

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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PROVISUR TECHNOLOGIES, INC.,  
Petitioner,

v.

WEBER MASCHINENBAU GMBH BRIEDENBACH,  
Patent Owner.

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Case IPR2024-00258  
Patent No. 10,647,013

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**EXPERT DECLARATION OF MR. MICHAEL JOBIN IN SUPPORT OF  
PETITIONER'S REPLY TO THE PATENT OWNER RESPONSE**

*Inter Partes* Review of U.S. Patent No. 10,647,013  
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| <b>EX</b> | <b>Description</b>                                                                                                          |
|-----------|-----------------------------------------------------------------------------------------------------------------------------|
| 1001      | U.S. Patent No. 10,647,013                                                                                                  |
| 1002      | File Wrapper for U.S. Patent No. 10,647,013                                                                                 |
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| 1004      | U.S. Patent Pub. No. 2016/0023370 (“Müller”)                                                                                |
| 1005      | U.S. Patent No. 3,848,757 (“Jordan”)                                                                                        |
| 1006      | U.S. Patent No. 4,253,597 (“Waffner”)                                                                                       |
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| 1008      | U.S. Patent No. 2,921,753 (“Lahti”)                                                                                         |
| 1009      | U.S. Patent No. 3,310,249 (“Bryer”)                                                                                         |
| 1010      | U.S. Patent No. 4,583,435 (“Fessler”)                                                                                       |
| 1011      | Roisum, D., <i>The Mechanics of Web Handling</i> (1998) (Excerpts)                                                          |
| 1012      | U.S. Patent No. 5,979,308 (“Kägi”)                                                                                          |
| 1013      | U.S. Patent No. 6,752,056 (“Weber056”)                                                                                      |
| 1014      | U.S. Pub. No. 2009/0159631 (“DePoi”)                                                                                        |
| 1015      | Eggen, T., “Get a Grip on Your Web” (2009)                                                                                  |
| 1016      | U.S. Pub. No. 2012/0073249 (“Pryor 249”)                                                                                    |
| 1017      | U.S. Pub. No. 2012/0222528 (“Kröhnert”)                                                                                     |
| 1018      | Omega High Accuracy Metric Pressure Transducers (2015)                                                                      |

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| EX   | Description                                                                      |
|------|----------------------------------------------------------------------------------|
| 1019 | Segovia, V. and Theorin, A., “History of Control: History of PLC and DCS” (2013) |
| 1020 | U.S. Pub. No. 2015/0053057 (“Dreier”)                                            |
| 1021 | U.S. Patent No. 9,044,872 (“Pryor 872”)                                          |
| 1022 | GEA “DualSlicer” Video (2016)                                                    |
| 1023 | U.S. Patent No. 9,399,531 (“Pryor 531”)                                          |
| 1024 | Weber “Slicer 604” Video (2016)                                                  |
| 1025 | U.S. Patent No. 11,014,258 (“GEA 258”)                                           |
| 1026 | Website of David R Roisum, Ph.D.                                                 |
| 1027 | Roisum, D. <i>et al.</i> , <i>The Web Handling Handbook</i> (2021) (Excerpts)    |
| 1028 | “Roisum Library”                                                                 |
| 1029 | Case No. IPR2019-01464 (Paper No. 38) (Final Written Decision)                   |
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| <b>EX</b> | <b>Description</b>                                                                                                                                        |
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| 1035      | Declaration of Keaton A. Sheeler in Support of Motion for Pro Hac Vice Admission                                                                          |
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| 1037      | Deposition Transcript of Dr. Thomas R. Kurfess                                                                                                            |
| 1038      | Keyence, "What is a Contact Positioning Sensor?" (Archived Dec. 12, 2024)                                                                                 |
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| 1040      | [REDACTED]                                                                                                                                                |
| 1041      | <i>Provisur v. Weber III</i> , Dkt. 311 (Order re Provisur's Claim Construction of Counterclaim Patents)                                                  |
| 1042      | WO2001/076996A2 ("Rapparini")                                                                                                                             |
| 1043      | U.S. Patent No. 8,892,239                                                                                                                                 |
| 1044      | U.S. Patent No. 10,751,899                                                                                                                                |
| 1045      | U.S. Pub. No. 2018/0169888                                                                                                                                |
| 1046      | U.S. Patent No. 11,174,057                                                                                                                                |
| 1047      | U.S. Pub. No. 2013/0104709                                                                                                                                |

I, Michael Jobin, hereby declare as follows:

1. I am the same Michael Jobin who submitted a previous declaration in Case No. IPR2024-00258, which I understand was filed EX1003, and in Case No. IPR2024-00269, which I understand was filed EX1003. I have been retained on behalf of Provisur Technologies, Inc. (“Provisur”) for the above-captioned *inter partes* review proceedings.

2. My background and qualification are discussed in my opening declaration. In forming my opinion, I considered all of the references cited in my opening declaration and the Petition. I also considered all of the documents cited in this declaration. I am not an attorney, and I am not offering any opinions on the law in this proceeding. Counsel for Provisur has generally informed me of certain legal standards that are relevant to my analysis. I addressed those legal principles in my opening declaration.

3. I understand that claims of the challenged patent have been construed in district court proceedings. I reviewed this construction and my opinion regarding the invalidity of the challenged patent remains the same whether the district court construction or plain and ordinary meaning of the claim terms applies.<sup>1</sup>

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<sup>1</sup> EX1041 (Order re Provisur’s Claim Construction of Counterclaim Patents).

## **I. THE PROPOSED GROUNDS RENDER OBVIOUS THE CHALLENGED CLAIMS OF THE '013 PATENT**

### **A. Ground 1: The Combination of Müller and Waffner Renders the Challenged Claims of the '013 Patent Obvious.**

#### **1. My previous declaration analyzed a proposed combination with particularity.**

4. I disagree with Dr. Kurfess's characterization of my prior declaration as containing only a "vague description" of the proposed combination.<sup>2</sup> Rather, I spent eighty-eight paragraphs explaining where in Müller and Waffner, respectively, a POSA would understand the claimed elements to be taught.<sup>3</sup> I spent an additional sixty-six paragraphs explaining where in the proposed combination a POSA would understand the claimed elements to be present.<sup>4</sup> And I spent at least thirty-one paragraphs explaining the benefits a POSA would recognize in this combination.<sup>5</sup> I believe that I have described the prior art and the proposed combination with particularity and specificity. To summarize at an extremely high level, I have proposed a combination of the prior art that operates using the principles of the interleaver disclosed in Müller and where the "contacting sensor" disclosed in Müller operates according to the sensing principles taught by Waffner (i.e. by

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<sup>2</sup> *Contra* EX2007, ¶ 29 (Kurfess Declaration).

<sup>3</sup> EX1003, ¶¶ 112-200 (Jobin Opening Declaration).

<sup>4</sup> EX1003, ¶¶ 239-305 (Jobin Opening Declaration).

<sup>5</sup> EX1003, ¶¶ 201-231 (Jobin Opening Declaration).

sensing changing vacuum pressures caused by a loop of web material covering one or more holes in a vacuum chamber). This combination would have obvious benefits as to sensing, threading, and tension control/loop stability.

**2. The teachings of Müller and Waffner are technically compatible.**

**a) The two buffers of Müller serve different purposes.**

5. Müller teaches an interleaver where the preferred embodiment has “two accumulators” (i.e. buffers) “between the interleaver reel and the location at which the interleaver strip is inserted into the cutting plane.”<sup>6</sup> The first buffer, buffer 8, has a “higher storage capacity” and “has a dancer.”<sup>7</sup> The second buffer, buffer 12, “preferably has a substantially lower capacity than the buffer 8.”<sup>8</sup>

6. I disagree with the opinions Dr. Kurfess formed as to buffer 12 and buffer 8. Dr. Kurfess opines that a POSA would understand that “buffer 8 is able to provide an initial ‘coarse’ level of control to the interleaver system as the material is unreeled from the interleaver reel [whereas] buffer 12 is able to provide a finer level of control.”<sup>9</sup> I do not believe a POSA would reach this understanding.

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<sup>6</sup> EX1004, ¶ [0026] (Müller).

<sup>7</sup> EX1004, ¶ [0027] (Müller).

<sup>8</sup> EX1004, ¶ [0048] (Müller).

<sup>9</sup> EX2007, ¶ 31 (Kurfess Declaration).

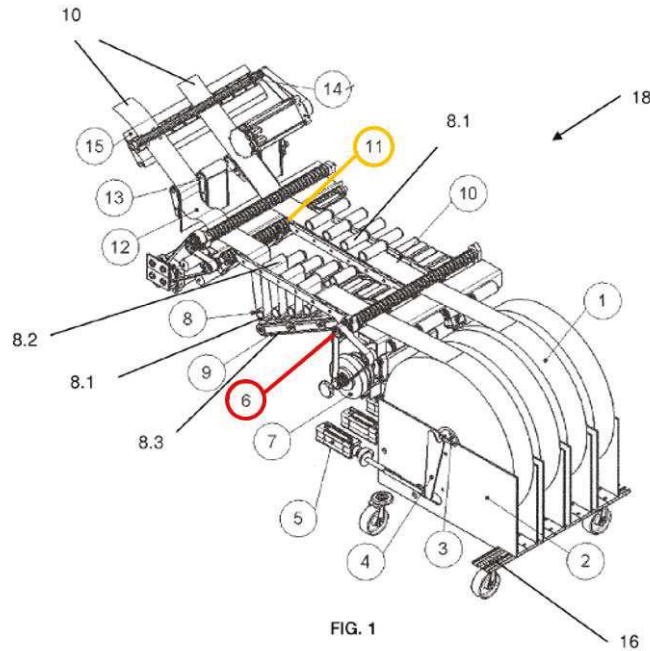
7. Rather, a POSA would understand that buffer 8 accommodates differences between the unreeling speed and the steady-state, average speed of paper through the interleaver. In contrast, a POSA would understand that buffer 12 accommodates differences between the steady-state, average speed and the instantaneous, high-acceleration, high-jerk<sup>10</sup> behavior at the cutting plane.

8. Regarding buffer 8, Müller teaches that buffer 8 “compensates for a difference between the unreeling speed and the consumption of the interleaver strip” as well as “in the event of a necessary stop, it buffers the overrun of the interleaver reel, which is braked only by friction.”<sup>11</sup> In other words, buffer 8 compensates for the difference in speed between drive 6 and drive 11:

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<sup>10</sup> Acceleration is the second derivative of displacement over time (i.e. rate of change in velocity) and jerk is the third derivative of displacement over time (i.e. rate of change in acceleration).

<sup>11</sup> EX1004, ¶ [0035] (Müller).



*EX1004 (Müller), Fig. 1 (Petitioner's annotations).*

Müller is explicit that “the unreeling of the interleaver reel is carried out at least virtually without momentum, i.e. the third derivative of the distance/time graph of the interleaver strip is zero or virtually zero.”<sup>12</sup> I note that while Müller uses the term “momentum” to refer to the third derivative of distance over time, a POSA would understand that this is a reference to “jerk,” which is the instantaneous change in acceleration at a point in time. And “the interleaver reel is driven as far as possible without momentum [i.e. jerk], i.e. is driven as slowly as possible-with the lowest possible fluctuations and without peaks, so that the unreeling speed does not exceed

<sup>12</sup> EX1004, ¶ [0036] (Müller).

the transport speed of the interleaver strip or exceeds the same only slightly.”<sup>13</sup> A POSA would recognize that this purpose of buffer 8 (compensating for differences in speed, but not needing to compensate for differences in acceleration or jerk) is reflected in the design of buffer 8. Buffer 8 is controlled by “dancer” rollers, which impart a constant tension on a buffered length. However, dancer arrangements are incompatible with high-jerk applications, because the inertia of the dancer rollers restricts the achievable changes in acceleration.<sup>14</sup> Meanwhile, buffer 8 must be “sufficiently large” because once the speed of drive 6 and drive 11 become mismatched (such as when stopping interleaving), the mis-match must be corrected slowly in order to satisfy the low-jerk principles taught by Müller.<sup>15</sup>

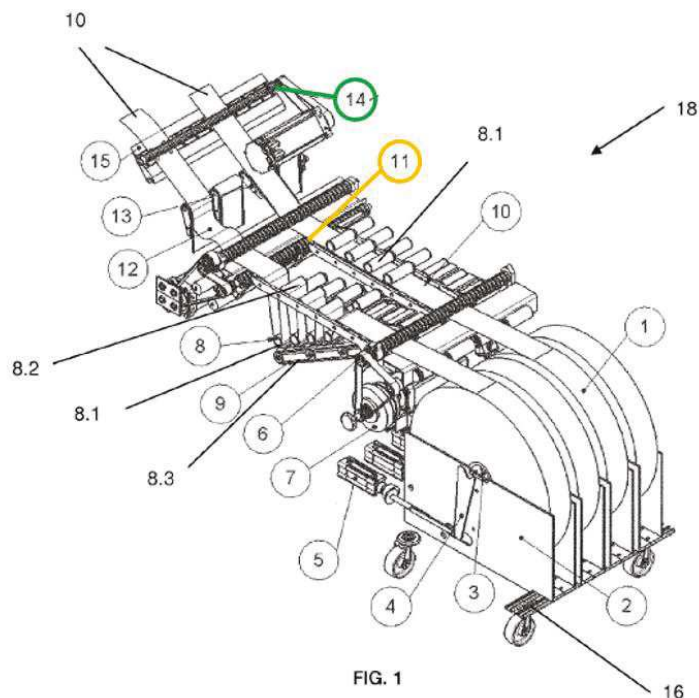
9. A POSA would understand that buffer 12 serves a different purpose entirely. Buffer 12 acts to buffer the differences between drive 11 and drive 14:

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<sup>13</sup> EX1004, ¶ [0013] (Müller).

<sup>14</sup> EX1042, p. 1 (Rapparini).

<sup>15</sup> EX1004, ¶¶ [0035]-[0036] (Müller).



*EX1004 (Müller), Fig. 1 (Petitioner's annotations).*

Unlike drives 6 and 11, drive 14 is subject to notably high acceleration and jerk. Müller teaches this explicitly: “The interleaver e[j]ector roller **14** described is used here for the interleaver strip ejection and is subjected, to extremely high accelerations...”<sup>16</sup> This is because roller 14 “is driven intermittently ... subjected to very high accelerations.”<sup>17</sup> Indeed, Müller teaches that roller 14 must be made of special materials to withstand these high accelerations (and relatively high jerks).<sup>18</sup> A POSA would recognize that this purpose of buffer 12 (compensating for

<sup>16</sup> EX1004, ¶ [0053] (Müller).

<sup>17</sup> EX1004, ¶ [0039] (Müller).

<sup>18</sup> EX1004, ¶ [0040] (Müller).

differences in acceleration or jerk) is reflected in the design of buffer 12. For example, Müller teaches that buffer 12 is a loose “loop,” without any dancer roller to provide tension or an inertial load.<sup>19</sup> Further, the use of such a free-hanging loop (which takes on roughly the shape of a “catenary”) indicates that buffer 12 is designed to hold web under “exceptionally **light tensions**.”<sup>20</sup> A POSA would understand that buffer 12 holds “as much interleaver material as is needed for the [next] ejection” at a light tension, in order to compensate for the high-acceleration, high-jerk behavior of drive 14.<sup>21</sup>

10. To summarize:

- Buffer 8 compensates differences in *speed* between unreeling the web and providing the web to buffer 12’s loop (i.e. the average speed of web through the device); and
- Buffer 12 compensates differences in *acceleration* and *jerk* between the provision of web by drive 11 and the insertion of web into the cutting area by drive 14.

These functions are different; buffer 12 is not merely a “finer level of control.”<sup>22</sup>

11. I specifically disagree with Dr. Kurfess’s conclusion that “[b]ecause the speed at which material is unreeled from the roll is often slower than the high acceleration required at the cutting region, buffer 8 serves to decouple the input

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<sup>19</sup> EX1004, ¶ [0048] (Müller).

<sup>20</sup> EX1011, p. 61 (The Mechanics of Web Handling).

<sup>21</sup> EX1004, ¶ [0048] (Müller).

<sup>22</sup> *Contra* EX2007, ¶ 31 (Kurfess Declaration).

speed from the output speed.”<sup>23</sup> Rather, as explained above in ¶ 8, buffer 8 is not designed to buffer high-acceleration, high-jerk feeds from low-acceleration, low-jerk feeds. The “high acceleration required at the cutting region” is buffered by buffer 12, not buffer 8. Buffer 8 is concerned with differences between the unreeling speed and the *average* speed of paper through the machine, as reflected by (low-acceleration, low-jerk) drive 11. And in direct contrast to Dr. Kurfess’s conclusion, Müller teaches that the unreeling speed, if it differs at all from the transport speed at drive 11, “*exceeds* the same only slightly.”<sup>24</sup> In other words:

| Müller’s Teaching                                                                                                                                | Dr. Kurfess’s Incorrect Interpretation                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Speed at which material is unreeled from the roll is <b>occasionally slightly faster</b> than the <b>low speed</b> required at <b>drive 11</b> . | Speed at which material is unreeled from the roll is <b>often slower</b> than the <b>high acceleration</b> required at <b>the cutting region</b> . |

12. I specifically disagree with Dr. Kurfess’s conclusion that “Müller’s buffer 8 achieves coarse loop control.”<sup>25</sup> To begin with, “coarse loop control” is not a term of art and it is difficult to know what Dr. Kurfess intended with that language. Assuming he meant that Müller’s buffer 8 is imprecise, I disagree. Müller’s buffer

<sup>23</sup> *Contra* EX2007, ¶ 34 (Kurfess Declaration).

<sup>24</sup> EX1004, ¶ [0011] (Müller) (emphasis added).

<sup>25</sup> *Contra* EX2007, ¶ 34 (Kurfess Declaration).

8 buffers enough material to compensate for the speed differential between drive 6 and drive 11 during shutdown (when interleaver reel 1 is gradually slowing down as a result of being “braked only by friction”).<sup>26</sup> And dancer rollers hold the buffered material in buffer 8 at a desired tension. A POSA would not regard this control as “coarse.”

13. I specifically disagree with Dr. Kurfess’s conclusion that “Buffer 8 accounts for the slow, unreeling speed upstream and allows material to be quickly provided to buffer 12.”<sup>27</sup> A POSA would understand that drive 6 and drive 11 operate, in the long run, at the same speed. If drive 6 were consistently slower than drive 11, then buffer 8 would eventually be exhausted and operation would stop. Rather, as explained above at ¶ 12, buffer 8 accommodates temporary differences in speed between drive 6 and drive 11, such as when the unreeling speed is *faster* than the speed material is provided to buffer 12 because the reel continues to spin (braked only by friction) for a period of time after feed through the rest of the system has stopped.

14. I specifically disagree with Dr. Kurfess’s conclusion that “buffer 8 serves as the main decoupling mechanism for Müller’s interleaver apparatus.”<sup>28</sup>

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<sup>26</sup> EX1004, ¶ [0035] (Müller).

<sup>27</sup> *Contra* EX2007, ¶ 37 (Kurfess Declaration).

<sup>28</sup> *Contra* EX2007, ¶ 34 (Kurfess Declaration).

Rather, as explained above in ¶¶ 7-10, buffer 8 serves one purpose, and buffer 12 serves a different purpose. A POSA would not regard buffer 8 as “main” or otherwise more important than buffer 12.

15. I specifically disagree with Dr. Kurfess’s conclusion that “the lower capacity of buffer 12 indicates that this portion of *Müller*’s interleaver system achieves more fine-tuned control.”<sup>29</sup> Rather, as explained above in ¶ 9, a POSA would understand that buffer 12 provides a low-tension supply of web material which can be removed with high acceleration and high jerk by drive 14.

16. I specifically disagree with Dr. Kurfess’s conclusion that “[t]he smaller size of the loop in buffer 12 allows the material to travel less distance between ejections.”<sup>30</sup> The size of the desired interleaf determines how far the strip must travel between each ejection. That is independent of the size of buffer 12.

17. I specifically disagree with Dr. Kurfess’s conclusion that buffer 12 is a “tight” loop.<sup>31</sup> As I explain above in ¶ 9, a POSA would understand that buffer 12 is used to store a low-tension loop, not a tight loop.

18. To summarize, a POSA would recognize that the salient feature of buffer 12 is not its size (as Dr. Kurfess) suggests. Rather, the salient feature of buffer

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<sup>29</sup> *Contra* EX2007, ¶ 37 (Kurfess Declaration).

<sup>30</sup> *Contra* EX2007, ¶ 37 (Kurfess Declaration).

<sup>31</sup> *Contra* EX2007, ¶ 32 (Kurfess Declaration).

12 is that it buffers a near-constant-speed (low acceleration, low jerk) upstream zone with a highly-variable-speed (high acceleration, high jerk) downstream zone. In considering techniques that could improve buffer 12 of Müller, a POSA would look to teachings that involve loops used for this purpose (i.e., buffers that accommodate high-acceleration, high-jerk removal).

**b) A vacuum sensor, as taught by Waffner, is compatible with Müller's buffer 12.**

19. I have reviewed the opinions in Dr. Kurfess's declaration that a vacuum sensor is incompatible with Müller's buffer 12.<sup>32</sup> Dr. Kurfess's opinions are either incorrect, irrelevant, or both. My opinion remains unchanged that, in view of Müller, Waffner, and a POSA's general skill and understanding of the prior art, the challenged claims are obvious.

20. In particular, I disagree that "these required components associated with Waffner's vacuum chamber would not fit at Müller's buffer 12."<sup>33</sup> As I testified at my deposition, the main modification a POSA would make to buffer 12 is to include "a little chamber that is sealing the area behind the apertures."<sup>34</sup> As Waffner itself demonstrates, the vacuum source and pressure sensor do not need to be inside this chamber, or even near it—vacuum lines can connect the chamber to these

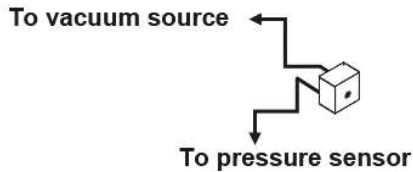
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<sup>32</sup> EX2007, ¶¶ 39-41 (Kurfess Declaration).

<sup>33</sup> *Contra* EX2007, ¶ 39 (Kurfess Declaration).

<sup>34</sup> EX2009, 48:15-21 (Aug. 27, 2024 Jobin Cross-Examination).

components.<sup>35</sup> The only components that would need to fit within the space of Müller's strip guide 13 (i.e. contact surface) is a box with one or more holes in the contact surface, as well as an inlet for the vacuum and an outlet to the vacuum measurement device (e.g. pressure sensor):

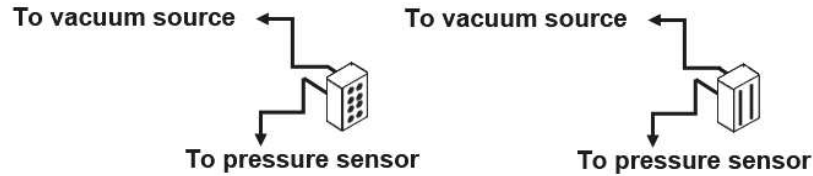


*Illustrative example of a sensor according to Waffner's teachings*

Such a sensor could be made quite small, and certainly small enough to fit within the existing space of strip guide 12. A POSA incorporating the teachings of Müller and Waffner would, as I explain elsewhere such as at ¶ 21, understand that additional benefits could be realized by providing more than one hole (or by providing an elongated slit instead of a hole). For example, this would allow the system to detect the length of the loop continuously (for an elongated slit) or at higher-resolution intervals (for multiple holes) For further example, this would allow the system to apply a controllable tensioning/braking force on the web as it left buffer 12. However, a POSA would understand that these modifications would fit in the available space of strip guide 13:

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<sup>35</sup> EX1006, Fig. 1 (Waffner).



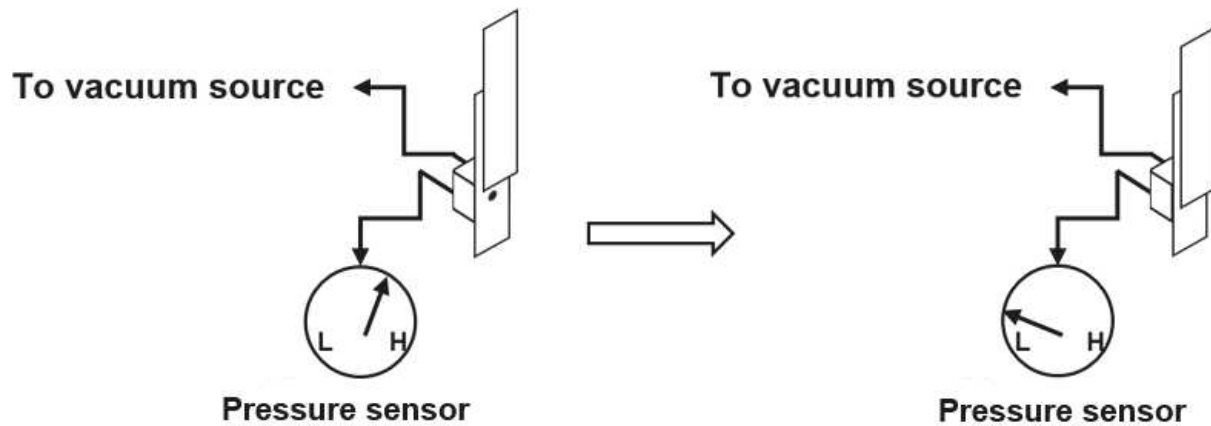
*Illustrative example of a sensor according to Waffner's teachings*

Such a sensor could be made quite small, and certainly small enough to fit within the existing space of strip guide 13. I note that Dr. Kurfess estimates that the contact surface in Müller—even as limited to the single preferred embodiment he considered—would be about twelve inches long. I note the figures in Müller depict the strip guide 13 and buffer loop 12 in schematic form, and the specification does not provide explicit dimensions of those components. This is more than sufficient to incorporate a vacuum-based sensor or a vacuum-based brake.

21. I further disagree that Waffner's "approach works only with a long loop in which the length of material changes significantly such that the pressure detected within box 50 changes a detectable amount."<sup>36</sup> Rather, a loop of any size could be sensed using the principles taught by Waffner. For example, in a sensor designed with a single hole, the vacuum measurement would change once the loop had changed size by only a small amount—roughly the size of the hole:

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<sup>36</sup> *Contra* EX2007, ¶ 40 (Kurfess Declaration).



*Illustrative example of a sensor according to Waffner's teachings*

A sensor designed with several holes, or where the holes are designed as vertical slits, could similarly be designed (within a POSA's skill to do) to sense loops with relatively small changes in loop-length. As long as the distance between the uppermost and lowermost openings was equal to (or less than) the distance traversed by the loop, such a system could sense the changing length of the loop along that path. Choosing an appropriate size for the vacuum box and an appropriate location for the holes would be well within a POSA's skills, and a POSA would expect success. The variables at-issue in designing the sensor would all have a predictable effect. For example, increasing the strength of the vacuum source would increase sensor sensitivity and increase braking force; increasing the size of the vacuum chamber would increase the sensor sensitivity; increasing the surface area that is permeable (i.e. adding holes) would increase braking force. I further note that a POSA would understand that a smaller vacuum chamber would, all else equal, lead

to a more sensitive sensor. This is because the pressure would change more dramatically as a function of airflow, given the smaller total volume. I note that Dr. Kurfess agrees with this assessment, and has explained that a larger chamber “would have a less detectable or less rapidly detectable pressure change.”<sup>37</sup> In this way, a POSA would expect a vacuum sensor like Waffner’s to be particularly suitable for a small space.

22. I further disagree that a POSA would believe that the operation of Müller depends on buffer 12 being particularly small.<sup>38</sup> To begin with, although Müller describes that it is “preferabl[e]” for buffer 12 to “buffer[] only as much interleaver material as is needed for the ejection on an interleaver,” Müller does not describe that small size as mandatory.<sup>39</sup> Rather a POSA would understand that buffer 12 could accomplish its purpose (buffering between a low-acceleration/low-jerk region and a high-acceleration/high-jerk region) even if buffer 12 were larger than depicted in Müller’s “preferabl[e]” arrangement. Indeed, a larger buffer 12 would make it easier to buffer the intermittent motion, as it would be more forgiving to any delay in speed adjustments to drive 11. Moreover, a POSA would understand

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<sup>37</sup> EX1037, 182:13-16 (Dec. 11, 2024 Kurfess Cross-Examination).

<sup>38</sup> *Contra* EX2007, ¶¶ 37, 39 (Kurfess Declaration).

<sup>39</sup> EX1004, ¶ [0048] (Müller).

that Müller explicitly describes that the buffer must be as large “as is needed.”<sup>40</sup> If the buffer needed to be larger in order to accommodate a sensor or brake region, Müller does not caution against such a modification. Indeed, Müller’s preference that buffer 12 would still have “a substantially lower capacity than the buffer 8” allows for a range of size options for buffer 12.<sup>41</sup> Müller would not discourage a POSA from following the path set out by Waffner, even *if* using Waffner’s sensing technique would require a larger size for buffer 12. Nor would Müller’s disclosures lead a POSA in a divergent direction from exploring vacuum sensors and vacuum brakes. Müller’s interleaver teachings, as modified by Waffner’s teachings of a vacuum-based position sensor, would be operable even if a POSA increased the size of Müller’s buffer.

23. Additionally, Müller teaches that its two-buffer embodiment though preferable, is not mandatory. The functions I describe above in ¶¶ 5-18 could be performed by a one-buffer embodiment. In a one-buffer embodiment of Müller’s teaching, the (single) buffer 12 would be larger in order to accommodate the function that is performed by buffer 8 in the two-buffer embodiment. During shutdown of the machine, there would have to be enough buffer capacity in buffer 12 to

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<sup>40</sup> EX1004, ¶ [0048] (Müller).

<sup>41</sup> EX1004, ¶ [0048] (Müller).

accommodate the overrun from the material store which has a relatively high inertia and would remain rolling even after the downstream (cutting and interleaving) processes had stopped. And in the one-buffer embodiment of Müller's teaching, the (single) buffer 12 would be a loose loop (tensioned primarily by gravity) in order to provide low-tension web rapidly to the blade.

24. I further disagree that "Waffner's vacuum system imposes substantially more complexity to Müller's system."<sup>42</sup> To begin with, Dr. Kurfess does not elaborate on what he means by "substantially," so it is difficult to evaluate his conclusion. Moreover, there is no evidence that using a sensor based on Waffner adds any complexity to Müller's system. The interleaver taught by Müller includes a "contacting sensor."<sup>43</sup> A sensor based on Waffner's teachings is an example of a contacting sensor (because the paper must contact the aperture to be sensed). Indeed, pressure-based contacting sensors like those disclosed by Waffner were the "usual[] form" of loop length sensors in web handling devices.<sup>44</sup> Designing the contacting sensor disclosed by Müller to make use of the vacuum principles disclosed by Waffner would not add any complexity if a POSA understood that the resulting sensor was the usual form.

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<sup>42</sup> *Contra* EX2007, ¶ 40 (Kurfess Declaration).

<sup>43</sup> EX1004, ¶ [0048] (Müller).

<sup>44</sup> EX1009, Col. 1:63-65 (Bryer).

25. I further disagree that the addition of a sensor based on Waffner's teachings "would also increase the Müller system's cost as well as increasing the cost of maintaining and installing the system."<sup>45</sup> As I explain above at ¶ 24, Müller already teaches a need for a contacting sensor, and a contacting sensor based on Waffner's vacuum measurement is a usual form of such a sensor. To the extent Dr. Kurfess is comparing the cost of a contacting sensor based on Waffner's teachings to the cost of a contacting sensor based on other techniques, his opinions are purely speculative. He does not quantify the cost of a contacting sensor based on Waffner's teachings and he does not quantify the cost of a contacting sensor based on different techniques. A POSA would expect to be able to incorporate a contacting sensor based on Waffner's technique at a reasonable cost, in light of the advantages of such a sensor.

26. I further disagree "a POSITA would not expect to have a readily available vacuum source in clean environments such as those Müller's system targets."<sup>46</sup> Weber's own patents confirm my understanding. Weber is the assignee on patent documents describing use of a "vacuum bell jar" or other "vacuum device" for gripping food products in a slicer;<sup>47</sup> "means of a generated vacuum" in a food

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<sup>45</sup> *Contra* EX2007, ¶ 41 (Kurfess Declaration).

<sup>46</sup> *Contra* EX2007, ¶ 41 (Kurfess Declaration).

<sup>47</sup> EX1043, Col. 5:30-45 (US 8,892,239); EX1044, Col. 3:22-29 (US 10,751,899).

transport holder;<sup>48</sup> a “suction hose” connected “to a vacuum source” in a food handling robot;<sup>49</sup> and “a suction nozzle and connection lines to a vacuum generator” for use in a self-cleaning slicer.<sup>50</sup>

27. I further disagree “[i]mplementing a vacuum chamber would increase the complexity and, therefore, increase the difficulty of cleaning said environment.”<sup>51</sup> Cleaning the paper-removal device of an interleaver is relatively simple. As Müller teaches, the paper removal device is a separate unit, which can be docked by “docking means” to the slicer itself.<sup>52</sup> A POSA would understand that the removal device (including the loop and sensor) is located in a separate cabinet and isolated from the area where food product is sliced.<sup>53</sup> A POSA would further understand that the interleaver material itself would be food-safe (and free of pathogens). Because the interleaver removal device is exposed only to food-safe web material and isolated from (potentially contaminated) meat, there would be low concerns of bacterial harborage in the interleaver removal device, including in the vacuum chamber. Developing cleaning protocols for this low-risk zone would be

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<sup>48</sup> EX1045, ¶ [0052] (US 2018/0169888).

<sup>49</sup> EX1046, Col. 4:37-48 (US 11,174,057).

<sup>50</sup> EX1047, ¶ [0050] (US 2013/0104709).

<sup>51</sup> *Contra* EX2007, ¶ 41 (Kurfess Declaration).

<sup>52</sup> EX1004, ¶ [0032] (Müller).

<sup>53</sup> EX1024 (Weber Slicer 604 Video) ([https://www.youtube.com/watch?v=caL\\_C4AqnyA](https://www.youtube.com/watch?v=caL_C4AqnyA)); EX1022 (GEA DualSlicer Video) (<https://video.gea.com/gea-dualslicer>).

well within a POSA's capability, particularly given the undisputed facts that a POSA would be part of an interdisciplinary team and could consult with subject matter experts in the field of hygiene.<sup>54</sup>

28. And if a POSA did not expect to find a vacuum source available in the food processing environment, a POSA would certainly expect to find a compressed air source. And a POSA would know that a device, such as a venturi vacuum generator, could be connected to a compressed air source to generate a vacuum pressure sufficient for a vacuum-based contacting sensor. Including a venturi generator in an interleaver would be a simple and inexpensive addition, well within a POSA's skill.

**c) Müller teaches a contacting sensor (not a photocell).**

29. Müller teaches that it is beneficial to include a "contacting sensor" for sensing the position of the loop in buffer 12.<sup>55</sup> Dr. Kurfess describes "photoelectric sensors (e.g., photocells)" as an example of a "contacting sensor."<sup>56</sup> I disagree with Dr. Kurfess's opinion.

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<sup>54</sup> Dr. Kurfess does not provide any competing criteria for a person of ordinary skill, and appears to adopt my proposed criteria from ¶¶ 43-44 of EX1003.

<sup>55</sup> EX1004, ¶ [0048] (Müller).

<sup>56</sup> EX2007, ¶ 43 (Kurfess Declaration).

30. The exhibit he cites, the *Sensor Technology Handbook*, describes two broad classes of position sensors: “Contact devices” and “Non-contact devices.”<sup>57</sup> The *Sensor Technology Handbook* lists “[p]hotoelectric sensors” as a “[n]on-contact device” sensor.<sup>58</sup> This is consistent with the general understanding of a POSA: a photoelectric sensor is a non-contacting sensor. Dr. Kurfess is incorrect that, where Müller refers explicitly to a “contacting” sensor, a POSA would understand Müller to teach a non-contacting sensor such as a photoelectric sensor.<sup>59</sup> Dr. Kurfess appears to believe that a non-contact sensor (such as a photoelectric sensor) is nevertheless a “contacting” sensor if the parameters it detects can be used to determine whether the *paper* is contacting the *apparatus*.<sup>60</sup> No POSA would understand this term in this way. A contacting sensor is a sensor that detects whether material contacts *the sensor*, not whether the material contacts some arbitrary part of the greater machine. For example, the sensing technique of Waffner uses a contacting sensor because the sensor detects whether paper is contacting the (one or more apertures) on the sensor itself. The sensing technique proposed by Dr. Kurfess (using a photoelectric sensor)

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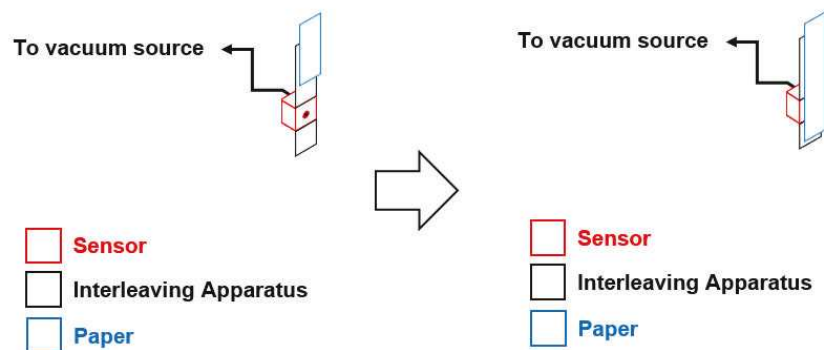
<sup>57</sup> EX2008, p. 322 (Sensor Technology Handbook).

<sup>58</sup> EX2008, p. 322 (Sensor Technology Handbook).

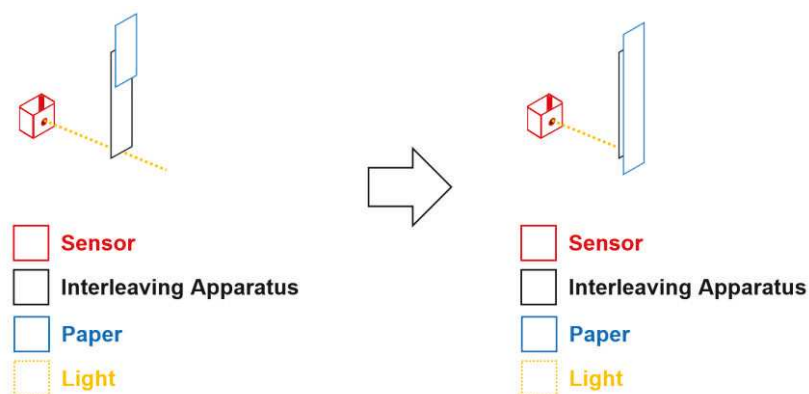
<sup>59</sup> Further, as I note at ¶¶ 211-212 of EX1003, at the time of the patent, a POSA would have been aware that an embodiment of Müller modified to use a non-contact sensor such as a photoelectric sensor would risk infringing the Pryor 531 patent.

<sup>60</sup> EX2007, ¶ 42.

is *not* a contacting sensor because the sensor detects the position of the paper without the paper ever contacting the sensor.



*The contacting vacuum sensors detects whether the paper is in contact with the sensor.*



*The non-contacting photoelectric sensor detects the presence of the paper without the paper contacting the sensor.*

Definitions available to POSAs at the time of the patent confirm my understanding that as the name indicates, a contacting sensor is a sensor measuring the position of a target by directly contacting it.<sup>61</sup> I note that at his deposition, Dr. Kurfess argued

<sup>61</sup> EX1038 (Archive of Keyence webpage on contact sensors).

that a POSA wouldn't bother opening the Sensor Technology Handbook.<sup>62</sup> I disagree. It is important for engineers to communicate using precise language that is understood by others. A POSA would not ignore textbook definitions of a term.

31. Further, a POSA would understand that a sensor based on the technique and teachings of Waffner (i.e. a contacting sensor that uses a vacuum measurement to sense contact) would be a particularly well-suited contacting sensor for use in Müller. To begin with, vacuum-based contact sensors were the usual form of loop sensing in the web handling arts.<sup>63</sup> And a vacuum-based sensor would not introduce additional inertial load on the loop, making it appropriate for buffer 12.

32. Further, Müller specifically teaches that other forms of contacting sensors, such as based on dancer rollers, are not appropriate for sensing the loop in buffer 12; although buffer 8 is sensed using a "dancer ... preferably ha[ving] a sensor with which one position thereof can be established, a POSA would understand that Müller teaches using a different form of contacting sensor for buffer 12.<sup>64</sup> A dancer-type contacting sensor would be inappropriate for buffer 12 because it would add tension and inertial load, which interferes with the ability of buffer 12 to supply low tension web material to a high-acceleration, high-jerk process (see above at ¶ 9).

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<sup>62</sup> EX1037, 109:21-110:12 (Deposition of Dr. Kurfess).

<sup>63</sup> EX1009, Col. 1:63-65 (Bryer).

<sup>64</sup> EX1004, ¶ [0048] (Müller).

33. Of the two additional examples of contacting sensors listed in *Sensor Technology Handbook*, a POSA would not view either as a good candidate to serve the role of contacting sensor in Müller's buffer 12.<sup>65</sup> For example, a limit switch would require the loop of web material to exert sufficient force to trigger the switch and, given the low weight of a paper loop, a POSA would not be confident that a limit switch would be appropriate. For further example, a resistive position transducer would require reliable contact between the sensor and the loop and, given the potential for the loop to flutter away from the contact surface, a POSA would not be confident that a resistive position transducer would be appropriate. A resistive position transducer would also require the sensed material to have properties that would affect or produce a magnetic field (such as in a hall effect sensor), or that would affect or create an electric field. Paper or film would not have these properties, as they are neither ferrous nor conductive.

**d) Waffner teaches a pressure sensor.**

34. As Dr. Kurfess acknowledges, Waffner teaches using a change in a pressure value to effect a corresponding change in the drive speed of motors controlling the length of a slack loop in a web handling system. Dr. Kurfess is correct that the described embodiment of Waffner uses "mechanical structures,"

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<sup>65</sup> EX2008, p. 322 (Sensor Technology Handbook).

rather than electronic sensors, to realize this control scheme.<sup>66</sup> However, Waffner was filed in July 1979, nearly thirty-eight years before the purported invention of the '013 patent. In the intervening years, electronic pressure sensors, such as digital and analog manometers, pressure gauges, and pressure sensitive switches had become a commodity item. They were reliable, relatively inexpensive, and more compact than the mechanical structures described in Waffner. A POSA implementing the teachings of Waffner would have been aware of electronic pressure sensors, and would have used an electronic pressure sensor (rather than a mechanical structure) to sense the change in pressure and effect a corresponding change in loop formation. I discuss this in more detail in my opening declaration, such as at ¶¶ 83, 181, 262, 298.

**3. A POSA would be motivated to use the techniques of Waffner in Müller.**

**a) Waffner teaches a known technique to monitor loop length.**

35. A POSA would understand that when using a loose loop, one would need a way to measure the position of the loop. In other words, sensing loop position was a known problem. This is expressly taught by Müller, which states “[t]he length of the loop is preferably monitored.”<sup>67</sup> Other food slicing and interleaving machines

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<sup>66</sup> EX2007, ¶ 46 (Kurfess Declaration).

<sup>67</sup> EX1004, ¶ [0048] (Müller).

confirm this was known, as I address in my opening declaration: “Each of Jordan, Müller, Pryor 531, and Pryor 872 taught detecting and determining the length of web material looped in the loop store.”<sup>68</sup>

36. Waffner discloses a known technique for addressing this known problem. As I note in my opening report, Waffner explicitly informs a POSA that the principles of the disclosed contacting sensor are designed to be used with a loop of web material (such as the loop stored in Müller’s buffer 12).<sup>69</sup> As I note in my opening report, a POSA would be aware of other prior art that reinforces the technique of Waffner (using a vacuum measurement to sense the presence or absence of a contacting span of web), such as Lahti, Bryer, and Fukuchi.<sup>70</sup>

37. Waffner (as reinforced by these background references) would teach a POSA that Müller’s contacting sensor could be designed based on generating a vacuum and sensing the changing strength of that vacuum as the sensor comes in greater or lesser contact with the loop of interleaf material in Müller’s buffer 12. In other words, using a vacuum-based contacting sensor was a known technique for sensing the position of a loop of web material in a buffer. A POSA would be

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<sup>68</sup> EX1003, ¶ 79 (Opening Declaration) (citing EX1004, [0048] (Müller); EX1005, 3:35-39, Fig. 1 (Jordan); EX1023, Fig. 16 (Pryor 531); EX1021, Fig. 13 (Pryor 872)).

<sup>69</sup> EX1003, ¶¶ 207-208 (Opening Jobin Declaration).

<sup>70</sup> EX1003, ¶¶ 53-59 (Opening Jobin Declaration).

applying Waffner's technique in a predictable way for its intended purpose in Müller.

**b) Waffner's disclosures would simplify threading in Müller's web handling device.**

38. Dr. Kurfess opines that Waffner's disclosures would not simplify threading of Müller's web handling device.<sup>71</sup> I disagree with his opinion.

39. A POSA would understand that a contacting sensor designed according to the principles of Waffner would result in a suction effect of the interleaver material against the contact surface. If the vacuum generator operated during threading, this suction effect could be used by the machine operator to simplify threading. For example, the operator could use the suction effect to temporarily "pin" the interleaver material to the contact surface, freeing the operator's hands to make adjustments to the path of the interleaver material at other points of the machine.

40. A POSA would recognize this as an improvement over the teachings of Müller. Müller discloses that during threading, the strip guide 13 must be rotated into a horizontal position.<sup>72</sup> While this allows the interleaver paper to rest somewhat securely on top of strip guide 13, a POSA would recognize that adding a suction

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<sup>71</sup> EX2007, ¶¶ 54-55 (Kurfess Declaration).

<sup>72</sup> EX1004, ¶¶ [0031], [0048] (Müller).

effect would make this arrangement even more secure. And a POSA would realize that a suction effect could allow strip guide 13 to be rotated back into its buffering position while threading is still taking place. This would let a machine operator build a loop in buffer 12 during the threading process, saving time during operation because a loop would already exist. A POSA could design the sensor in a way that allowed the strip guide to still rotate.

**c) Waffner's disclosures would improve tension control in Müller's web handling device.**

41. Dr. Kurfess opines "[t]he value of utilizing a vacuum system for tension control does not exist within the context of a system like Müller's in which buffer 12 retains a small size with less interleaver material."<sup>73</sup> I disagree with his opinion.

42. It was a known problem when feeding from a loose loop to a high-acceleration/high-jerk cutting area that the loop would experience undesirable tension effects during deceleration. This problem is taught in the prior art available to a POSA, which teaches: "rapid deceleration" at a cutting area results in "inertia loading on the web [] significantly larger than the tension force provided" in the loop, causing paper to undesirably exit the loop unless braked.<sup>74</sup> In the systems taught by Müller, a POSA would recognize that when ejector roller is rapidly

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<sup>73</sup> EX2007, ¶¶ 56-58 (Kurfess Declaration).

<sup>74</sup> *E.g.*, EX1014, ¶¶ [0002]-[0003] (DePoi); EX1013, ¶ 221.

stopped, inertia will tend to cause the web material strip 10 remaining in buffer 12 to continue traveling toward ejector roller 14. However, because ejector roller 14 is stopped, the web material strip 10 will bunch up against ejector roller 14, resulting in the web material being completely slack (zero tension or lower) at ejector roller 14. A POSA would understand that should tension drop to zero or lower, the web material may “flop and flutter,” “shift,” “wander sideways,” “lose traction,” and experience “wrinkling.”<sup>75</sup> In other words, a POSA would know “[c]ertainly, the tension must not be allowed to fall below zero even momentarily.”<sup>76</sup> A POSA would recognize that, without some way to maintain a minimum tension, Müller’s loop would experience moments of zero or lower tension, which could lead to performance issues. I discuss these concerns in more detail in my original declaration.<sup>77</sup>

43. Using a vacuum brake on the ascending side of the loop was a known technique for addressing this known problem. This technique appears in a number of paper cutting devices, including food slicer/interleavers, in the art.<sup>78</sup> As I discuss in more detail in my original declaration, it would be obvious to a POSA that

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<sup>75</sup> EX1011, p. 49 (The Mechanics of Web Handling).

<sup>76</sup> EX1011, p. 52 (The Mechanics of Web Handling).

<sup>77</sup> EX1003, ¶¶ 218-221 (Opening Jobin Declaration).

<sup>78</sup> EX1014 (DePoi); EX1017 (Kröhnert); EX1025 (GEA438).

including a device that maintains a minimum tension would improve the operation of Müller.<sup>79</sup> And a POSA would readily understand that a vacuum-based contacting sensor would be such a device. The suction effect between the web material and the contact surface would increase the friction on the web material, applying a slight braking force. A POSA would understand that this braking force would prevent the web material from continuing to travel up and out of the loop after ejector roller 14 had stopped. For example, this braking effect is attested to throughout the prior art available to a POSA.<sup>80</sup> As these prior art sources readily teach, using a vacuum's braking effect for this purpose is particularly beneficial "during a decelerating movement of the sheet material web at [a] second drive," such as when a material web is being advanced into a cutting region and quickly stopped.<sup>81</sup> A POSA's application of this technique to Müller would be using a known vacuum brake in a known way for its intended purpose of braking web material exiting a loop and entering a cutter.

44. A POSA would understand that other forms of tension control, such as the dancer rollers used in Müller's buffer 8, would be unsuitable for this application

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<sup>79</sup> EX1003, ¶¶ 222-226 (Opening Jobin Declaration).

<sup>80</sup> EX1014, ¶ [0005] (DePoi); EX1017, ¶ [0020] (Kröhnert).

<sup>81</sup> EX1014, ¶ [0005] (DePoi); EX1017, ¶ [0020] (Kröhnert).

because they suffer from inertial effects incompatible with the high-acceleration, high-jerk profile of ejector roller 14.<sup>82</sup>

45. Dr. Kurfess’s opinion that “[f]or Müller’s buffer 12, sufficient tension would be required for it to operate in the manner described by Müller” is conclusory and unsupported.<sup>83</sup> Dr. Kurfess does not opine that a POSA would reach this conclusion about Müller, and he certainly does not opine *why* a POSA would reach this conclusion. And as I explain above, a POSA would reach the opposite conclusion: without some (undisclosed) device to maintain a minimum tension, the material in Müller’s loop 12 would experience repeated moments of zero-or-lower tension which would negatively affect the operation and reliability of Müller’s web handling. I note that Müller is specific that its disclosed structure is only “somewhat” capable of reducing tension-induced web damage.<sup>84</sup>

46. Dr. Kurfess’s opinion from his written declaration that “[a] POSITA would understand that a smaller loop covering a shorter distance and containing less interleaver material, would inherently be subject to greater tension than a larger loop covering a longer distance and containing more interleaver material” is incorrect.<sup>85</sup>

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<sup>82</sup> EX1042, p. 1 (Rapparini).

<sup>83</sup> *Contra* EX2007, ¶ 57 (Kurfess Declaration).

<sup>84</sup> EX1004, ¶ [0026] (Müller).

<sup>85</sup> *Contra* EX2007, ¶ 57 (Kurfess Declaration).

I note that in his deposition, Dr. Kurfess admitted that Müller’s loop would be held at “pretty low tension.”<sup>86</sup> I agree. In a loop such as disclosed in Müller’s buffer 12, where the primary force on the web material is gravity, the “exceptionally light tensions” in the loop can be modelled by the catenary.<sup>87</sup> A POSA would understand that tension in the loop could be approximated by a simplified catenary equation:

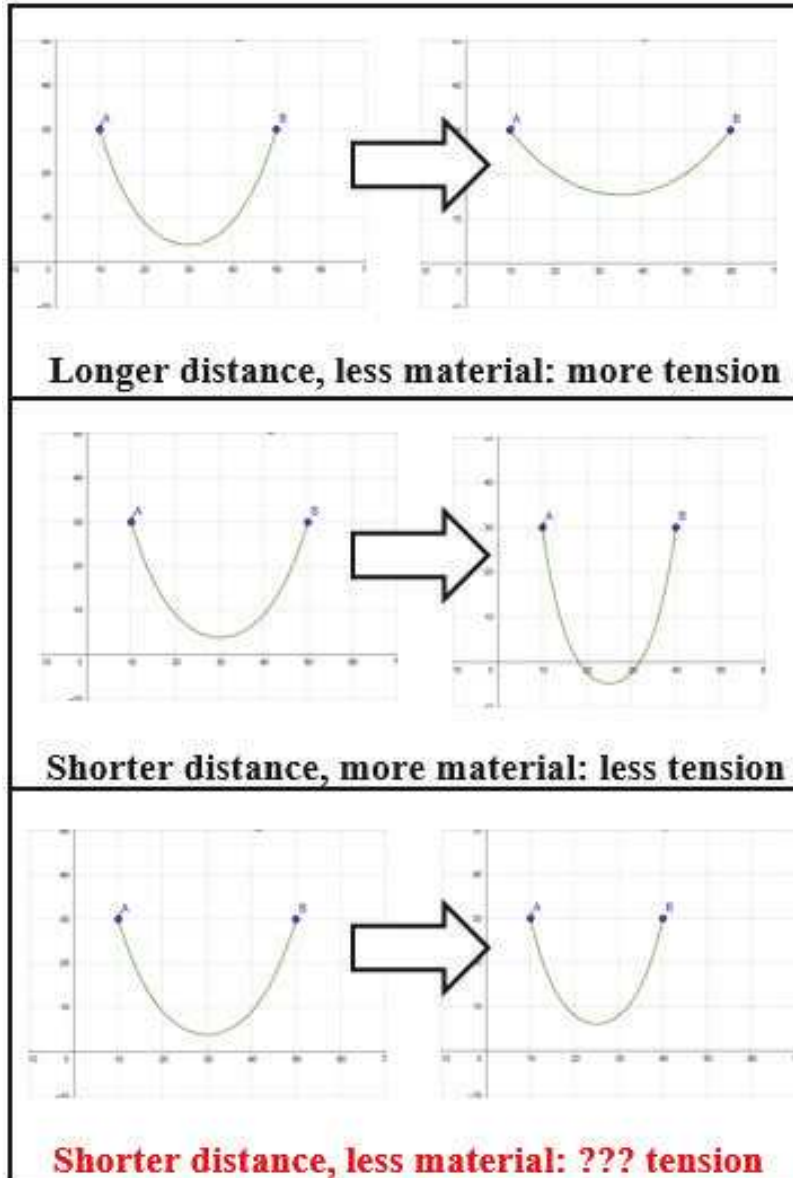
$$T = \frac{L^2 w}{8s}$$

where T is tension, L is the distance between roller tangents, w is the weight per unit area, and s is the sag, which relates to the amount of material in the loop. Notably, the two variables identified by Dr. Kurfess (distance and material contained) are on *opposite* sides of the fraction. Depending on the magnitude of change, decreasing the distance *and* the amount of material contained could result in lower tension, equal tension, or more tension:

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<sup>86</sup> EX1037, 139:3-11 (Kurfess Deposition).

<sup>87</sup> EX1011, p. 61 (The Mechanics of Web Handling).



*Diagrammatic representation of changing tensions in a catenary*

A POSA, who would be aware of the catenary equation and its application, would not make the same mistake as Dr. Kurfess. And even without applying the catenary equation, a POSA would understand that the purpose of Müller's loop 12 implies

that the material in loop 12 is held under very low tensions.<sup>88</sup> Regardless, and as I mention in my prior declaration, high-acceleration/high-jerk areas can cause tension issues even in loops held under relatively high tension.<sup>89</sup>

47. Dr. Kurfess’s opinion that “Müller, however, is designed to prevent the very issue the vacuum brake is supposed to improve” is incorrect as well.<sup>90</sup> In support of this erroneous opinion, Dr. Kurfess exclusively cites to descriptions of the interleaver *reel* in Müller.<sup>91</sup> However, as I explain above in ¶ 9, buffer 12 is isolated from the interleaver reel by buffer 8. Regardless of whether the reel is braked automatically to prevent overrun *into* buffer 8, a POSA would understand that has no impact on whether a brake exists to prevent overruns *out of* buffer 12. Highlighting Dr. Kurfess’s error, Müller explains that this braking occurs “when a product change is taking place in the cutting device,” i.e. when the interleaver is fully stopped.<sup>92</sup> A POSA would readily understand that Müller does not contemplate fully stopping the interleaver between each and every slice; doing so would be impractical (likely impossible) and would obviate the benefits of buffer 12, as every

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<sup>88</sup> *Supra*, ¶ 9.

<sup>89</sup> EX1014, ¶ [0002] (DePoi); EX1003, ¶ 221 (Opening Jobin Declaration).

<sup>90</sup> *Contra*, EX2007, ¶ 58 (Kurfess Declaration).

<sup>91</sup> *Contra*, EX2007, ¶ 58 (Kurfess Declaration).

<sup>92</sup> EX1004, ¶ [0010] (Müller).

roller in the device would have to move web material with high-acceleration, high-jerk dynamics.

48. I note separately that Dr. Kurfess is correct that “issues of overrun [are] inherent in a loose loop system.”<sup>93</sup> Dr. Kurfess’s error is in concluding that “braking on the ascending portion of the loop” can be avoided by instead braking the interleaver reel.<sup>94</sup> Rather, both are beneficial. Braking the interleaver reel prevents overrun when the system is stopped, such as when “a product change is taking place” and no product slicing (and hence no interleaving) is occurring.<sup>95</sup> Braking the ascending portion of the loop prevents overrun when the paper in the loop is rapidly accelerated toward the cutting area and then rapidly stopped by the ejector roller 14.

**d) Waffner’s disclosures would improve stability in Müller’s web handling device.**

49. I disagree with Dr. Kurfess’s opinion that “Müller’s buffer 12 would not realize the alleged improvements in stability of the web exiting the loop store due to the size and the design of Müller’s loop.”<sup>96</sup> To begin with, Dr. Kurfess bases this opinion on the “same reasons” discussed above in ¶¶ 41-48, and as I note at ¶ 46, Dr. Kurfess is incorrect that a small loop necessarily operates at a high tension

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<sup>93</sup> EX2007, ¶ 58 (Kurfess Declaration).

<sup>94</sup> *Contra*, EX2007, ¶ 58 (Kurfess Declaration).

<sup>95</sup> EX1004, ¶ [0010] (Müller).

<sup>96</sup> *Contra*, EX2007, ¶ 59 (Kurfess Declaration).

which would protect against potential vibrations or twists. Rather, a POSA would understand that loop 12 is at “exceptionally light tensions,” as I explain above at ¶ 9. Further, Dr. Kurfess relies on Müller’s disclosures of “very high acceleration” to conclude that Müller, as written, perfectly solves any conceivable issue with high accelerations.<sup>97</sup> In my opinion, a POSA would not reach this conclusion. Rather, a POSA would consider how Müller’s system might be improved by applying known techniques (such as, in this case, a stabilizing vacuum) from the prior art. Even if a POSA believed Müller was “adequate[]”, as Dr. Kurfess states, that does not mean the POSA would be willfully blind to possible improvements. A POSA is not an automaton.

**B. Ground 2: The Combination of Jordan and Fukuchi Renders the Challenged Claims of the ’013 Patent Obvious.**

**1. Jordan, in view of a POSA’s skill, teaches the cutting region limitation.**

50. I disagree with Dr. Kurfess’s opinion that Jordan would not teach a POSA the use of its web handling system in an interleaver with a cutting region.<sup>98</sup> A POSA is not an automaton who would read the words of Jordan literally without considering what was known in the art as of 2017. By 2017, the “basic principle of

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<sup>97</sup> EX2007, ¶ 59 (Kurfess Declaration).

<sup>98</sup> *Contra*, EX2007, ¶¶ 60-65 (Kurfess Declaration).

an interleaver was known.”<sup>99</sup> As I explain in my opening report, for example at ¶ 75, the basic principles of an interleaver included slicing interleaver material and food product in the same cutting region.

51. Because these principles were known, Jordan—when read in 2017—would teach and suggest them with its reference to slicers and interleavers. And as I explain in my opening report, for example at ¶ 320, a POSA would have quickly recognized that the slicing machine and interleaver described in Jordan did not operate according to these basic principles and were not an improvement over the basic principles. Rather, as I explain in my opening report, for example at ¶ 321, the unconventional design of Jordan was the result of solving problems that had existed in the slicers of 1973 but no longer existed in the slicers of 2017. In view of these improvements, as I explain in my opening report, for example at ¶ 322, a POSA would not have focused on Jordan’s specific embodiment of a separate slicer and interleaver, but would have instead considered Jordan’s teachings in the context of a modern, integrated slicer-interleaver.

52. In other words, Jordan’s disclosures in Columns 5:29 through 6:9, when combined with a POSA’s background understanding of the “basic principle” of an interleaver, teach and enable a modern interleaver (with a cutting region) that

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<sup>99</sup> EX1001, Col. 8:31-34 (’013 patent).

transports web material to the cutting region using the web handling techniques (including a buffer) of Jordan. A POSA reviewing Jordan would see that Jordan teaches a web handling system with a buffer for use in an interleaver, and would further understand that the known principles of interleavers included a single blade for slicing web material and food product. A POSA would see nothing in Jordan suggesting that Jordan's web handling techniques were incompatible with such an interleaver (and Dr. Kurfess does not suggest any incompatibilities).

53. I disagree that I “never explain[] what modifications to Jordan would be required were Jordan to incorporate a ‘cutting region’ where food product is sliced and interleaved paper sheets are cut.”<sup>100</sup> Rather, I previously explained that a POSA would construct a “slicer” (which is not expressly described in Jordan and relies on a POSA's knowledge of the background art to enable) in the manner of known, modern slicers, which include a single blade for cutting paper and food material.<sup>101</sup> And the POSA would use the web-handling technique of Jordan (which is expressly described and enabled by Jordan) to advance web material from a spool, through a buffer, and toward the cutting region.

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<sup>100</sup> *Contra*, EX2007, ¶ 65 (Kurfess Declaration).

<sup>101</sup> EX1003, ¶¶ 75, 318-323 (Opening Jobin Declaration).

54. By focusing on which components of Jordan would be “replaced,” Dr. Kurfess misunderstands how a POSA would use the teachings of Jordan.<sup>102</sup> Jordan is not a physical machine that a POSA would encounter on a factory floor and have to modify. Rather, Jordan is words and diagrams capable of teaching a POSA about the existing state of the art. A POSA would not, for example, “replace” the “native paper cutter” of Jordan.<sup>103</sup> Rather, a POSA’s vision of a machine based on Jordan’s teachings in view of 2017 technology would never include that redundant paper cutter in the first place. Similarly, Dr. Kurfess is incorrect that “there is no infrastructure capable of delivering uncut food product to the region in which Jordan’s paper cutter operates.”<sup>104</sup> Rather, a POSA would understand that known, state-of-the-art slicers provide exactly that infrastructure.

**2. A POSA would be motivated to use Fukuchi’s two-part removal device.**

55. I note that Dr. Kurfess does not provide any expert opinions refuting the opinions I set forth in paragraphs 347, 411, and 434 of my opening declaration, EX1003.

56. However, I have reviewed Weber’s “Patent Owner’s Response,” (Paper No. 19), and understand that Weber’s attorneys have argued that “Mr. Jobin fails to

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<sup>102</sup> *Contra*, EX2007, ¶ 65 (Kurfess Declaration).

<sup>103</sup> *Contra*, EX2007, ¶ 65 (Kurfess Declaration).

<sup>104</sup> *Contra*, EX2007, ¶ 65 (Kurfess Declaration).

articulate any reasoning to support why Jordan's two-part removal device should be replaced with Fukuchi's redundant teachings."<sup>105</sup> I disagree with the conclusions reached by Weber's attorneys.

57. Jordan is not cumulative of Fukuchi on this point. Jordan does not disclose any drive upstream of rollers 24.<sup>106</sup> And a POSA would understand that the speed of rollers 24 must match the average rate at which interleaving material travels through Jordan.<sup>107</sup> Because the speed of rollers 24 is determined by the rate at which material is consumed, a POSA would recognize that during operation, the speed of rollers 24 may be too high or too low to maintain an ideal tension on the web material leaving magazine roll 23. If a POSA encountered prior art teaching a solution to this tension control problem, the POSA would be motivated to implement that solution.

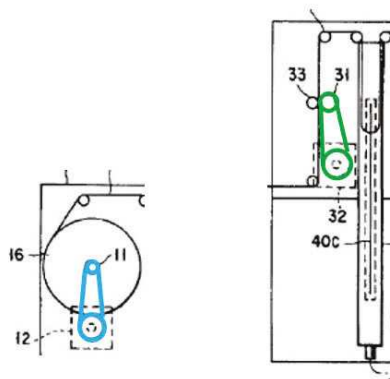
58. Fukuchi teaches such a solution. Fukuchi teaches that the magazine roll (rolled chip paper 16) can be driven by its own drive (motor 12 and roller 11). This drive is in addition to a separate drive (motor 32 and roller 31) which transports interleaver material into the buffer loop (apparatus 40).

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<sup>105</sup> Paper No. 19, p. 45-46 (Patent Owner's Response).

<sup>106</sup> *E.g.*, EX1005, Fig. 1 (Jordan).

<sup>107</sup> EX1004, Col. 6:6-9 (Jordan).



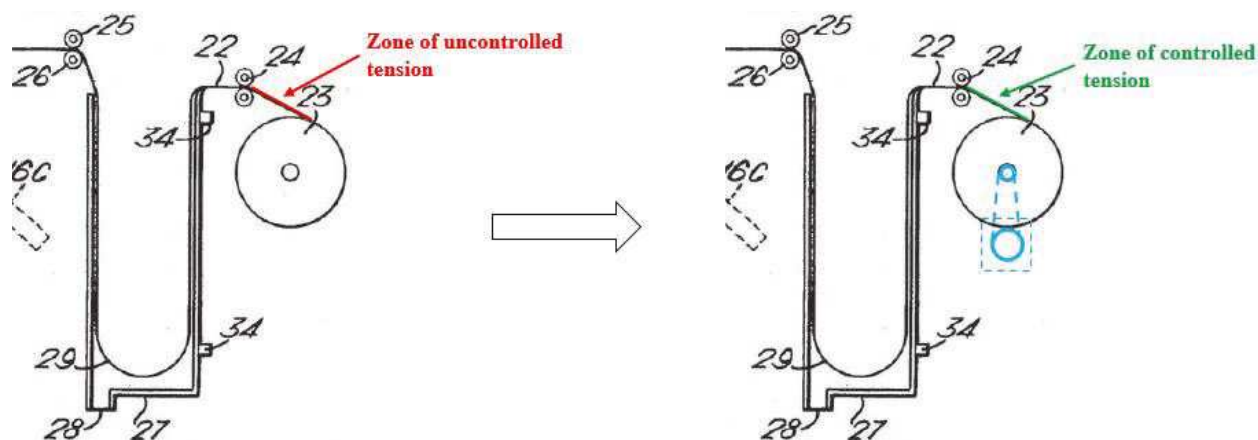
*EX1007, Fig. 1 (Fukuchi) (cropped and annotated to show two-part removal)*

A POSA would understand that by having the speed of the magazine roll directly controlled by a drive, the tension of paper leaving the roll would be controllable.<sup>108</sup>

59. Adding a motor, belt and roller to Jordan's magazine roll would be well-within a POSA's skill. For example, driven rolls like Fukuchi's had been disclosed for use in interleavers like Jordan's, which would enhance a POSA's confidence in the success of the combination.<sup>109</sup> And a POSA would recognize that this modification would allow tension to be controlled in a new zone:

<sup>108</sup> *C.f.* EX1011, p. 59 (The Mechanics of Web Handling) (discussing draw control.)

<sup>109</sup> EX1025, Col. 7-13-25 (GEA 258) ("The unrolling device **10** comprises a tape roll **11** ... which is freewheeling **or driven by a further drive (not illustrated)**") (emphasis added).



*EX1005, Fig. 1 (Jordan) (cropped and annotated to show exemplary modification)*

This is not cumulative of Jordan, because although Jordan uses a “vacuum to draw the loop into shaft 27,” that vacuum controls the tension between rollers 24 and 25; it *does not* control tension upstream of roller 24.

## II. CONCLUSION

60. By signing this declaration, I recognize that my declaration will be filed as evidence in a contested case before the United States Patent and Trademark Office’s Patent Trial and Appeal Board. I also recognize that I may be subject to cross-examination in the case. If cross-examination is required of me, I will appear for cross-examination within the United States during the allotted time.

61. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine of imprisonment, or

both, under Section 1001 of Title 18 of the United States Code. I am over the age of eighteen years old, and I am competent to make this Declaration.

Date: December 17, 2024

DocuSigned by:  
  
F00825E58253493...

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Michael Jobin