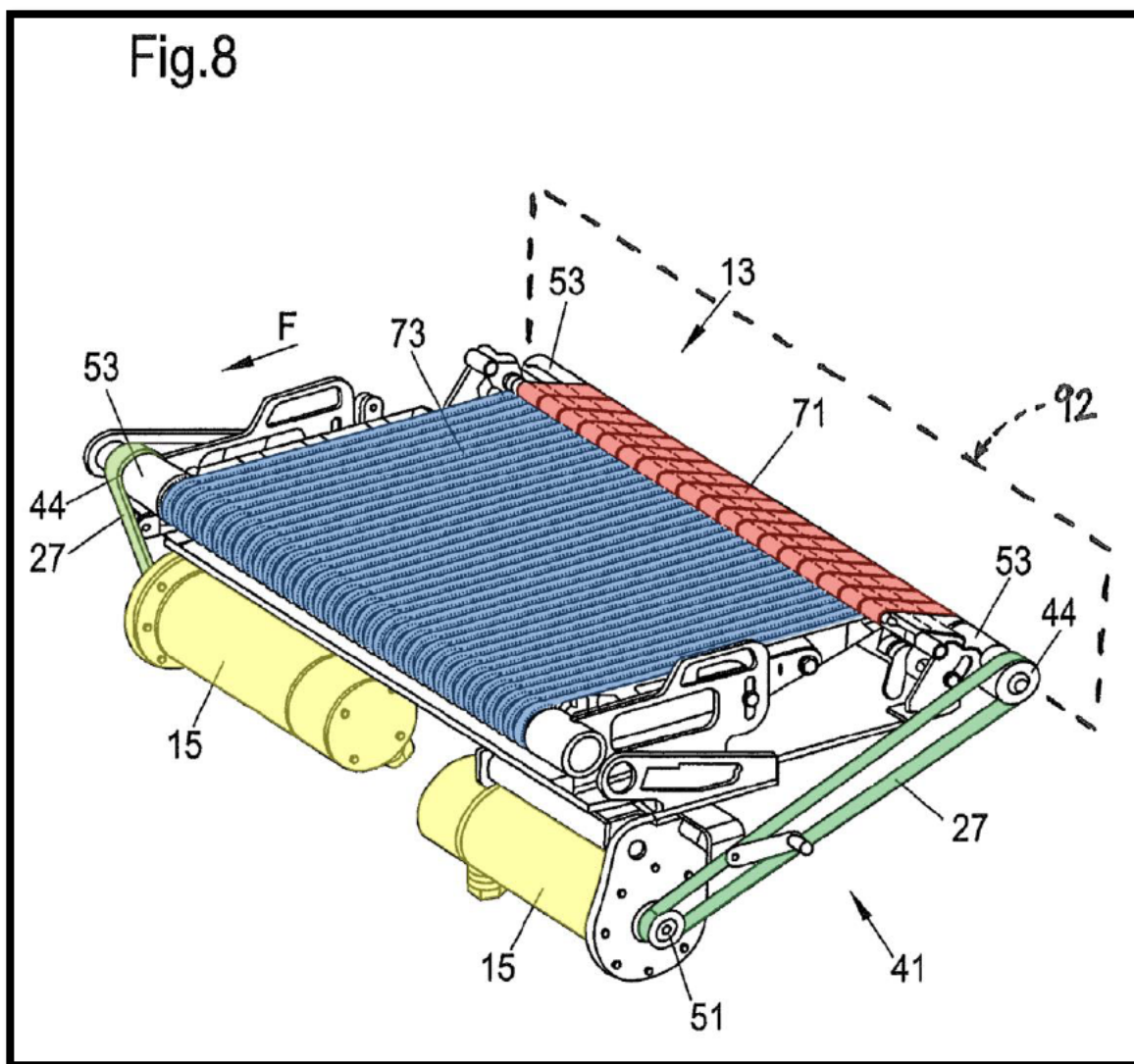
Relevant to claim 22, the '487 Patent further discloses a configuration including multiple drive motors and multiple tracks. For example, Fig. 11 shows motors 15 (yellow) driving belts 27 (green) on both the left and right side of the conveyor belt unit. The conveyor belt unit is designed "in a mirror image with respect to a center plane between the two tracks..." *Id.*, 12:24-25. When viewed with respect to Fig. 11, the left track (blue) and right track (red) can be seen attached to their respective drive wheels 44 (purple), drive belts 27, and motors 25.



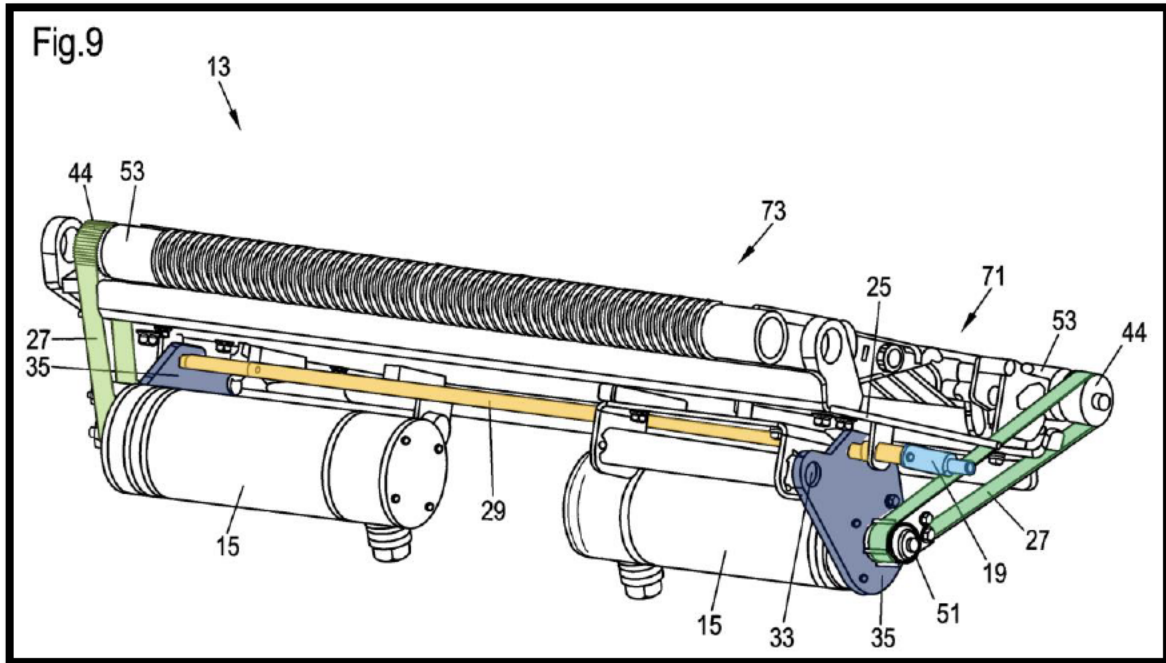
'487 *Patent*, Fig. 11 (annotated).

Although this conveyor belt unit includes two drive mechanisms, the removal and installation procedures follow that of a single motor configuration. *Id.*, 12:30-34.

Another multiple motor configuration is disclosed in Figs. 8 and 9. In this configuration, the motors are also on the left and right side of the conveyor belt unit, but they now drive conveyors that are oriented sequentially, rather than in parallel as in the Fig. 11 example discussed above.



'487 Patent, Fig. 8 (annotated).



'487 Patent, Fig. 9 (annotated).

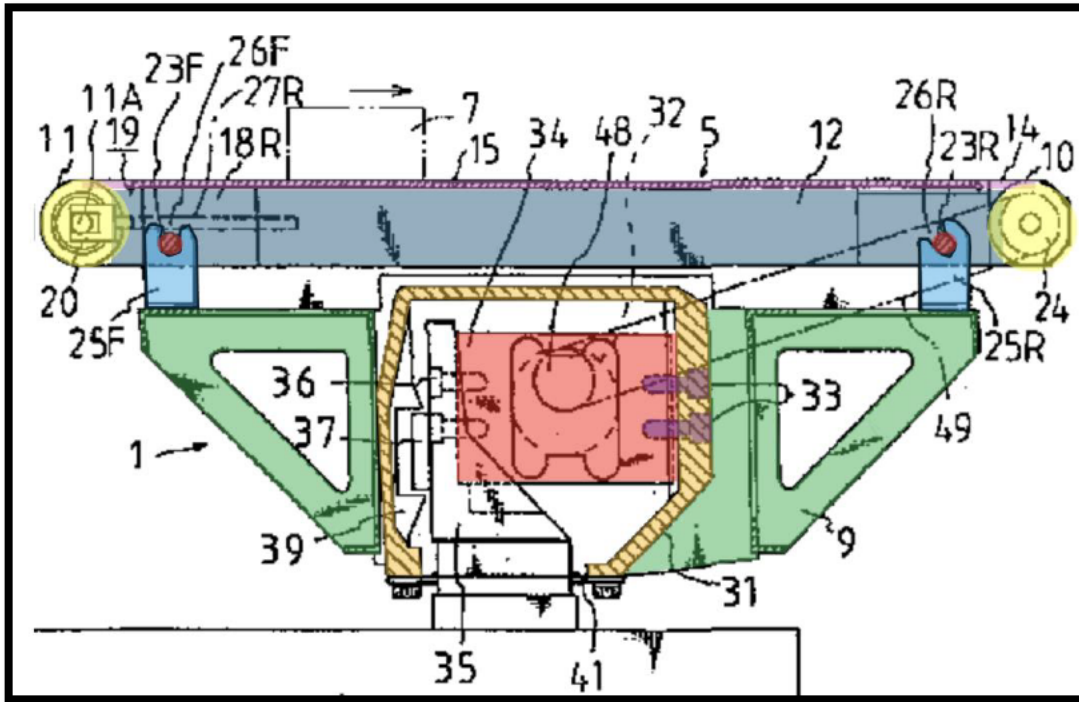
Annotated Fig. 8 shows that a long drive belt 27 (green) connects to conveyor 71 (red) and short drive belt 27 (light green) connects to conveyor 73 (blue). Annotated Fig. 9 shows that common lever shaft 29 (orange) is connected to lever 19 (light blue). *Id.*, 11:49-52. When rotated, lever shaft 29 interfaces with linkages 35 (blue-gray) allowing both short belts and long belts (light green and green respectively) to be “relaxed or tautened simultaneously.” *Id.*, 11:52-57. Thus “[a] removal or an installation of this portioning conveyor unit is consequently possible in a fast and simple manner” *Id.*, 11:62-64.

III. THE ALLEGED PRIOR ART

A. Konishi (Ex. 1004)

Konishi discloses a belt conveyor-type weighing device. *Konishi*, (54). The device is meant to weigh and convey packaged items. *Id.*, [0001]. The sub-structure containing the conveyor belt is simple to “make it easier to remove from the frame, and to also simplify the waterproof structure for the weight detector and conveyor drive motor in order to perform reliable and efficient cleaning work such as showering.” *Id.*, (57).

An excerpt of Konishi's Fig. 1 is annotated below. The annotations indicate each connection from the conveyor belt to the weight detector. At the top of the figure is conveyor belt 14 (pink). This conveyor belt interfaces with rollers 10 and 11 (yellow). These rollers connect to the subframe 12 (blue-gray). Pins 23F and 23R (red), engage with fork-shaped hooks 25F and 25R (light blue). These hooks extend from frame 9 (green), which then connects to housing 31 (orange) via bolts 30 (not pictured). Finally, bolts 33 (purple) attach the weight detector 34 (salmon) to the housing 31 (orange).



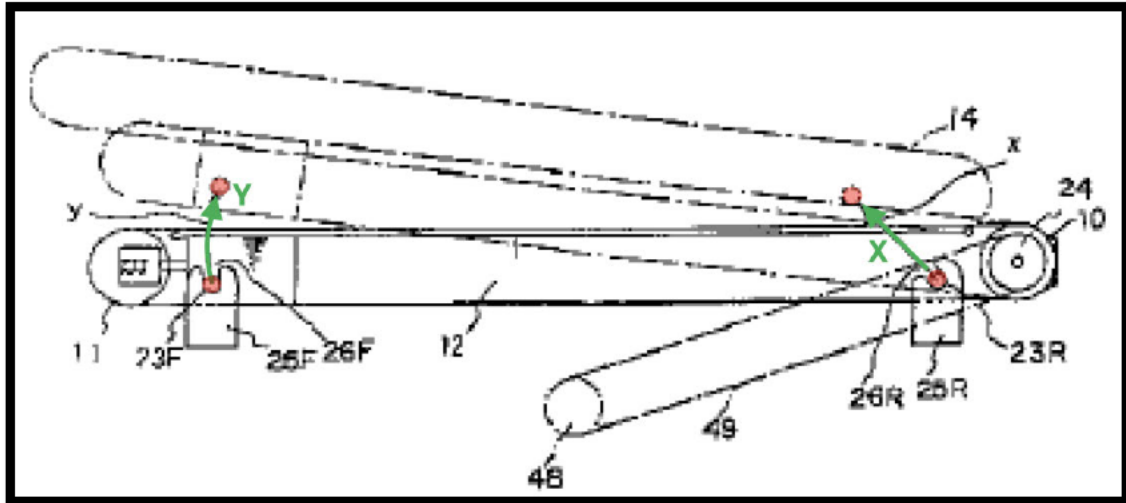
Konishi, Fig. 1, (annotated, excerpt).

Konishi teaches that “weight detector 34 supports the entire weight of the automatic weighing device 5 excluding the support bracket 35.” *Id.*, [0024].

Konishi discusses a process for placing subframe 12 into position on frame 9 and for removing subframe 12 from frame 9.¹ Specifically, the removal process involves “the front part of the subframe 12 [being] lightly lifted upward,” disengaging pin 23F from hook 25F. *Id.*, [0033]. Konishi’s Fig. 8 shows this process following the path “Y” (annotated green with more prominent “Y” added for clarity). The subframe’s upward motion creates a “diagonally downward” movement at drive

¹ As discussed in more detail below, Konishi is silent as to how subframe 12 is secured to frame 9 for operation.

roller 10, which loosens drive belt 49, allowing it to be removed. *Id.* At this stage, subframe 12 can be “pulled diagonally upward in the direction of arrow X” (annotated green with more prominent “X” added for clarity). This motion disengages rear support pin 23R from hook 25R. *Id.*, [0034].



Konishi, Fig. 8 (annotated).

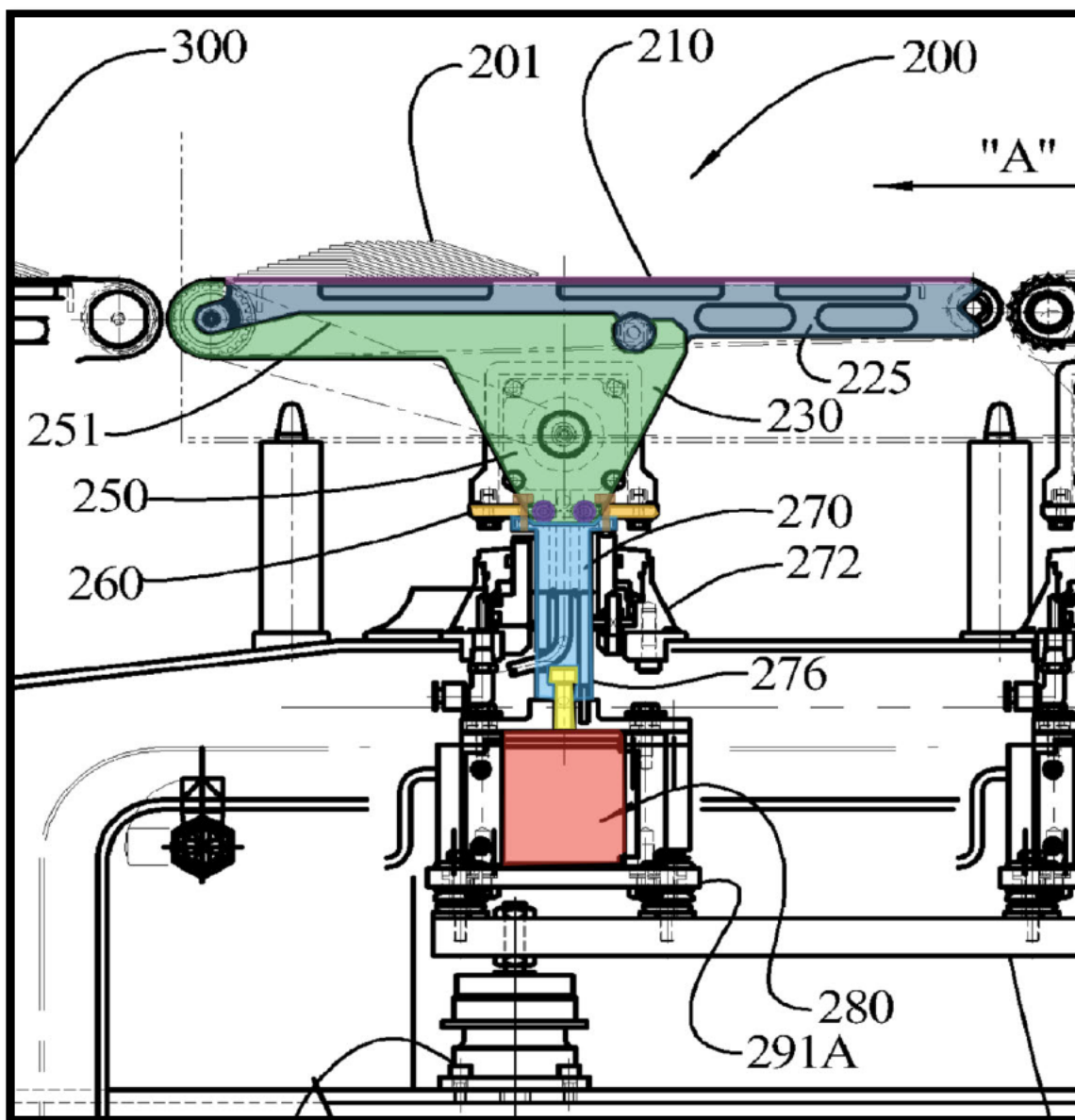
Further, Konishi's invention aims to provide an overall lighter device by housing the motor and weigh detector together. *Id.*, [0044] (“[B]ecause the weight detector and conveyor belt drive motor . . . are housed together . . . , the structure for maintaining the functions of this type of device in a stable state can be constructed easily and inexpensively, and the entire device can be made lighter compared to the conventional method of waterproofing and dustproofing each separately.”). Konishi also emphasizes the importance of lightweight conveyor structures in order to facilitate easy installation and removal *Id.*, [0013] (noting the “structure of the

subframe side is made simple and lightweight, thus making installation and removal from the frame easy"); *see also id.*, [0045].

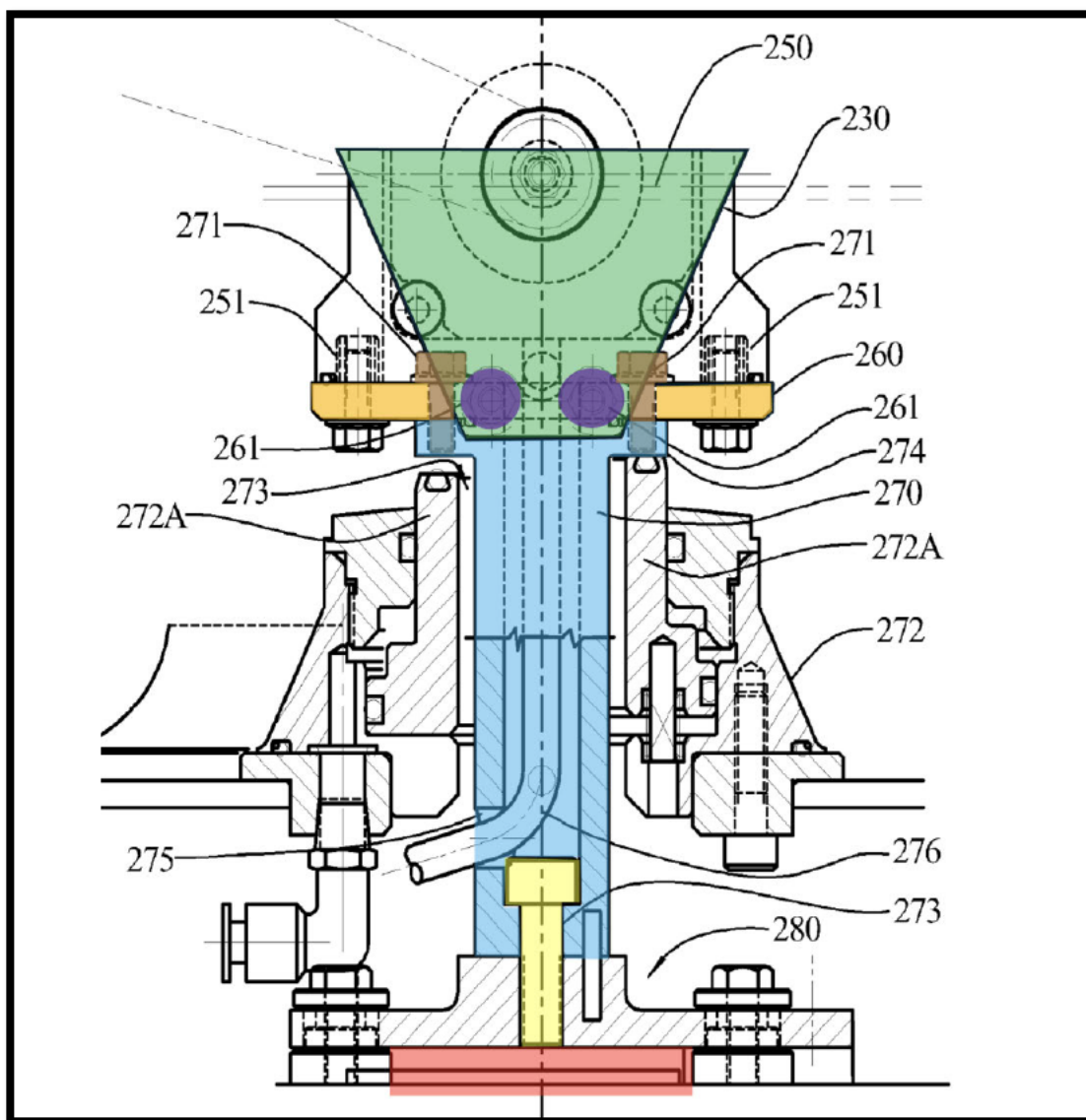
B. McLaughlin (Ex. 1006)

McLaughlin discloses a dual scale weighing system for producing drafts of desired weights used in production of sliced food product. *McLaughlin*, (54). McLaughlin discloses two scales, but Petitioner's Grounds focus on check scale 200. The check scale is made up of mechanical connections such that the "the weight of the draft 201 [(i.e., the sliced food product)] is transferred from the conveyor through the sidewalls 230 to the horizontal plate 260." *Id.*, 3:66–4:1. Subsequently, the weight on horizontal plate is "transferred by shaft 270 to load cell 280 situated underneath the horizontal plate 260 and the shaft 270." *Id.*, 4:1-3. The load cell then "record weight measurements of the draft." *Id.*, 4:3-4.

Excerpts of McLaughlin's Figs. 2 and 3 are annotated below. Starting at the top of the figure, the conveyor belt (pink) is attached to support frame 225 (blue-gray), which is then "attached to side walls 230 [green] on either side of support frame." *Id.*, 3:44-46. The side walls are attached to horizontal plate 260 (orange) via fasteners 261 (purple). The horizontal plate is attached to shaft 270 (light blue) via fasteners 271 (brown). Shaft 270 is connected to the load cell 280 (red) via fastener 273 (yellow).



McLaughlin, Fig. 2 (annotated, excerpt).



McLaughlin, Fig. 3 (annotated, excerpt).

Like Konishi, McLaughlin emphasizes the importance of minimizing its conveyor structure weight. *Id.*, 4:59-62 (teaching the conveying surface 210 is “made from a flexible, thin, and preferably lightweight material” to enable accurate weight measurements).

C. Lindee (Ex. 1005) and Johnson (Ex. 1017)

Lindee discloses a "conveying surface for a slicing apparatus that can be moved in two orthogonal directions in a coordinate manner to allow a depositing of slices in a pattern on the conveying surface." *Lindee*, (57). As disclosed by Lindee, this type of conveyor can be called a jump conveyor and allows for lateral movement such that sliced food product can be arranged in an "aesthetically pleasing slice display patterns." *Id.*, 2. The jump conveyor includes a conveying surface made from a "wide belt, but could also be a plurality of spaced apart ribbons or ropes..." (i.e., a single lane) *Id.*, 6. Lindee incorporates Johnson by reference, which discloses "a dual independent feed slicer that can slice two side-by-side loaves simultaneously." *Id.*, 12.

Johnson discloses "independent loaf feed drives," which are used to control the thickness of two different loaves, such that one slice can be thicker than the other. Johnson, at (57). As shown in Johnson's annotated Fig. 3, a loaf feed drive comprises of upper short conveyors (red) and lower conveyors (blue). A pair of upper and lower conveyors is driven by a servo motor, which also drives a corresponding gripper (green). *See id.*, 7:13-16. Together, the upper and lower conveyors and the associated gripper are used to "adjust slice thickness for one loaf independently of the other." *Id.*, 12:63-67.

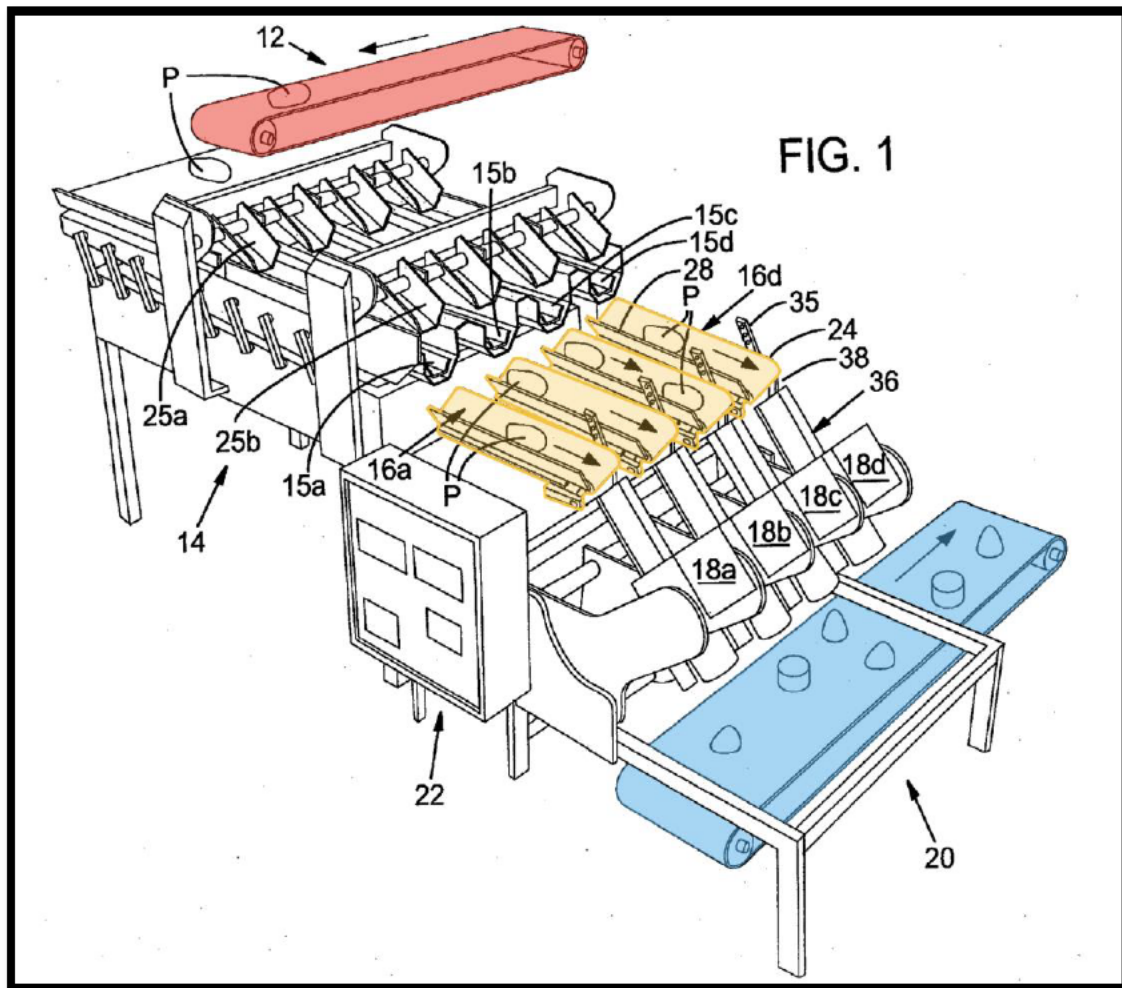


Johnson, Fig. 3 (annotated).

D. Julian (Ex. 1013)

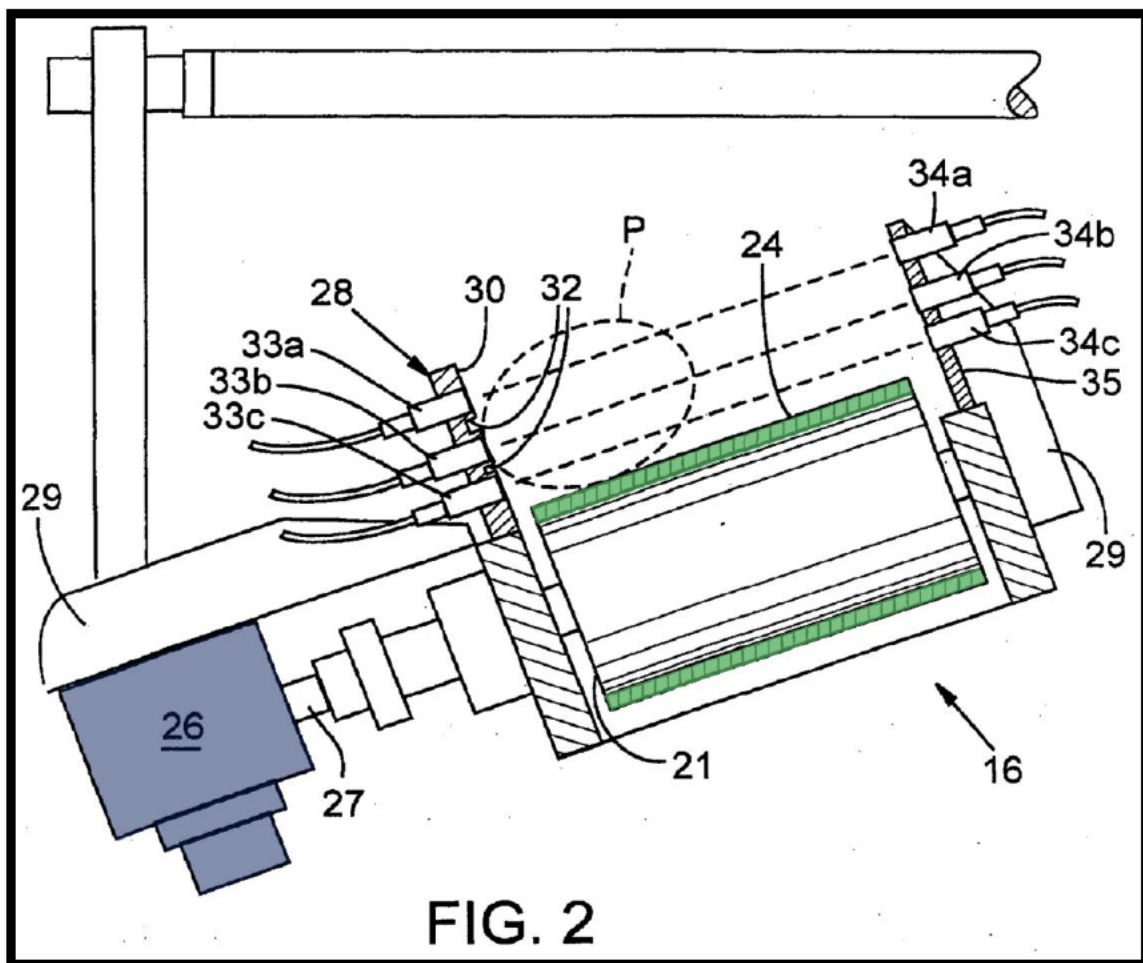
Julian discloses a "system for cutting food products, such as potatoes, into proportional length pieces." *Julian*, (57). The system uses a conventional feed conveyor connected to a shaker conveyor, subsequently connected to slant conveyors. The slant conveyors then feed the potato cutting assembly. Once the potatoes have been cut, they are received by an outfeed conveyor. *Id.*, [0021]. The

purpose of the slant conveyor 16 is to "deliver the potatoes one at a time to the downstream cutting assembly 18." *Id.*, [0022]. Furthermore, each slant conveyor 16 is driven by hydraulic motor 26, allowing independent operation between each slant conveyor. *Id.*, [0022]. The whole system can be seen in Julian's annotated Fig. 1. The conventional feed conveyor (red) is shown moving potatoes ("P") into the system. Four individual slant conveyors (orange) are seen in the middle of the system. The outfeed conveyor (blue) is shown collecting cut potato pieces.



Julian, Fig. 1 (annotated).

The slant conveyor 16 is disclosed to have a flat endless conveyor belt 24 (green) that is connected to rollers, a drive shaft, and a hydraulic motor 26 (blue-gray). *See id.*, [0022]. The hydraulic motor is on the left side of the conveyor belt when viewed with respect to annotated Fig. 2. Julian additionally discloses that "[e]xcept as otherwise noted, the construction and operation of the components in each cutting lane are identical." *Id.*, [0020]. There is no written disclosure about the structure of the conventional feed and outfeed conveyors, except what is shown in Fig. 1, which shows the conveyors contain a single lane each.



Julian, Fig. 2 (annotated).

**IV. PETITIONER'S PROPOSED GROUNDS DO NOT
ANTICIPATE OR RENDER OBVIOUS THE TOOLLESS
REMOVAL/INSTALLATION**

Original claim 16—the limitations of which are non-contingently incorporated into original claim 1 to form substitute claim 25—recites “wherein the conveyor belt unit (13) is configured to be removed and/or installed without tools.” As detailed in Section II above, this functionality allows the conveyor to transition, without tools, from a secured and fully operational state to an unsecured state where the conveyor can be removed from the substructure.

Konishi and McLaughlin both teach horizontal conveyor belt units that rest on two mount points. In both references, the mount point furthest from the driven pulley is U-shaped and open in the vertical direction. Neither Konishi nor McLaughlin describe how their conveyors are secured for operation. Each proposed Ground relies on a theory that a POSITA would have understood (or found obvious) that Konishi's and McLaughlin's conveyor belt units would be left unsecured during operation and held in place by gravity alone. Yet neither Petitioner nor its expert identifies a single supporting example of this concept. Petitioner's reliance on unsupported expert testimony is, by itself, fatal. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 (August 24, 2022) (precedential) (finding an expert's opinion “without supporting evidence” is “particularly problematic . . . where, like

here, expert testimony is offered not simply to provide a motivation to combine prior-art teachings, but rather to supply a limitation missing from the prior art”).

Beyond this evidentiary failure, the record is replete with evidence contradicting Petitioner's theories. First, both Konishi and McLaughlin expressly *teach away* from conveyors that are so heavy they remain secured during operation through weight alone. Indeed, these references teach that their conveyor belt units should be *lightweight* (1) to allow their easy removal and re-installation and (2) to ensure their conveyed food products can be accurately weighed. Second, McLaughlin is a patent owned by Petitioner, which Petitioner has conceded in parallel litigation is embodied in a commercial embodiment. Petitioner and its expert deployed a head-in-sand approach to the IPR, ignoring that Petitioner's own commercial embodiment does in fact secure the conveyor belt unit in place using a tool-based mechanism. Third, ample evidence demonstrates that Patent Owner's products experienced great success in the marketplace as a result of having newly introduced a removable conveyor belt unit with toolless removal/installation. This and other secondary indicia further support finding the claims non-obvious.

A. Petitioner's Claim 16 Theories Rely on (1) Konishi's and McLaughlin's Silence re Tools and (2) Dr. Collins' Unsupported Opinion

Petitioner only briefly addresses claim 16 in Grounds 1-4, and its claim 16 discussions in Grounds 2 and 4 merely refer back to Ground 1 and 3, respectively.

Petition, 28-29, 42, 69-70, 78. Two theories are discernable from this slim record. First, Petitioner suggests that Claim 16 is satisfied because neither Konishi nor McLaughlin describes using tools for removal/installation. *Petition*, 28 (citing Ex. 1003, ¶¶114-15 in support of a theory that Konishi teaches toolless installation/removal), 70 (“At no point in its specification does McLaughlin discuss tools.”); Ex. 1003, ¶115 (describing Konishi’s installation/removal processes and noting that “nowhere does the removal process describe or require the use of tools” and that “Konishi does not discuss using tools for any of these steps”). Where, as here, the claims recite a negative limitation (i.e., installation/removal ***without using tools***), it is legally insufficient to rely on the mere failure of the prior art references to discuss tools. To be sure, “a reference need not state a feature's absence in order to disclose a negative limitation.” *AC Techs., S.A. v. Amazon.com, Inc.*, 912 F.3d 1358, 1367 (Fed. Cir. 2019). But prior art disclosures for negative limitations must be read from the perspective of a POSITA to determine whether they do in fact teach the negative limitation. *Novartis Pharms. Corp. v. Accord Healthcare, Inc.*, 21 F.4th 1362, 1373 (Fed. Cir. 2022). Here, for a number of reasons set forth in detail below, a POSITA would not have interpreted Konishi or McLaughlin to disclose toolless removal or installation. Instead, a POSITA would have concluded that both reference’s conveyor belt units must be secured by physical mechanisms to ensure they do not pop out of place during operation. This conclusion is supported by Patent

Owner's expert's analysis of the forces acting on the conveyor belts during operation. See Section IV.A, *infra*. It is also supported by the fact that Petitioner's own commercial embodiment of McLaughlin secures the conveyor belt unit via a wrench. See Section IV.C.1, *infra*. From this, Petitioner cannot be correct that McLaughlin's silence teaches toolless removal/installation. That the assignee's own commercial embodiment uses tools to remove/install the conveyor belt unit conclusively establishes that McLaughlin's disclosure, at the very least, leaves open the *possibility* of tool-based installation/removal.

Second, Petitioner advances a theory that a POSITA would have understood (or found obvious) that Konishi's and McLaughlin's conveyor belt units would be left unsecured during operation and held in place by gravity alone. *Petition*, 69 (citing Ex. 1003, ¶¶229-30 re McLaughlin); Ex. 1003, ¶230 ("McLaughlin's Figure 2 . . . and the knowledge of a POSA would render obvious an installation that couples McLaughlin's conveyor unit to its subframe and secure it in place, with only needing to overcome gravity to remove it."); Ex. 2014 (Collins Depo. Trans.), 29:3-8 (Q. Is it your opinion that, consistent with Claim 16, McLaughlin's conveyor belt can go from a fully removed state to a state in which the unit is secured and ready to convey a food product without any tools at all? A. That's correct."), 30:7-31:10 (confirming that his obviousness opinion proposes only gravity and friction would be required to secure McLaughlin's conveyor belt unit for operation); 44:3-14 (re Konishi,

explaining that his theory proposes only weight and friction holds the conveyor belt in friction and confirming that “no other mechanical components [are] added . . . to ensure[] the conveyor belt unit does not pop out of its slots”). As set forth in the subsequent sections, Petitioner's gravity-alone theory does not withstand scrutiny.

1. A POSITA Would Understand That Horizontal Conveyor Belts Must be Secured Against the Risk of Popping Out of Place During Operation

Petitioner's expert, Dr. Collins, confirmed that horizontal conveyor units must be secured to avoid popping out of place during operation:

Q. What is the risk of not securing McLaughlin's conveyor belt unit?

. . . What are we securing it against?

A. Yeah. So my experience would be that ***these machines, they're operating in a mechanically robust environment and there can be vibrations.*** So I might be worried about vibrations. And if there were vibrations that ended up causing the conveyor to vibrate up, then, as a -- and the predecessor conveyor would hit a lip of the conveyor and potentially cause the food product not to get on top of the conveyor.

Q. [] And as we talked about earlier, the only available motion for that conveyor belt unit in McLaughlin is up out of rear notch . . . ***So the concern would be that the conveyor belt, through vibrations or other forces, might pop out of rear notch. Do I have that right?***

A. ***I think that's fair.***

Ex. 2014 (Collins Depo. Trans.), 32:2-24, 44:3-14 (discussing his opinion that Konishi would be “secured to ensure it does not pop out of place during operation” via a “combination of the weight that holds it in place and friction”).

Patent Owner's expert, Dr. Charles Reinholtz, confirms that a POSITA would recognize that the conveyor belt systems of Konishi and McLaughlin must be secured against popping out of their vertically open contact points during operation. *Dec.*, ¶58.² Dr. Reinholtz explains that insufficiently secured conveyor belts pose serious safety and operational risk in this context, slowing the production of the conveyor line as the line must be stopped so that the conveyor unit at issue can be reinserted into place on the frame. *Id.* A conveyor popping out during operation can also result in damaged or unusable food product. *Id.*

This problem is exacerbated if the conveyor comes fully out of the frame. In the case the belt would lose tension and fail to spin the conveyor and food product could fall from preceding conveyors. *Dec.*, ¶59. This poses not only a risk to the food product, but a safety risk to nearby workers. *Id.* This would slow down production as well, since the conveyor line would need to be stopped completely so that a user could put the conveyor back in place. *Id.*

Finally, a belt jam would pose a serious safety concern for users. A belt jam can occur due to product becoming lodged between the weighing conveyor and a preceding conveyor device, causing the belt to become stuck or even backdriven due to the motion of the adjacent conveyor. During a belt jam, belt tension jumps to a

² All cites to "Dec." refer to the expert declaration of Dr. Charles Reinholtz, Ex. 2006.

high value. *Dec.*, ¶60. This sudden force can cause an unsecured conveyor to rise out of the frame in an uncontrolled and unexpected manner. *Id.* This event can cause the conveyor to be thrown, posing great risk to users who are nearby. *Id.*

For these reasons, a POSITA would have been motivated to ensure the conveyors of Konishi and McLaughlin would be unable to move vertically with respect to their frames. *Dec.*, ¶¶57-61.

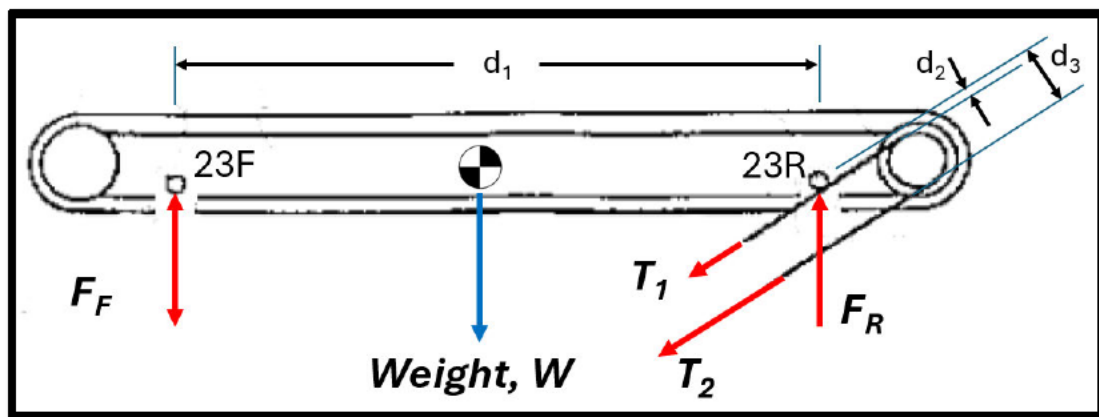
2. Both Konishi and McLaughlin Risk Popping Out of Place During Operation if Unsecured by Physical Mechanisms—Weight Alone is Insufficient

Petitioner's case largely turns on whether a POSITA would have been motivated to leave Konishi and McLaughlin's conveyor belt units un-latched and secured by their weight alone. Tellingly, neither Petitioner nor its expert performed any quantitative or qualitative analysis of the conveyor belts units and the forces acting on those units. Indeed, Petitioner's expert, Dr. Collins, admitted that he did not attempt "to quantify how heavy the McLaughlin conveyor belt unit should be to adequately secure the conveyor belt unit during operation." Ex. 2014 (Collins Depo. Trans.), 33:24-34:4. As set forth below, based on the designs of these conveyor belt units and the respective forces acting on them, a POSITA would not have been motivated to leave them un-latched, secured by their weight alone.

a) Konishi

Konishi's conveyor includes subframe 12, which is connected to frame 9. Frame 9 has fork shaped hooks 25R and 25F that correspond to support pins 23R and 23F in subframe 12 that "support the entire weight of the subframe." *Konishi*, [0021]. A POSITA would recognize that, without additional physical fastening, the forces experienced by Konishi's conveyor belt unit risk support pin 23F moving vertically out of hook 25F, causing the operational and safety problems discussed above in Section IV.A.1. *Dec.*, ¶63.

The image below is a free-body diagram of subframe 12 generated by Patent Owner's expert, Dr. Reinholtz. The assumed center of gravity and associated weight vector (W), vertical reaction forces F_F and F_R at pins 23F and 23R, and tension forces T_1 and T_2 in the preloaded belt are illustrated below:³



³ The belt tension will act to cause pin 23F to slide to the left and out of hook 25R, so a horizontal component of reaction force must also exit at pin 23F. However, for simplicity, this force is not illustrated. *Dec.*, XX.

Dec., ¶64.

As Dr. Reinholtz explains, the required vertical force F_F that hook 25F must exert on support pin 23F is calculated by summing the moments about pin 23R:

$$F_F d_1 - W \left(\frac{d_1}{2} \right) + T_1 d_2 + T_2 d_3 = 0$$
$$F_F = \left(W \left(\frac{d_1}{2} \right) - T_1 d_2 - T_2 d_3 \right) / d_1$$

Dec., ¶65. Since weight and belt tension are positive values, F_F can be either positive or negative. A negative F_F means the conveyor will tend to pop out of its 25F contact point. *Dec.*, ¶¶66-67. From this, Dr. Reinholtz makes a number of important observations.

First, when belt tension is high, a moment can be created that causes the pin 23F to rise out of the hook 25F. Other factors make it much more likely that pin 23F will lift out of hook 25F. One factor is the inevitable dynamic loads and resulting vibration that will occur in an operating conveyor. The resulting reaction forces will act in both the positive and negative vertical direction, increasing the likelihood pin 23F would move vertically from hook 25F. *Dec.*, ¶67.

Second, the heavier the conveyor belt unit, the larger its associated weight vector, W . As shown in the above formula, F_F is correlated to W such that a heavier conveyor belt unit tends to make it more likely that F_F will be negative. That is, the heavier the conveyor belt unit, the less likely it will pop out of the hook 25F during

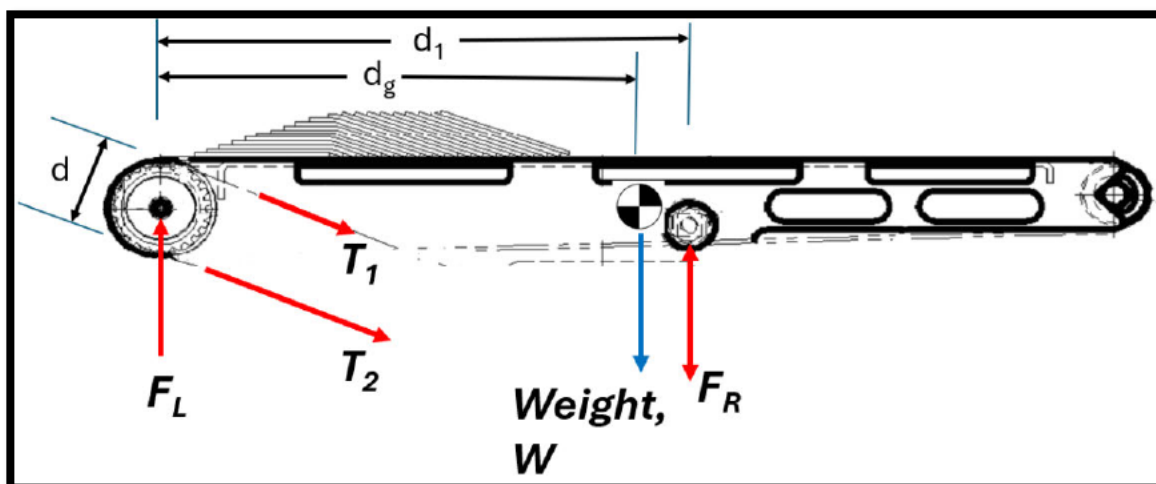
operation. Conversely, minimizing the weight of the conveyor belt unit increases the probability that it will pop out of the hook 25F. As set forth below in Section IV.B, both Konishi and McLaughlin expressly teach that their conveyor belt units should be lightweight, which would tend to increase the probability they would pop out during operation, absent some physical latching mechanism. *Dec.*, ¶68.

b) McLaughlin

McLaughlin describes a support frame 225 containing a conveying surface 210 and supported by the side walls 230 of the check scale 200. *McLaughlin*, 3:40-46. McLaughlin does not describe the interaction of the support frame 225 and conveying surface 210 in any detail outside Figs. 2 and 4. These figures show pins of the support frame 225 sitting in cutouts of the sidewalls 230.

As with Konishi above, the image below is a free-body diagram of McLaughlin's support frame 225 prepared by Dr. Reinholtz.⁴ A weight vector, W , is shown at an assumed center of gravity, vertical reaction forces F_L and F_R are shown at the pins along with tension forces T_1 and T_2 from the preloaded belt.

⁴ The belt tension will act to cause the support frame 225 to move to the right with respect to side walls 230. Therefore, a horizontal component of reaction force must also exist at the mount at F_R . For simplicity, this component is not shown. *Dec.*, ¶70.



Dec., ¶70.

As Dr. Reinholtz explains, the calculations below are a static force analysis performed by summing moments (torques) about the left mounting location. The required vertical force F_R that the side walls must exert on support frame 225 can be calculated by summing the moments about the left support (the location of F_L):

$$F_R d_1 - W d_g + (T_2 - T_1) \left(\frac{d}{2} \right) = 0$$

$$F_R = (W d_g + (T_1 - T_2) \left(\frac{d}{2} \right)) / d_1$$

Dec., ¶71. These equations show that, even in the absence of other factors discussed below, the force F_R between the side walls 230 and support frame 225 may be positive or negative, depending on the weight, belt tension, and the particular dimensions of the system. Dec., ¶72. In other words, when belt tension T_2 is high, a moment is created that will lift the right support on support frame 225 up and away from the side walls 230. *Id.*

As with Konishi above, the heavier McLaughlin's conveyor belt unit, the larger its associated weight vector, W . As shown in the above formula, F_R is correlated to W such that a heavier conveyor belt unit tends to make it less likely it will pop out of the hook 25R during operation. As set forth below in Section IV.B, both Konishi and McLaughlin expressly teach that their conveyor belt units should be lightweight, which would tend to increase the probability they would pop out during operation, absent some physical latching mechanism. *Dec.*, ¶73.

B. Konishi and McLaughlin Teach Away From Conveyors Heavy Enough to Secure Themselves Via Weight Alone

“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Here, Konishi and McLaughlin express tout the benefit of minimizing conveyor belt unit weight, teaching away from Petitioner's theory that a POSITA would have been motivated to design conveyor so heavy that gravity alone sufficiently secures them. *Dec.*, ¶¶74-77.

Konishi explains that the subframe 12 should be “simple and lightweight, thus making installation and removal from the frame easy.” *Konishi*, [0013]. On cross

examination, Petitioner's expert agreed that Konishi teaches that its conveyor belt unit should be lightweight weight to facilitate easy removal and installation:

Q. If we scroll down to paragraph 46 [in Ex. 1003], just below those annotated figures, you state: "**Konishi teaches that its subframe is, quote, made simple and lightweight, making it easy to attach and detach from the frame...**and maintenance of each mechanical part can be easily performed." Do you see that?

A. I do.

Q. **Do you agree that Konishi's conveyor belt unit should be sufficiently lightweight in order to facilitate easy removal and reinstallation?**

A. **You certainly want to make it lightweight enough to be able to move it.**

Ex. 2014 (Collins Depo. Trans.), 43:1-13. This recognizes a straightforward design consideration: Increasing the weight of a conveyor will increase the difficulty of maneuvering the conveyor and could increase the risk of injury to the user while handling the conveyor. *Dec.*, ¶75. A POSITA would have understood Konishi's teachings to expressly teach away from conveyor belt units so heavy they can hold themselves in place by gravity alone. *Id.* Dr. Collins also confirmed this same design consideration would apply to McLaughlin's conveyor belt unit:

Q [At Ex. 1003, ¶60, y]ou state: "Not unlike Konishi, the McLaughlin removable conveyor belt unit is basically lifted up by hand and pops out of the system for easy removal."

...

Q. Does the weight of McLaughlin's conveyor belt unit impact how easily it can be removed from McLaughlin's overall structure?

A. Well, certainly the weight of anything would impact how easy it is to move.

Q. *And is it fair to say that the lighter that conveyor belt unit is, the easier it would be to remove it from the structure?*

A. All else being equal, *I would say so.*

Ex. 2014 (Collins Depo. Trans.), 23:7-15; Dec., ¶75.

McLaughlin also teaches away from heavy conveyor belts, but for an unrelated and independent reason. Namely, McLaughlin teaches that minimizing conveyor belt unit weight increases the accuracy of its scale. McLaughlin states that “[t]he conveying surface 210 is made from a flexible, thin, and ***preferably lightweight material such that the weight of the sliced product can be accurately transferred to the scale and reflected in the weight measured.***” *McLaughlin*, 4:59-63. Asked about this McLaughlin teaching, Petitioner's expert, Dr. Collins, explained that (1) the whole conveyor belt unit should be lightweight and (2) the lighter the conveyor structure, the more accurate the measurements:

Q. Why does the weight of the conveying surface impact the system's ability to accurately measure food drafts?

...

A. Well, the answer is that the ***load cells typically have accuracies***, and those accuracies oftentimes are ***expressed as a percent of the full load capability***. So if you had, say, a full load of a thousand pounds and you

had an accuracy of 1 percent and you're trying to measure something that's, say, a pound, that would be lost in the noise. ***So what you try to do is to minimize the total weight so that the accuracy of the -- is as high as possible.***

Q. . . . ***So the weight you want to minimize*** is the -- ***to improve accuracy, is the weight of all the mechanics***, all the structure ***above the load cell***; correct?

. . .

A. · ***Yeah***, what I typically refer to as dead weight. You want to remove as much dead weight as you can.

Ex. 2014 (Collins Depo. Trans.), 20:7-21:12. This recognizes a basic operating principle of scales such as those used by Konishi and McLaughlin—the resolution and total capacity of a scale is negatively affected as the weight of the conveyor belt and its supporting structure increases. Put simply, the heavier the conveyor equipment, the harder it is to accurately weigh the product on the belt. *Dec.*, ¶76; Ex. 2014 (Collins Depo. Trans.), 41:6-42:25 (explaining that, for accurate measurements, you would want to make the Konishi conveyor belt unit “as light as is reasonable”). Dr. Collins extends this reasoning to the weigh conveyor of Konishi as well. *Id.*, 41:6-42:25.

In sum, a POSITA would have recognized—as both parties' experts have—that Konishi and McLaughlin include distinct express teachings that conveyor belt unit weight should be minimized. From this, a POSITA would not be motivated, as

Dr. Collins suggests, to create a conveyor belt unit (in either system) so heavy that gravity alone sufficiently secures it. *Dec.*, ¶77.

C. Petitioner Presents No Evidence That It Was Known in the Art to Leave Horizontal Conveyor Belt Units Secured By Their Weight Alone, and the Sole Commercial Embodiment of Record Rebuts Petitioner's Theories

Despite the critical nature of Petitioner's theory that a POSITA would have been motivated to implement Konishi's and McLaughlin's conveyor belt units secured by their weight alone, Petitioner presents no evidence that this had actually been done in the art. Instead, Petitioner relies on the unsupported testimony of its expert, who repeatedly points to an inapposite vertically mounted toaster conveyor and who took a head-in-sand tack with respect to Petitioner's own commercial embodiments, refusing to consider how Petitioner implemented the McLaughlin conveyor belt unit. Tellingly, as Petitioner well knows, its own commercial embodiments contradict the theories it advances here.

"Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight." 37 C.F.R. § 42.65(a); *see also Nobel Biocare Services AG v. Intradent USA, Inc.*, 903 F.3d 1365, 1382 (Fed. Cir. 2018) (explaining that the Board can reject arguments based on expert testimony that lacks specificity or detail). An expert's opinion advanced "without supporting evidence" is "particularly problematic . . . where, like here, expert testimony is offered not simply to provide a motivation to combine prior-art teachings, but rather

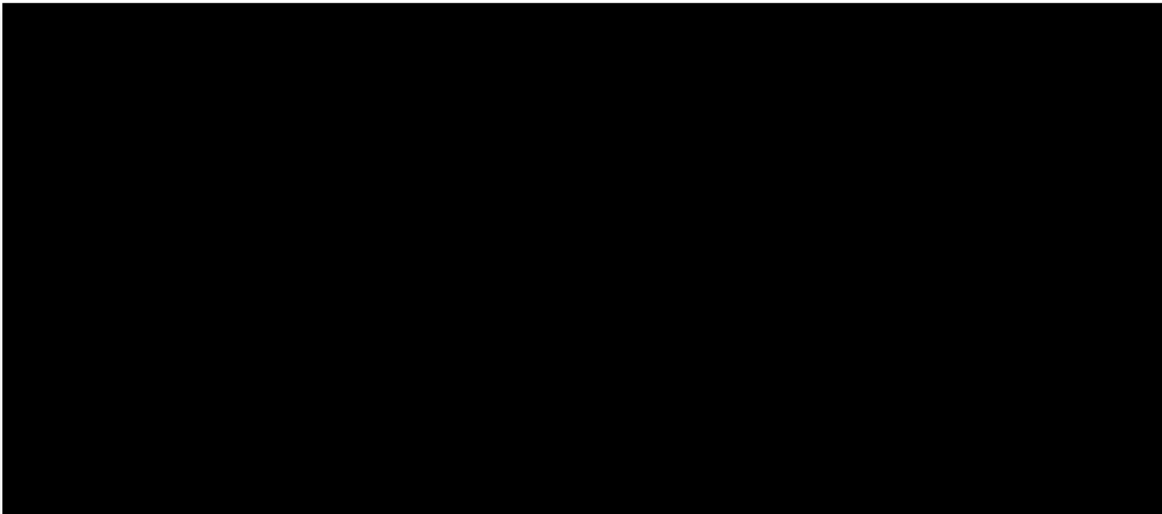
to supply a limitation missing from the prior art.” *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 (August 24, 2022) (precedential). Here, Petitioner cannot carry its burden to show the prior art anticipates or renders obvious toolless removal/installation. It advances only conclusory expert testimony regarding Konishi and McLaughlin—without identifying even a remotely close example that similar systems were deployed as proposed—and that expert testimony is contradicted by the Petitioner’s own commercial embodiment of McLaughlin.

1. Dr. Collins Refused to Consider That Petitioner’s Commercial Embodiment of McLaughlin Secures the Conveyor Belt Unit With a Tool

As Dr. Collins correctly notes in Ex. 1003, “McLaughlin is owned by Petitioner Provisur Technologies, Inc., and Provisur marks some of its products on its website with MacLaughlin.” In support, he cites Ex. 1019, which indicates that the McLaughlin patent is embodied in a number of Provisur commercial products, including the PowerMax 3000 and 4000. Ex. 1019, 9. Manuals for both those products were made of record by Petitioner as Exs. 1030 and 1031, respectively. Despite knowing that McLaughlin was marked on Petitioner’s commercial products and despite having had access to the operating manuals for at least two of those systems, Dr. Collins did not consider whether those systems leave their conveyor belt units secured by their own weight alone. Ex. 2014 (Collins Depo. Trans.), 37:24-39:14. In fact, they do not. Each system instructs the user to secure the conveyor belt

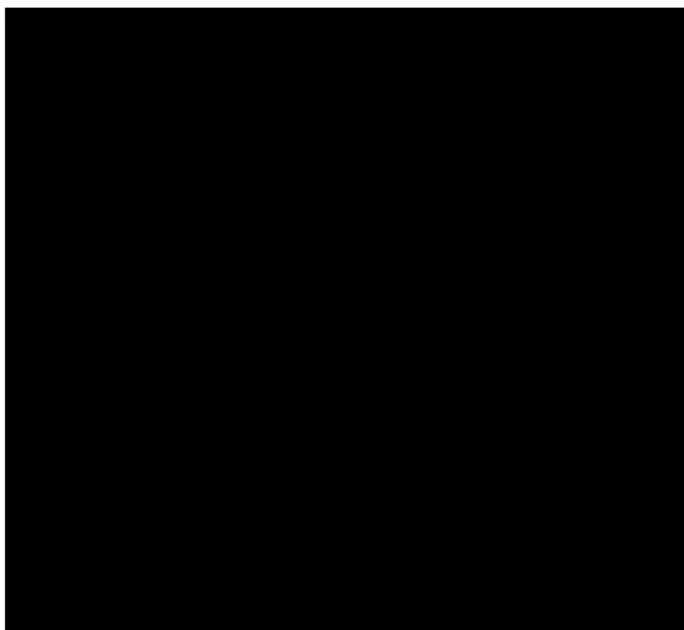
units with a wrench—a teaching that disputes Dr. Collins' opinion and that cannot possibly satisfy the toolless claims at issue here.

First, both manuals depict [REDACTED] with mounting points that match those depicted in McLaughlin. For the PowerMax3000 below, the driven pulley mounts in an angled slot (blue) and mid-body [REDACTED] is placed in a vertically oriented U-shaped [REDACTED] [REDACTED] [REDACTED] (red)—just like in McLaughlin.



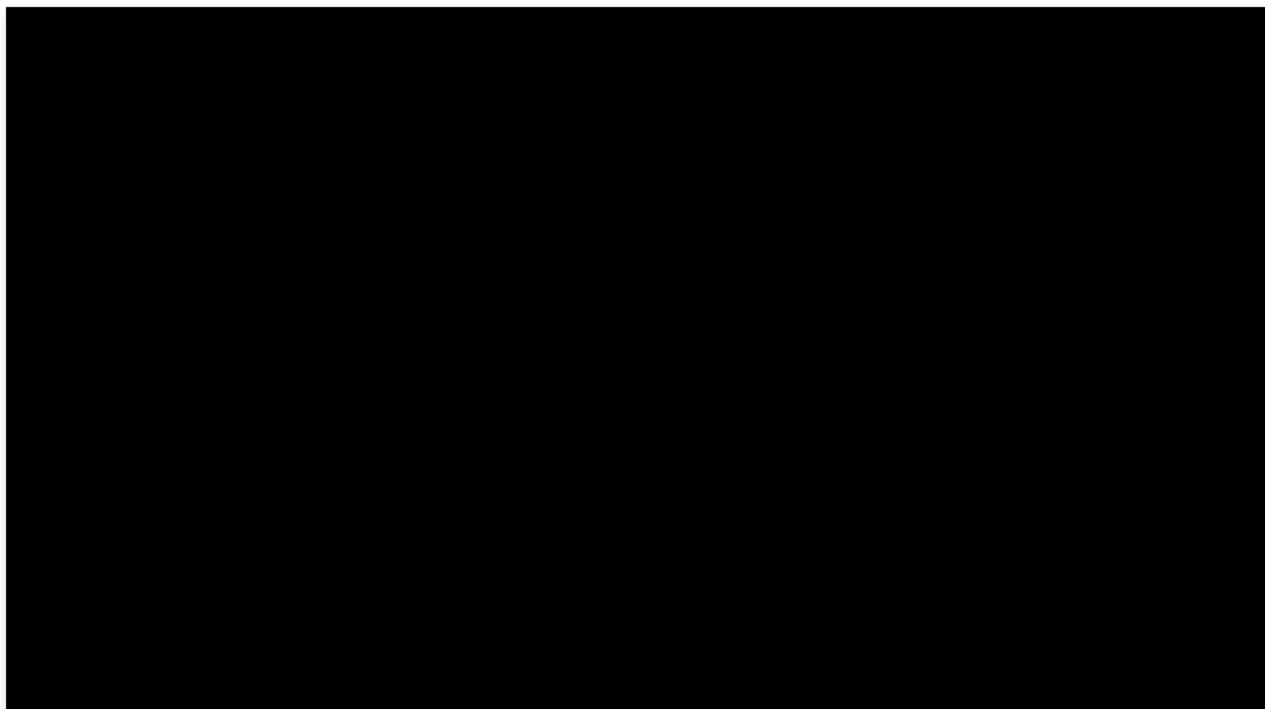
Ex. 1030, 142 (annotated).

The PowerMax4000 discloses these same structures:

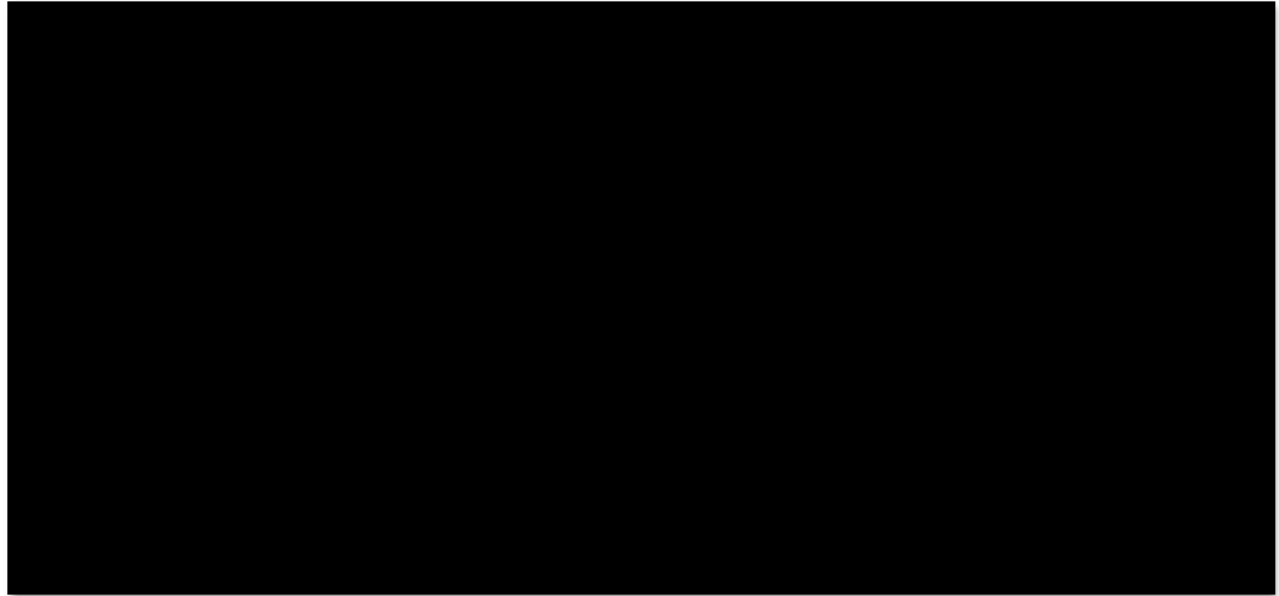


Ex. 1031, 54 (annotated).

Second, both manuals make clear that the [REDACTED] are secured in place and removed with a wrench:



Ex. 1030, 142.



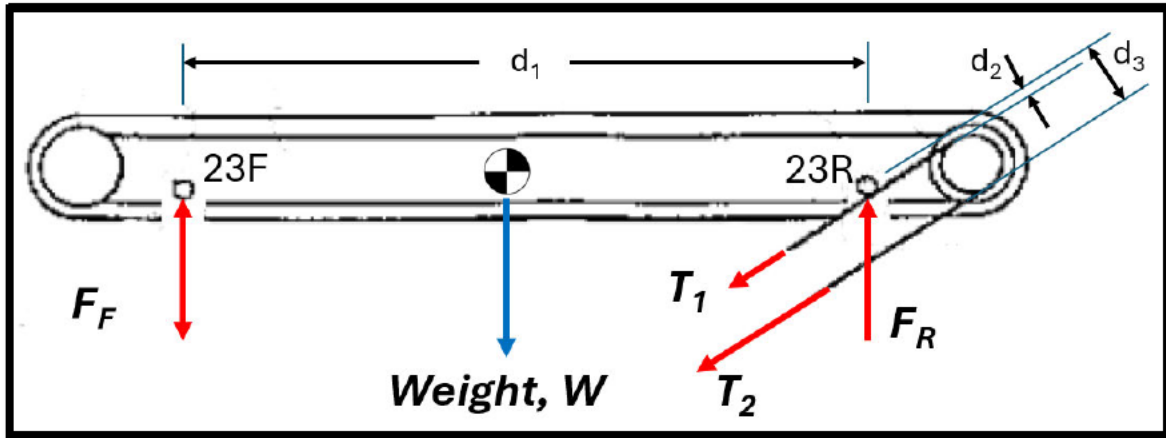
Ex. 1031, 54.

Accordingly, the only examples of McLaughlin's conveyor belt unit actually installed for use in the field directly contradicts Dr. Collins' theory that a POSITA would have left this unit secured by its weight alone. *Dec.*, ¶¶78-82.

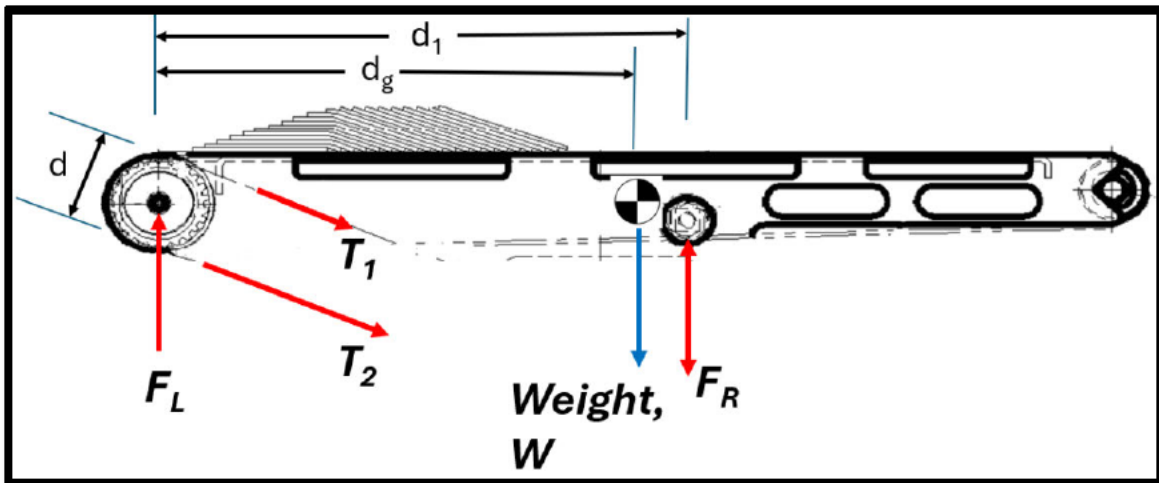
2. A POSITA Would Have Recognized That Konishi is More Likely to Need Physically Securing Than McLaughlin

Importantly, this evidence that McLaughlin's conveyor belt unit would be secured in place using tools before operation supports a finding that Konishi's would too. Namely, a POSITA would have recognized that the structure of Konishi's and McLaughlin's conveyor belt units make Konishi's more susceptible to popping out of place during operation. *Dec.*, ¶83. For the above reasons, Konishi and McLaughlin teach away from increasing the weight of the conveyor to secure the conveyor in place. Indeed, as set forth above in Section IV.A.2, Konishi's pivot point

is inward of its driven pulley, while McLaughlin's pivot point is coextensive with its driven pulley:



Dec., ¶83 (depicting the forces placed on Konishi's conveyor belt unit).



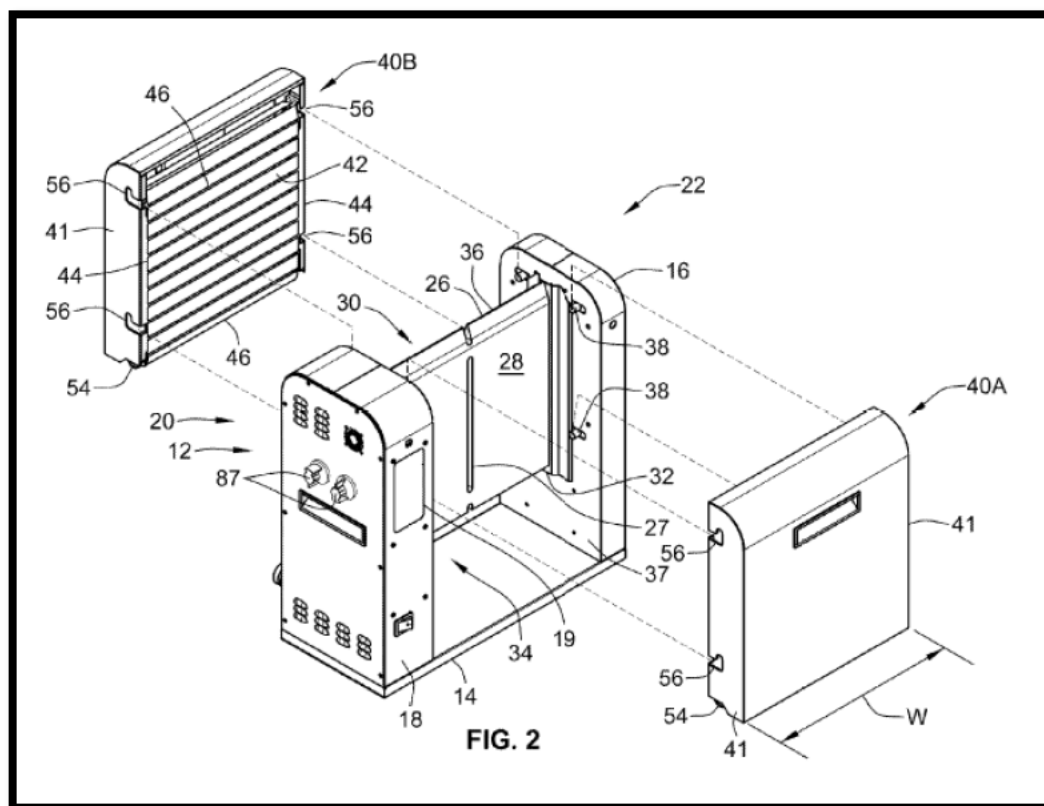
Dec., ¶83 (depicting the forces placed on McLaughlin's conveyor belt unit).

A POSITA would have recognized that both T_1 and T_2 work together against the weight of Konishi's conveyor belt unit while T_2 in McLaughlin's conveyor belt unit must work against both the weight and T_1 to cause the conveyor belt unit to pop out of place during operation. Dec., ¶84. All else being equal, this means that Konishi's conveyor belt unit is *more likely* to require physical securing than

McLaughlin's. *Id.* Because Petitioner's commercial embodiments demonstrate that McLaughlin's conveyor belt units are secured using tools and locking nuts, a POSITA would have been motivated to also secure Konishi's conveyor belt unit using similar physical mechanisms. *Id.*

3. Lee—Referenced Repeatedly by Dr. Collins—Is Inapposite

Finally, Dr. Collins repeatedly references Lee as evidence that it was known in the art to install conveyor belt units without tools and without physical securing mechanisms. *See, e.g.*, Ex. 1003, ¶¶ 36, 39, 64, 172, 23. A POSITA would not have considered Lee's structure relevant to whether a Konishi's or McLaughlin's horizontal conveyor belt units would be secured by their weight alone. *Dec.*, ¶¶ 85-91. Indeed, as Dr. Reinholtz explains, Lee teaches a vertically oriented set of toaster conveyors as depicted below:

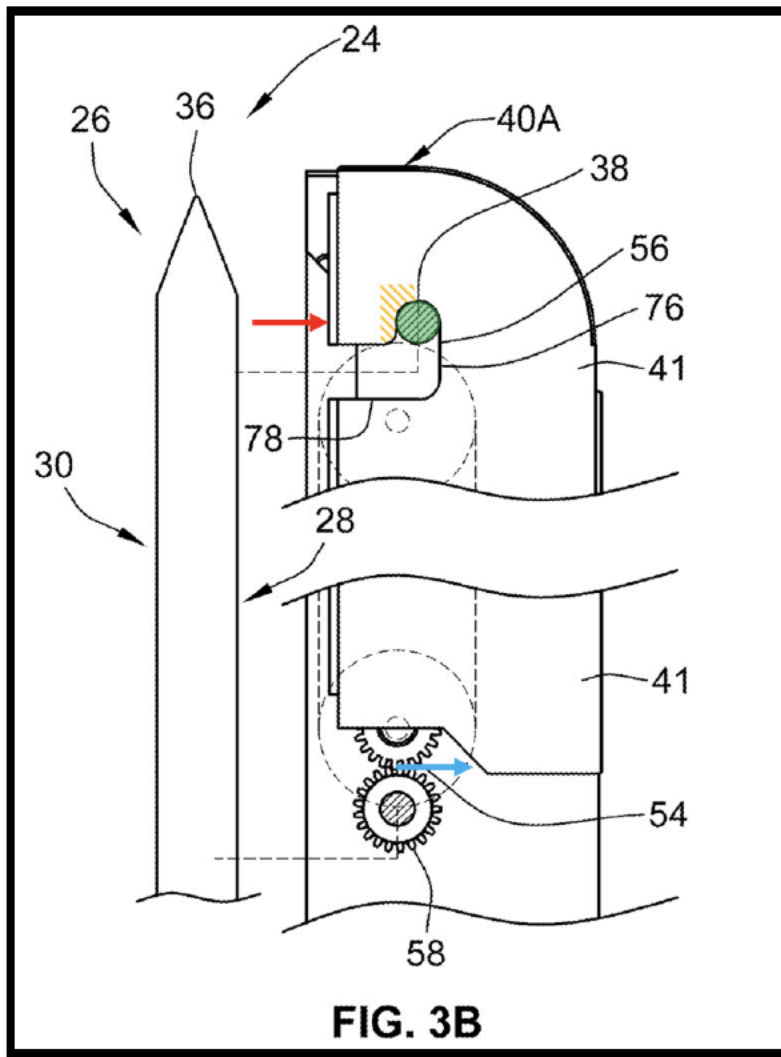


Ex. 1012, Fig. 2; *Dec.*, ¶¶86-89 (discussing the same).

While Lee does teach that its vertically mounted conveyors may be retained by slot 56 on supporting pin 38, as depicted below, the forces acting on these conveyors during operation are fundamentally different from those applicable to Konishi and McLaughlin. *Dec.*, ¶¶88-89. Indeed, the primary forces acting on Lee's conveyor are in the horizontal and vertical directions. *Id.* It does not experience any angled forces—such as Konishi's and McLaughlin's belt tension forces—that would tend to pop its conveyor out of place during operation. *Id.*

For example, one of the primary forces acting on Lee's slot (i.e., conveyor) is the interface between conveyor drive gear 58 and drive gear 54, which creates a force

along the x-direction (shown in blue). *Id.* Additionally, when food passes between the conveyor and the heated platen 26 an additional small x-direction force is created (shown in red). *Id.* These horizontal forces along are opposed by the closed geometry of slot 56 (orange hashing) interfacing with the mounting pin 38 (green). *Id.* Unlike Konishi and McLaughlin, Lee has two slots and mounting pins resisting movement in the x-direction, physically preventing any x-directional movement as a result of the aforementioned forces. *Id.*



Ex. 1012, Fig. 3B (annotated); *Dec.*, ¶¶88-89 (explaining the forces acting on these conveyor units).

Further, unlike Konishi and McLaughlin whose conveyor belt units must resist vertical force resulting from angled belt tension, the only significant upward vertical force that Lee's unit experiences is "[t]he upward force attributable to moving a food product downwardly across the platen[, which] should be kept below the weight of the conveyor assembly 40A and 40B in order to avoid having the conveyor assembly 40A and 40B lift itself off the mounting pins 38." *Lee*, [0041]. A POSITA would understand that this food-generated force would be relatively small and easily countered by even a reasonable weight of Lee's conveyor units. *Dec.*, ¶90.

Even though Lee's vertically oriented structure makes it much less susceptible to being forced out of position during operation than Konishi's and McLaughlin's, Lee still recommends physical securing mechanisms to prevent its conveyors from popping out of place during use. Ex. 1012, [0047] (noting "hold down springs and/or common barrel-bolt latches" can be used "to prevent the conveyor assemblies from being accidentally listed out of position"). A POSITA would have recognized that, given their design and the forces at play, Konishi's and McLaughlin's conveyor belt units require physical securing far more than Lee's. *Dec.*, ¶91. Accordingly, that Lee

recommends physical securing mechanisms would have led a POSITA to conclude that Konishi's and McLaughlin's *require* them. *Id.*

D. Secondary Indicia of Non-Obviousness

There is ample evidence that the toolless removal/installation concept has an established nexus with multiple secondary indicia of non-obviousness. “[S]econdary considerations [such] as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.” *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). “It is the secondary considerations that are often most probative and determinative of the ultimate conclusion of obviousness or nonobviousness.” *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573 (Fed. Cir. 1996). When evidence of secondary considerations is presented, that evidence must be considered before reaching a conclusion of obviousness. *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc). Accordingly, in addition to the substantive arguments in the preceding sections, secondary considerations also strongly weigh against finding the Challenged Claims obvious.

As set forth below, there is evidence that the claimed toolless removal/installation has a nexus to (1) Patent Owner's commercial success, (2) solving a long-felt but unmet need, and (3) to copying.

1. Commercial Success

Weber's TS series slicers (e.g., TS500, TS700, and TS750) and Weber's weSLICE9500 slicer are the commercial embodiments of the '487 Patent. An analysis was performed by Dr. John Meyer in the parallel litigation, establishing that each product practices claim 16 (substitute Claim 25) of the '487 Patent. Ex. 2007⁵ includes an excerpt of his Opening Infringement Report from the parallel litigation capturing this analysis. Petitioner has not disputed this analysis in the litigation and appears to concede that Weber's TS series slicers (e.g., TS500, TS700, and TS750) and Weber's weSLICE9500 slicer are in fact commercial embodiments of claim 16 (substitute Claim 25) of the '487 Patent.

These commercial embodiments have had significant commercial success. Evidence of this success is contained in the damages-focused expert report of Lauren

⁵ This excerpt comes from a report containing significant confidential business information. Patent Owner has endeavored to minimize the amount of material filed under seal, excerpting the non-confidential portions of this report most pertinent to the secondary considerations analysis. Each excerpted exhibit in this POR cites to the native page numbers.

R. Kindler, an excerpt of which is has been filed under seal in this proceeding as Ex. 2008. ¶43 and the corresponding Table 6 in this report summarize the significant revenue generated in the U.S. market through sales of the TS700 and weSLICE9500. Ex. 2008, 33-34.

Worldwide, Patent Owner has enjoyed significant sales of its commercial embodiments. Sealed Ex. 2009 (WEBER3A-00203735) summarizes the worldwide sales of TS series slicers embodying the invention and shows substantial revenue. Sealed Ex. 2010 (WEBER3A-00203737) similarly shows substantial worldwide revenue for the weSLICE9500.

These commercial embodiments contributed significantly to Patent Owner's financial success. As set forth in in the expert report of David Leathers, an excerpt of which has been filed under seal in this proceeding as Ex. 2011, Weber's US entity, Weber Inc., achieved its largest increase in year-over-year revenues following the first sales of the TS700 in the US in 2016. Ex. 2011 (Leathers Opening Report), ¶30. During this period, commercial embodiment TS700 represented nearly half of Weber Inc.'s equipment sales. *Id.*, ¶32-33.

The claimed toolless removable conveyor for slicing machines contributed critically to Weber's commercial success. For example, the '487 Patent inventor, Mr. Josef Mayer, testified that the TS700 "is a very successful product. It is the main product of Textor" and the part of what makes it such a successful product for Textor

are the features attributable to the '487 Patent. Ex. 2012 (Josef Mayer Tr. 1/26/2024), 325:3-22 (describing success from “very small footprint, to have a perfect accessibility from both sides; so that means also from the right-hand side, nonoperator side. And to have very new, a very high level of hyg[i]enic design”).

These products are so popular that Mr. Mayer testified that at the 2013 IFFA trade show, a customer “wanted to take [a TS700] directly with him” because of the “simplicity of the machine, as well as the ability to remove parts that get in contact with the product easily without the use of tools, and having therefore the chance to – to increase productivity of such a production line.” *Id.*, 326:21-327:20. Mr. Mayer further describes the benefits of the '487 Patent claimed invention contributing to the commercial success of the TS700 such as “toolless use of that conveyor system[;]” “the way how to remove the conveyor itself” “that gives the perfect option to the customer to clean it off the machine, or to have an exchange conveyor part available[;]” and an open, space-saving design such that “the conveyor itself does not block the machine for continuing production.” *Id.*, 177:6-178:4. Finally, removable conveyors in a slicer line “can give a huge benefit to the operators that – or the sanitation team that has to clean and sanitize the production line right after production. Because that system helps to do it in a short period of time.” *Id.*, 167:19-171:21, 269:7-270:11.

Additional evidence of the TS700's commercial success is found in Mr. Kevin Duesterhaus' testimony—a key account manager at Weber. He testified that “one of the big selling points on a Textor machine [e.g., TS700] is the ease of taking those conveyor cassettes out.” Ex. 2013 (Kevin Duesterhaus Tr. 2/9/2024), 254:15-255:10. He appreciates that “time is -- on cleaning a machine, time is money, so the faster you can take that machine apart and clean it and put it back together is very beneficial for a machine, so it's -- to me it's a big selling point on a Textor slicer.” *Id.*

Accordingly, the claimed invention has shown commercial success over its competitors, and there is a nexus between this success and the toolless removal features '487 Patent.

2. *Long-felt but Unsolved Needs*

The toolless removal features of the '487 Patent provided a solution to a long-felt and unsolved problem in the slicing industry—a space saving and inexpensive design for conveyor belt units on high-performance slicers that facilitates easy removal for enhanced cleaning and daily changeovers with less downtime. The '487 Patent describes how “[it] was previously at least extremely expensive and difficult, if not practically impossible, to realize multitrack portioning belts since the hygienic and functional accommodation of a plurality of drives could not be satisfactorily effected.” '487 Patent, 3:4-9.

The '487 Patent describes several prior art attempts for quick cleaning methods for the conveyor belts. For example, the conveyor belts themselves were often removed from the conveyor unit with the conveyor unit being suspended on one side and the conveyor bands being removed on the opposing side, with the conveyor unit remaining at the slicer. '487 Patent, 1:50-67. This had several disadvantages, including requiring sufficient space next to the slicer, which complicates the cleaning process, and requiring that the belt racks have the same width as the conveyor belts. '487 Patent, 1:58-67. Other methods where the entire conveyor unit was removable were bulky and had the drive motor arranged axially to the drive roller, widening the slicer and preventing multiple drives from being connected to a single conveyor unit. '487 Patent, 2:1-13.

Mr. Mayer testified that the slicing industry had long awaited a slicer with a large cutting throat but a small footprint, that is accessible at both sides for an operator, and that also creates a hygienic design for quick cleaning processes for key components that are contaminated during slicing procedures. Ex. 2012 (Josef Mayer Tr. 1/26/2024), 167:19-171:21. Mr. Mayer testified that the claimed invention embodied in the TS700 slicer met that need:

When we started with the TS700...the new specifications were to have a rather large cutting throat, and a footprint that is as small as possible. That means, or that led to the technical execution that there is no cabinet on the right-hand side but a perfect accessibility from both sides, also

from the right-hand side, which is not known in the past. And by doing it in this way, looking for very small, small in width slicer, also the available space inside the frame is very, very limited. And a further target was to have a perfect hyg[i]enic design... And we also wanted to create something new that a customer can do an easy and quick but also perfect sanitation process by taking out some parts of the machine which should not remain in the machine during cleaning due to the handling and the potential risk of contamination. So that's why we had the idea, the target, to go for a removable conveyor system, but removable in a way not to have the need to use tools to do it. Because once you have a close look on that procedure at a customer production line, those operators are not allowed to have tools with them. So to allow a perfect handling of that equipment, it needs to be toolless...

Id.

Accordingly, the toolless removal feature of the '487 Patent filled an unmet need in the marketplace, supporting a finding of non-obviousness.

3. *Copying*

In the parallel litigation, Patent Owner has proffered substantial evidence that Petitioner copied commercial embodiments of the '487 Patent. Indeed, as detailed in David Leathers' expert report, describes Petitioner implemented a strategy to steal confidential information as well as key Weber personnel related to the TS700 in order to bring its own infringing products with similar features to the marketplace. *See, e.g., Ex. 2011 (Leathers Opening Report), ¶¶69-106 (describing Provisur's efforts to steal confidential TS700 machine specifications, technical data, sales*

strategies, and installation plans and the wide range of employees who worked with this proprietary information to bring its competing SX series slicers to the market).

Provisur's efforts to steal and copy secret TS700 information relating to the toolless removal feature supports a strong indication of non-obviousness.

V. PETITIONER'S PROPOSED GROUNDS DO NOT RENDER OBVIOUS THE TWO DRIVE CONVEYOR BELT UNIT REQUIRED OF CLAIM 22

Original claim 22 recites "a first drive (15) is coupled to the conveyor belt unit (13) at the left side and [] a second drive (15) at the right side, when viewed in the conveying direction, the coupling between the drives (15) and the conveyor belt unit (13) is configured to be simultaneously cancelled and established for at least one of the first drive (15) and the second drive (15)." As detailed in Section II above, this functionality allows separately driven conveyors to run sequentially or in parallel, while allowing removal or installation in a fast and simple manner.

The Petition claims that these features are (1) obvious over the combination of Konishi and Lindee (which incorporates the Johnson patent), (2) obvious over McLaughlin alone, and (3) obvious over a combination of McLaughlin and Konishi, which merely incorporates by reference the analyses in (1) and (2). Petition, 42-49, 70-75, 78-79. As set forth above in detail, Konishi and McLaughlin each teach horizontally oriented scale conveyors that accomplish two functions—(1) weighing food product and (2) moving food product horizontally from point A to point B. In

each theory, Petitioner contends that a POSITA would have been motivated to creating mirrored versions of the native conveyors, duplicating both the conveyor structures and motors in Konishi and in McLaughlin. Petition, 46-49, 72-75. As alleged motivation for this proposed mirroring, Petitioner contends a dual-track and dual-motor arrangement would increase throughput. *Id.*, 46 (“It would have been obvious to modify Konishi in view of Lindee to include a second lane with a second drive to increase production and throughput.”), 74 (same regarding McLaughlin). But on cross examination, Dr. Collins, admitted that a second motor is not required to move multiple lanes of product, increasing production and throughput. Ex. 2014 (Collins Depo. Trans.), 48:5-18. Instead, he explained, a POSITA would have been motivated to duplicate the tracks and motors in order independently control each track of food product. *Id.*

Critically, neither Petitioner nor its expert identifies a single supporting example in which dual motors are used in an arrangement similar to Konishi or McLaughlin. They do not discuss any scale conveyors with dual-track and dual-motor arrangements at all. Nor do they identify any dual-track and dual-motor arrangements in which multiple tracks of food product are moved independently from point A to point B. Put simply, there is no evidence establishing any recognized benefit to independently controlling multiple lanes of food product as they are conveyed from point A to point B. Indeed, the sole examples of multi-motor

conveying systems discussed by Petitioner and its expert describe using separate motors to independent control how food products are fed into slicing planes. For example, Lindee and Johnson use multiple motors to independently feed bread loaves into a slicing plane, enabling thick slices on one lane and thin slices on the other. *See* Section III.C. Julian similarly uses separate motors to feed potatoes into size-specific slicing lanes, ensuring all sliced potatoes are of a consistent size. *See* Section III.D. In each of these examples, independent control applies only to feeding food product into the slicing mechanisms. None of these references establish any benefit to independently controlling multiple lanes of food product post-slicing. Indeed, Lindee, Johnson, and Julian each use single-motor conveyors to move their product post-slicing. *See* Ex. 2014 (Collins Depo. Trans.), 54:5-55:17 (confirming Dr. Collins did not rely on any dual-motor conveyors below Lindee's slicing plane); Section III.D (illustrating single-motor infeed and outfeed conveyors for moving potatoes into and out of the multi-lane slicing system)

As with the toolless concept discussed above, Petitioner cannot carry its burden to show the prior art renders obvious the proposed dual-motor arrangement of Konishi or McLaughlin. It advances only conclusory expert testimony without identifying any applicable examples in the art. "Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight." 37 C.F.R. § 42.65(a); *see also Nobel Biocare*, 903 F.3d at 1382.

A. Petitioner's Proposed Modifications to Konishi and McLaughlin Fail to Address Claim 22's Actual Limitations

The Petitioner frames claim 22 as merely a simple structural duplication/rearrangement of parts, to produce two conveyor belts running in parallel with one another. Petition, 43, 71. It is true running multiple conveyor belts in parallel was known at the time. In fact, during the prosecution of the invention, the Office examined U.S. Patent No. 7,909,159 to *Zats*, which discloses multiple parallel conveyors. However, claim 22 is not directed to simply running two conveyors in parallel. It is instead directed to a **single** conveyor belt unit that has a left and right drive. As the '487 Patent explains, with this arrangement, "[a] removal or an installation of this portioning conveyor unit is consequently possible in a fast and simple manner." '487 Patent, 11:62-64. The Petition's proposal to duplicate Konishi's and McLaughlin's conveyor units and motors fails to satisfy the required single conveyor belt unit with a left and right drive, ignoring the actual elements of claim 22.

B. There is No Motivation to Modify Konishi or McLaughlin

Konishi and McLaughlin both teach weigh conveyors for transporting products and determine their weight. *Konishi*, [0001]; *McLaughlin*, 1:15-16, 3:18-27. In both systems, the conveyors relied upon by Petitioner are downstream of product processing. See *Konishi*, [0002]; *McLaughlin*, 3:18-27. As a result, the

Konishi and McLaughlin conveyors merely 1) weigh product and 2) transport said product. They are not responsible for feeding product into a slicing plane.

Petitioner contends a dual-track and dual-motor arrangement would increase throughput. *Petition*, 46 (“It would have been obvious to modify Konishi in view of Lindee to include a second lane with a second drive to increase production and throughput.”), 74 (same regarding McLaughlin). Because Petitioner fails to support this theory with any relevant evidence beyond conclusory expert opinion, it has failed to carry its burden.

As an initial matter, neither Petitioner nor its expert suggests that the proposed modification improves the weighing functions performed by the Konishi or McLaughlin conveyors. Turning to the second function, transporting food product, Petitioner and its expert suggest that the proposed modification improves production and throughput. *Petition*, 46, 74. But Petitioner fails to cite any evidence that a dual-motor arrangement was known to improve throughput for weigh conveyors or even for conveyors designed to move product from point A to point B, i.e., transportation conveyors.

Indeed, Petitioner's expert, Dr. Collins, admitted that multiple lanes of product can be conveyed with only a single motor. Introducing a new theory on cross examination, he pivoted to suggest that throughput would be optimized if two tracks were controlled independently:

Q. (By Mr. Hart) Is it necessary to add a second motor and a second lane to run two lanes of product through Konishi's slicing machine -- or, I'm sorry, through Konishi's conveyor belt apparatus?

[]

A. No. You can run two lanes, but those lanes, ***without the second drive, would not be independent.***

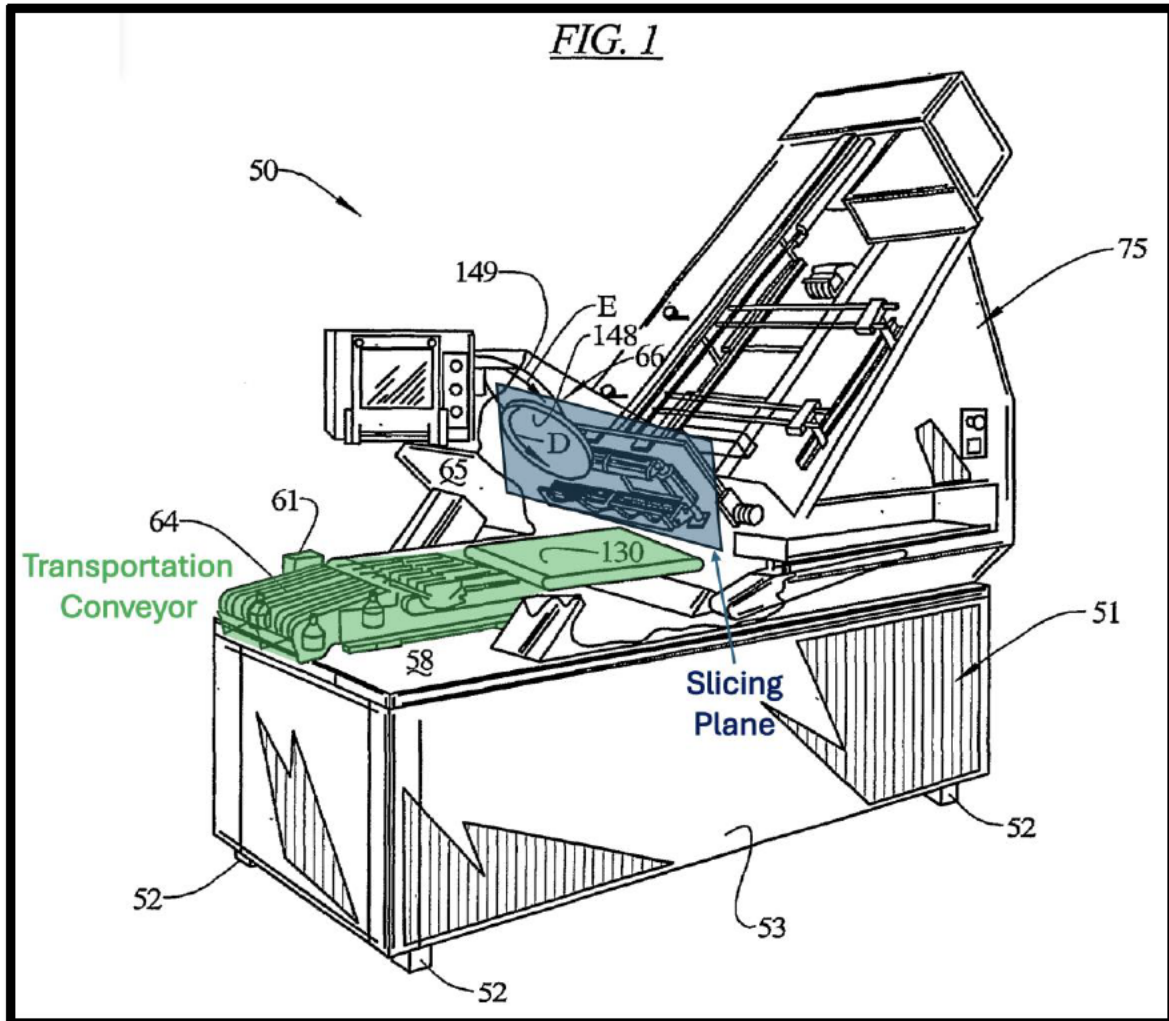
Q. (By Mr. Hart) So it's the control over independent lanes that is the benefit distinct from merely increasing throughput in production; correct?

A. ***It's control that does allow optimization for each lane, which then optimizes throughput and yield.***

Ex. 2014 (Collins Depo. Trans.), 48:5-18. However, this benefit is wholly unsupported conjecture on the part of Dr. Collins. There is not a single example provided by the Petitioner of a weigh or transportation conveyor having multiple tracks with independent drives to improve throughput. In fact, each reference discussed by Dr. Collins in alleged support of the combination, uses independent control of food product tracks exclusively to control how those product tracks are conveyed to a cutting plane. When multiple tracks of food product are merely being transported—as in Konishi and McLaughlin—a single motor suffices.

For example, the Petition cites Lindee/Johnson's independent loaf feed drives as disclosing multiple drives on the conveyor. Indeed, as discussed in Section III.C, these references do use multiple motors to independently control how different food tracks are input into the cutting plane, allowing one loaf to product thick slices and

another to produce thin slices. But once the product is sliced, Lindee moves all product with a series of single-track conveyors, collectively labeled “transportation conveyor” and shown in green below.



Lindee, Fig. 1 (annotated).

Indeed, Dr. Collins admits that he did not rely on any dual motor arrangements in Lindee downstream of the slicing blade:

·Q. I'm asking specifically about what you've set forth in your declaration. *Have you relied on or discussed any dual-motor*

***arrangements from Lindee [downstream of the slicing mechanism]
for purposes of your Claim 22 obvious analysis?***

A. In thinking about my declaration, when I go back, ***I don't think I did***, but it would have been obvious.

Q. And the dual-motor arrangement that you did discuss expressly in your declaration is a food conveyor portion that is above the slicing blade; is that correct?

A. That's correct.

Q. ***It's true that once the food in Lindee, once the food is sliced, it's caught by conveyor movable conveyor 130, it is then passed along additional conveyor belt units; is that right?***

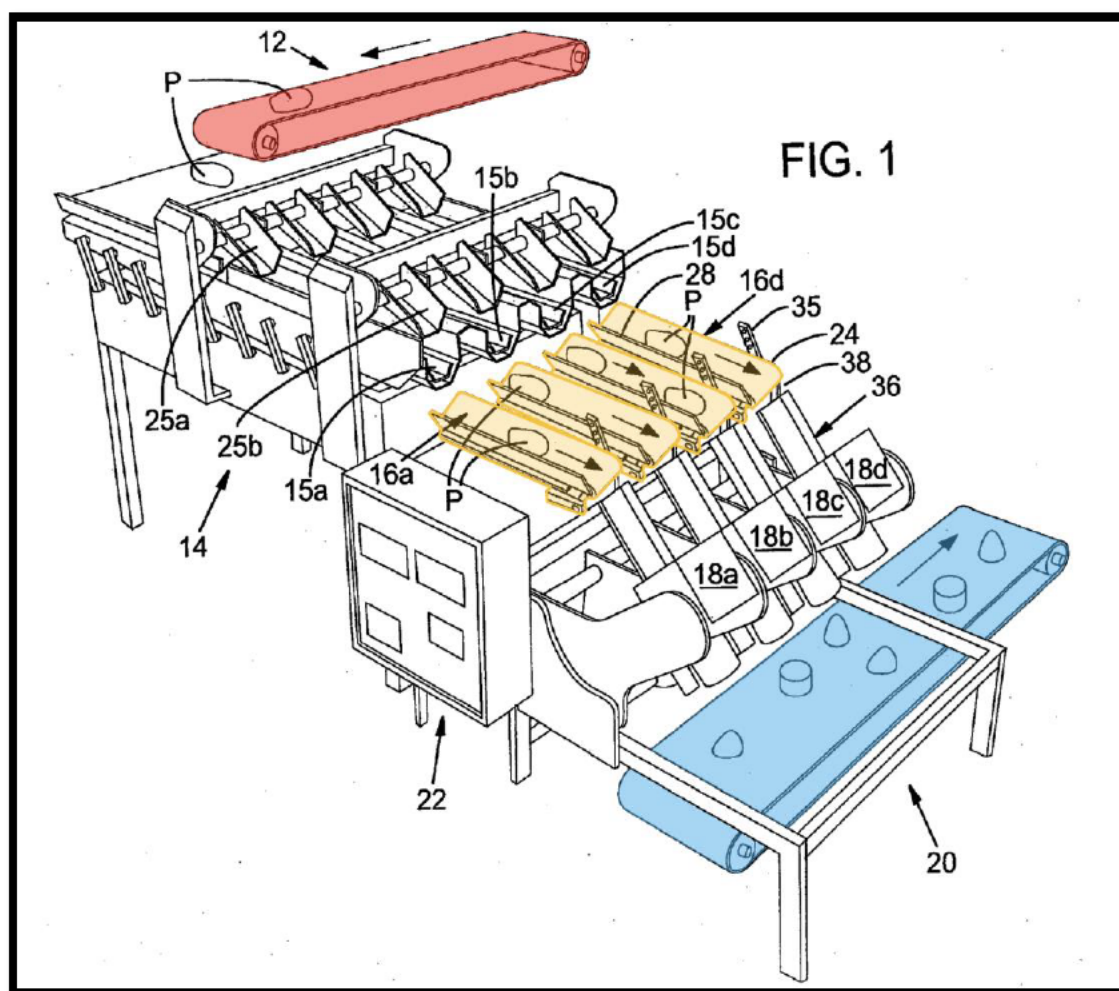
A. ***That's correct.***

Q. Do any of those additional conveyor belt units below, downstream of 130, include multiple motors?

A. I don't believe so. But there is nothing preventing it from having multiple motors.

Ex. 2014 (Collins Depo. Trans.), 54:21-55:17. Accordingly, per Dr. Collins' own admission, Lindee fails to disclose a transportation conveyor (e.g., downstream of the slicing plane) that employs multiple motors.

Another reference cited by Dr. Collins, Julian, does indeed depict multiple feed conveyor tracks. But it too uses single-motor conveyors for transportation. As illustrated below, Julian shows a conventional feed conveyor (12, in red) feeding the potato cutting assembly and a single outfeed conveyor (20, in blue) moving product away from the potato slicer.



Julian, Fig. 1 (annotated).

Like *Lindee*, *Julian* may indeed support the idea that it is beneficial to independently control how multiple lanes of food product are pushed into the slicing plane, but it does not say anything about benefits realized by independently transporting multiple lanes of food product.

Petitioner's inability to point to a single reference supporting the proposed modifications is fatal.

VI. CONCLUSION

For all the reasons stated herein, Petitioner has failed to establish that the challenged claims of the '487 Patent are unpatentable. Patent Owner respectfully requests the Board find the challenged claims, as provided in the Motion to Amend, patentable over the grounds in the petition.

Respectfully submitted,

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APPENDIX OF EXHIBITS

Exhibit 2001	<i>Provisur Tech., Inc. v. Weber Inc. et al.</i> , Case No. 5:21-cv-06113, Dkt. 166, Transcript of Scheduling & Discovery Dispute Hearing, June 20, 2023
Exhibit 2002	<i>Provisur Tech., Inc. v. Weber Inc. et al.</i> , Case No. 5:21-cv-06113, Dkt. 216, Transcript of Scheduling Hearing, September 5, 2023
Exhibit 2003	<i>Provisur Tech., Inc. v. Weber Inc. et al.</i> , Case No. 5:21-cv-06113, Dkt. 214, Supplemental Scheduling Order, September 5, 2023
Exhibit 2004	<i>Provisur Tech., Inc. v. Weber Inc. et al.</i> , Case No. 5:21-cv-06113, Provisur Invalidity Contention Cover Pleading
Exhibit 2005	<i>Advanced Notice of Proposed Rulemaking 13</i> (“A Sand Revolution stipulation, April 21, 2023
Exhibit 2006	Declaration of Dr. Charles Reinholtz
Exhibit 2007	Excerpt of the Expert Report of Dr. John Meyer
Exhibit 2008	Excerpt of the Expert Report of Lauren R. Kindler
Exhibit 2009	WEBER3A-00203735
Exhibit 2010	WEBER3A-00203737
Exhibit 2011	Excerpt of the Expert Report of David Leathers
Exhibit 2012	Excerpt of the Deposition Transcript of Josef Mayer
Exhibit 2013	Excerpt of the Deposition Transcript of Kevin Duesterhaus
Exhibit 2014	Deposition Transcript of Dr. John Collins

CERTIFICATION OF WORD COUNT

The undersigned certifies pursuant to 37 C.F.R. § 42.24 that the foregoing Patent Owner's Response to Petition for *Inter Partes* Review, excluding any table of contents, mandatory notices under 37 C.F.R. § 42.8, certificates of service or word count, or appendix of exhibits, contains 11,276 words according to the word-processing program used to prepare this document (Microsoft Word).

Dated: July 2, 2024

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing PATENT OWNER'S RESPONSE TO PETITION FOR INTER PARTES REVIEW was served on July 2, 2024, by email on the following counsel of record for Petitioner:

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