

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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CIXI CITY LIYUAN AUTO PARTS CO. LTD., TYGER AUTO, INC.,  
AND HONG KONG CAR START INDUSTRIAL CO. LTD.,  
Petitioner,

v.

LAURMARK ENTERPRISES, INC.,  
Patent Owner.

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IPR2020-01030  
Patent 8,061,758 B2

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Before PATRICK R. SCANLON, JOHN P. PINKERTON, and  
MICHAEL L. WOODS, *Administrative Patent Judges*.

PINKERTON, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
*35 U.S.C. § 314*

## INTRODUCTION

Cixi City Liyuan Auto Parts Co. Ltd., Tyger Auto, Inc., and Hong Kong Car Start Industrial Co. Ltd. (collectively, “Petitioner”) filed a petition for *inter partes* review of claims 2, 3, and 4 of U.S. Patent No. 8,061,758 B2 (Ex. 1001, “the ’758 patent”). Paper 1 (“Pet.”). Laurmark Enterprises, Inc., d/b/a BAK Industries (“Patent Owner”) filed Mandatory Notices of Patent Owner (Paper 5, “PO Notices”) and a Preliminary Response (Paper 7, “Prelim. Resp.”), contending that the Petition should be denied as to all challenged claims. Prelim. Resp. 1.

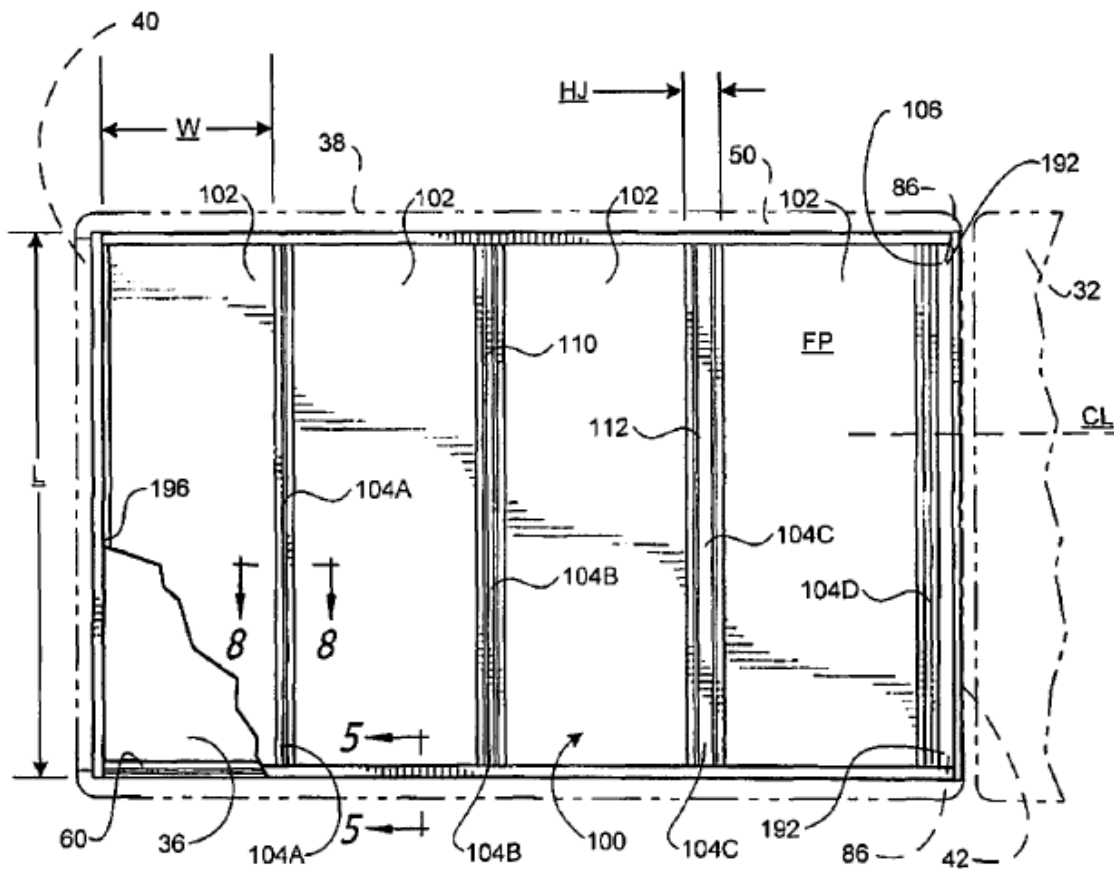
Institution of an *inter partes* review is authorized by statute when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018); *see* 37 C.F.R. § 42.108. Upon consideration of the Petition, and the associated evidence, as well as the arguments in the Preliminary Response, for the reasons discussed below, we do not institute an *inter partes* review of any challenged claim.

### *A. Related Matters*

The parties identify the following matters in which the ’758 Patent is at issue, and that would affect, or be affected by, a decision in this proceeding: *Certain Pick-Up Truck Folding Bed Cover Systems and Components Thereof*, ITC Investigation No. 337-TA-1188; and *Extang Corp. et al. v. Tyger Auto Inc.*, No. 5:18-cv-02074 (C.D. Cal.) (stayed pending the ITC investigation). Pet. 99; PO Notices 2.

*B. The '758 Patent*

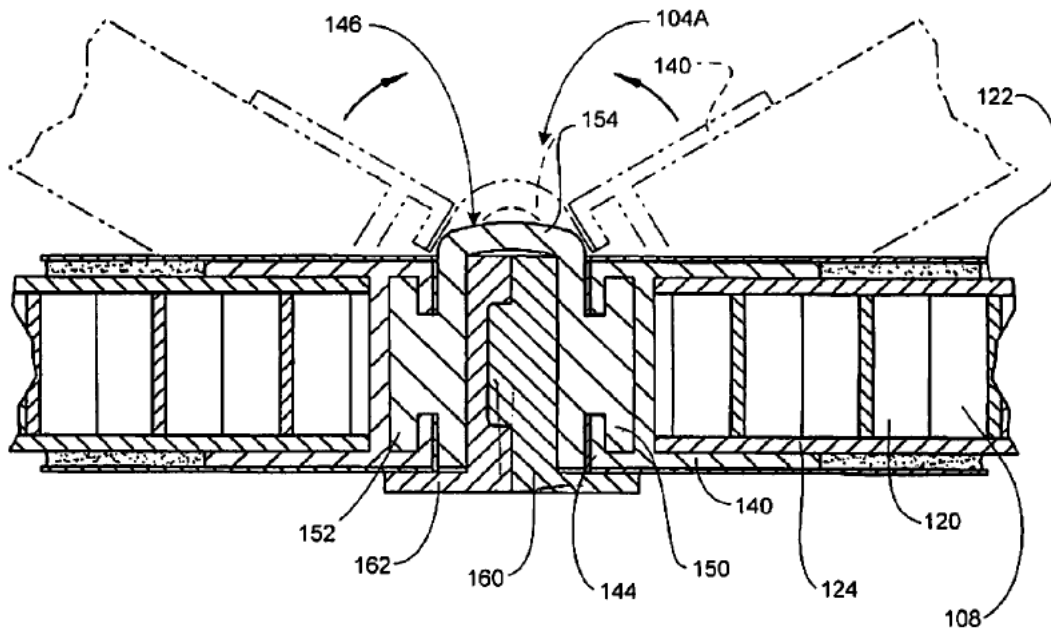
The '758 patent is titled "Pick-Up Truck Box Cover." Ex. 1001, [54]. The '758 patent generally describes a "cover assembly for a pick-up truck cargo box." Ex. 1001, Abstract. The '758 patent explains that the cargo box is typically rectangular, and is formed between left and right box side walls, a tail gate at the back of the truck, and a front or cab wall at the front of the box, adjacent to the cab of the truck. *Id.* at 2:36–40. Figure 2 of the '758 patent is reproduced below.



**FIG. 2**

Figure 2 of the '758 patent is a plan view of the cover and pick-up truck box shown in Figure 1. *Id.* at 2:7–8. As shown in Figure 2, cover 100 includes four panels 102 connected by hinge joints 104A, 104B, 104C, and 104D that allow panels 102 to fold onto each other, from the tail gate at the back to the front cab wall, to open cover 100. *Id.* at 3:38–43. Hinge joints 104A and 104D may have the same design. *Id.* at 3:43–45. Hinge joints 104B and 104C are different, however, in that they include spacer bar 110 and 112, respectively, each of which is dimensioned to allow the panels to fold flat onto each other without stressing the hinge joints. *Id.* at 3:45–50.

Figure 8 of the '758 patent is also reproduced below.



**FIG. 8**

Figure 8 is a section view taken along line 8–8 of Figure 2. *Id.* at 2:18. Hinge joints 104 that connect adjacent panels 102 include hinge strip 146, typically made of rubber or other resilient or flexible material. *Id.* at 4:40–44. Hinge strip 146 has first and second fittings or attachment features 150 and 152, formed as T-sections. *Id.* at 4:44–47. As shown in Figure 8, lateral frame 140 is provided with a metal extrusion having a slot between arms 144, with the slot dimensioned to slide over and interlock with fittings 152 and 154 on hinge strip 146. *Id.* at 4:52–56. Fittings 150 and 152 are spaced apart by a flat or web section 154 of hinge strip 146. *Id.* at 4:56–58. As also shown in Figure 8, first and second hinge joint backing bars 160 and 162 may be used to stiffen and strengthen hinge joints 104. *Id.* at 4:64–66.

### *C. Illustrative Claim*

Among the challenged claims, claim 2 is independent. Claim 2 is illustrative of the subject matter of the challenged claims and provides as follows (with paragraph notations added consistent with those used by Petitioner):

- 2.0 A cover for a pick-up truck cargo box, comprising:
  - (2.1) a first panel, a second panel, and a third panel, with each panel having a core material between the top and bottom plates;
  - (2.2) a first lateral member attached to the front lateral edge of the first panel;
  - (2.3) a first spacer bar, with the first lateral frame member including a first interlocking element interlocked with a back lateral edge of the first spacer bar and with first panel pivotally attached to the first spacer bar;
  - (2.4) a second lateral member attached to a back lateral edge of the second panel, with the second lateral member

including a second interlocking element interlocked with a front lateral edge of the first spacer bar;

(2.5) a second spacer bar;

(2.6) a third lateral member attached to a front lateral edge of the second panel, with the third lateral member including a third interlocking element interlocked with a back lateral edge of the second spacer bar;

(2.7) a fourth lateral member attached to a back lateral edge of the third panel, with the fourth lateral member including a fourth interlocking element interlocked with front lateral edge of the second spacer bar;

(2.8) with the second spacer bar having a width greater than the first spacer bar and less than the width of the second panel and of the third panel, and the width of the second spacer bar selected to allow the second panel to fold over onto the third panel, with a top surface of the first panel facing and substantially parallel to a top surface of the second panel and with a bottom surface of the first panel facing and substantially parallel to a top surface of the third panel.

*Id.* at 8:39–9:3.

#### *D. Asserted Grounds of Unpatentability*

Petitioner contends that claims 2, 3, and 4 of the '758 patent are unpatentable based on the following grounds (Pet. 12–15):

Claims Challenged	35 U.S.C. §	References
2, 3	103(a)	Stone, <sup>1</sup> Thoman <sup>2</sup>
3, 4	103(a)	Thoman, Kooiker 296 <sup>3</sup>
2, 3, 4	103(a)	Thoman, Erlandsson, <sup>4</sup> Kooiker 296
2, 3, 4	103(a)	Steffens, <sup>5</sup> Keller, <sup>6</sup> Erlandsson

In its analysis, Petitioner relies on the declaration testimony of Paul Hatch (Ex. 1003). *See* Pet. 21–98.

## DISCUSSION

### *A. Claim Construction*

In an *inter partes* review based on a petition filed on or after November 13, 2018, we apply the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), following the standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2019); 83 Fed. Reg. 51,340, 51,340–41, 51,343 (Oct. 11, 2018). In applying such standard, claim terms are generally given their ordinary and customary meaning, as would be

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<sup>1</sup> U.S. Patent No. 4,221,423, filed Nov. 1, 1978, issued September 9, 1980 (Ex. 1005).

<sup>2</sup> U.S. Patent No. 5,595,417, filed July 26, 1995, issued Jan. 21, 1997 (Ex. 1006).

<sup>3</sup> U.S. Patent 6,352,296 B1, filed Nov. 17, 2000, issued Mar. 5, 2002 (Ex. 1007).

<sup>4</sup> U.S. Patent No. 6,767,051 B2, filed Sept. 12, 2003, issued July 27, 2004 (Ex. 1009).

<sup>5</sup> U.S. Patent No. 6,422,635 B1, filed Jan. 20, 2000, issued July 23, 2002 (Ex. 1010).

<sup>6</sup> U.S. Patent No. 6,899,372 B1, filed July 14, 2004, issued May 31, 2005 (Ex. 1011).

understood by a person of ordinary skill in the art, at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner notes that claim 2 includes four instances of a lateral member with an “interlocking element interlocked with” a lateral edge of a spacer bar and argues the Specification defines “interlocking with each other” to mean “having features that engage each other.” Pet. 11 (citing Ex. 1001, 5:1–2, claim 2; Ex. 1003 ¶ 42). Petitioner asserts this definition is consistent with both the ordinary meaning and Figure 8 of the ’758 patent that “depicts elements ‘interlocked with each other,’ namely, ‘[t]he backing bars 160 and 162 may be interlocking with each other, i.e., having features that engage each other.’” *Id.* (citing Ex. 1001, 5:1–2; Ex. 1003 ¶ 42). Thus, Petitioner proposes that “‘interlocking’ elements means those ‘having features that engage each other,’ such as paired male and female elements.” *Id.* at 12. Petitioner also states that in the related ITC investigation, the parties have agreed that the term “left and right” as used in claim 4 of the ’758 patent means “adjacent to the left and right sidewalls of the truck cargo box.” *Id.* (citing Ex. 1017, 3; Ex. 1018).

Patent Owner notes that the term “interlocking element” is recited in limitation 2.3, for example, as follows: “a first spacer bar, with the first lateral frame member including a first interlocking element interlocked with



a back lateral edge of the first spacer bar and with first panel pivotally attached to the first spacer bar.” Based on the claim language, the Specification, and the prosecution history, Patent Owner argues that the “first interlocking element” should be construed to be a particular structure which: “(i) is part of the lateral frame member; (ii) is interlocked with the spacer bar; and (iii) provides a pivotal attachment of the first panel to the first spacer bar.” Prelim. Resp. 4–15.

For purposes of this decision, we discern no need to construe any claim term. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’ ”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

#### *B. Principles of Law*

“In an . . . [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

A claim is unpatentable as obvious under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art;

(2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

### *C. Level of Ordinary Skill*

Relying on the testimony of its declarant, Mr. Hatch, Petitioner asserts the following:

A POSITA at the time of the claimed invention would be a mechanical engineer or industrial designer with a degree in engineering, industrial design or a related specialization, with approximately two years of professional design experience, including product design. Alternatively, a designer without a degree may be a POSITA if they have approximately two to four years of experience designing automotive hardware, such as the cover at issue in this case.

Pet. 10 (citing Ex. 1003 ¶¶ 18–19).

Patent Owner has not taken a position on the level of ordinary skill in the art. *See, generally*, Prelim. Resp. We determine, on the current record, that the level of ordinary skill proposed by Petitioner is consistent with the challenged claims of the '758 patent and the asserted prior art, and we, therefore, adopt that level for purposes of this decision.

### *D. Ground 1: Obviousness of Claims 2 and 3 Over Stone and Thoman*

Petitioner contends that claims 2 and 3 of the '758 patent would have been obvious under 35 U.S.C. § 103(a) over Stone in view of Thoman. Pet. 13, 15–47. Petitioner argues that Stone discloses nearly every element of claim 2, with the minor exception that Stone does not disclose panels having a core material between top and bottom plates. *Id.* at 20. Petitioner provides a claim chart for each of claims 2 and 3, and, relying in part on the testimony

of Mr. Hatch, Petitioner explains how the references allegedly teach or suggest the limitations of these claims and provides reasoning for combining the teachings of the references. *Id.* at 21–47.

### 1. Overview of Stone

Stone is a U.S. patent titled “Cover for a Vehicle Box.” Ex. 1005, code (54). In particular, Stone relates to a cover that is adapted for covering the box of a “pickup” truck. *Id.* at 1:6–9. Figures 4 and 5 of Stone are reproduced below.

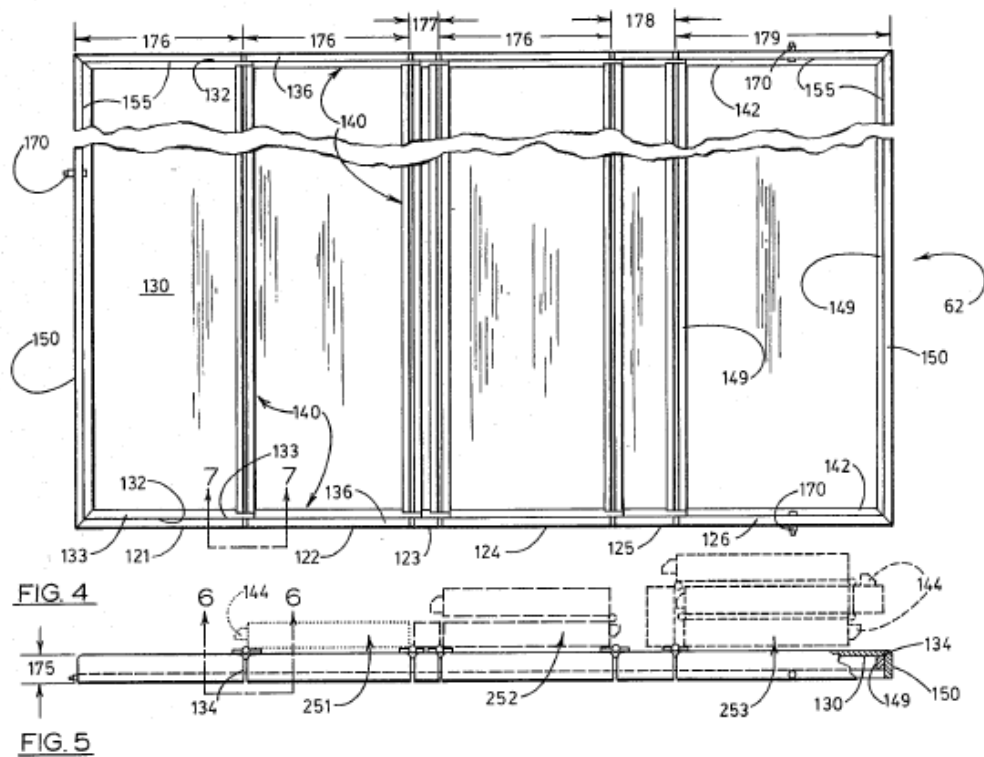


Figure 4 is a bottom plan view of the first embodiment of Stone’s cover. *Id.* at 2:50–52. Figure 5, shown below Figure 4, is a side elevation of the cover showing two alternate folded positions of panels in dashed lines. *Id.* at 2:53–55.

As shown in Figure 4, when the cover is extended longitudinally of the pickup box, the panels are indicated in sequence, from the rearward end

wall of the box to the forward end wall, by numerals 121 through 126. *Id.* at 5:44–52. Each of panels 121 through 126 has a rectangular reinforcing frame 140 extending peripherally about its respective back 130. *Id.* at 6:26–28. Frame 140 includes a pair of first bars 142 extending in parallel relation to first edges 132 of back 130 and individually engaged with corresponding bars 136 thereof on the side of the bars disposed toward the center of the panel. *Id.* at 6:30–35.

Panels 121 through 126 of Stone have various widths, which are predetermined to permit the panels to be folded as shown in Figure 5. *Id.* at 8:17–24. The depth of all the panels is substantially equal to a first predetermined distance, shown by numeral 175 in Figure 5. *Id.* at 8:24–26. Panel 121, panel 122 adjacent thereto, and panel 124 have substantially the same width, which is substantially equal to a second predetermined distance. *Id.* at 8:31–35. The width of panel 126 is substantially equal to the sum of such first and second predetermined distances. *Id.* at 8:35–39. With respect to spacer panels 123 and 125, Stone explains the width of panel 123 is “substantially equal to its depth, or the first predetermined distance, and the width of [] panel 125 is substantially equal to twice this distance.” *Id.* at 8:39–42.

## 2. *Overview of Thoman*

Thoman is a U.S. Patent titled “Tonneau Cover for A Pick-up Truck.” Ex. 1006, code (54). Thoman discloses a cover for enclosing an open bed of a pick-up truck having a front panel, center panel, and a rear panel retained in separate frames. *Id.* at 1:38–42. Figures 3 and 4 of Thoman are reproduced below.

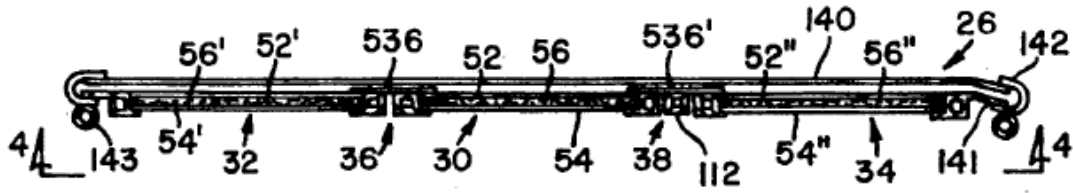


FIG. 3

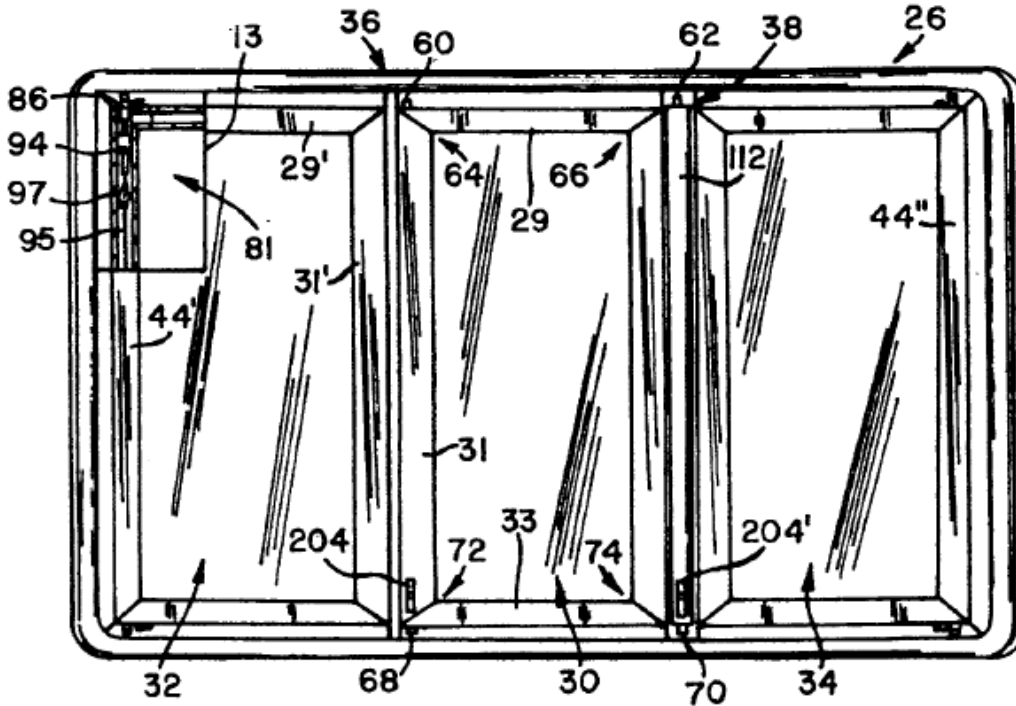


FIG. 4

Figure 3 is a sectional view of Thoman's cover, and Figure 4 is a view from under the cover, taken along line 4—4 of Figure 3. *Id.* at 2:21—27. As depicted in Figure 4, center panel 30, front panel 32, and rear panel 34 are each retained in a tubular frame having a longitudinal length that is substantially the width of the front end wall and tailgate of the pick-up truck bed. *Id.* at 3:35—38. Each panel is made up of a frame and a center composite made of foam member 56 sandwiched between and bonded to top 52 and bottom 54 hard plastic sheets. *Id.* at 3:38—41. As depicted in Figure 3, front panel 32 is connected to center panel 30 by first rubber hinge 36,

while rear panel 34 is connected to center panel 30 by similar rubber hinge 38. *Id.* at 5:47–50.

### 3. *Analysis regarding Limitation 2.3*

In its Preliminary Response, Patent Owner disputes Petitioner’s challenge to claim 2 with respect to only the portion of limitation 2.3 reciting “the first lateral frame member including a first interlocking element interlocked with a back lateral edge of the first spacer bar and with first panel pivotally attached to the first spacer bar.” Prelim. Resp. 15–20. As Patent Owner argues, and we agree, Petitioner relies entirely on Stone for allegedly teaching or rendering obvious this limitation. *Id.* at 19 (citing Pet. 31–34). Thus, we focus our analysis of Petitioner’s challenge to claim 2 on whether Stone discloses or renders obvious limitation 2.3.

The “first lateral frame member” of limitation 2.3 is recited in limitation 2.2 as “a first lateral member attached to the front lateral edge of the first panel.” Ex. 1001, 8:43–44. Petitioner asserts that Stone’s “second bars 149” teach “a first lateral member attached to the front lateral edge of the first panel” because first panel 222<sup>7</sup> of Stone “includes a first lateral member (149) attached to its front lateral edge (134) (wherein ‘front’ refers to the lateral end of the panel nearest the front of the truck).” Pet. 26–28

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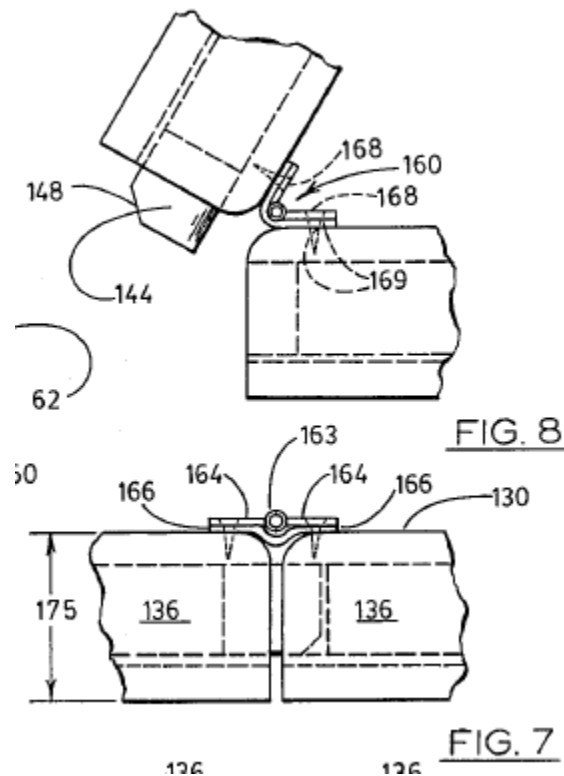
<sup>7</sup> In its claim chart analysis, Petitioner refers to Figure 5, which references panels 121–126, and Figure 10, which references corresponding panels 221–226. *See* Pet. 24–34. Petitioner refers to panels 121 and 221 as end or back panels (near tailgate), and to panels 126 and 226 as front panels (near truck cab). *Id.* at 26 n. 3, 28 n. 4. Petitioner states that, although Stone refers to “panels” 123 and 125, and 223 and 225, in Figures 5 and 10, respectively, they “serve the function of spacer bars.” *Id.* at 26–27 (citing Ex. 1005, 9:7–10; Ex. 1003 ¶ 84, Claim 2(iii)).

(citing Ex. 1005, Fig. 5, 6:52–54 (“Each reinforcing frame 140 includes a pair of second bars 149 which are parallel to the second edges 134 of its respective panel.”) (emphasis deleted); *see also* Ex. 1003 ¶ 84, Claim 2 (iii)<sup>8</sup>).

Regarding the portion of limitation 2.3 reciting “the first lateral frame member including a first interlocking element interlocked with a back lateral edge of the first spacer bar,” Petitioner asserts, “Stone discloses a first panel 222 with a first lateral frame member which includes a first interlocking (male) element [extension 144] interlocked with an interlocking element (female) [notch 146] on the back lateral edge of the first spacer bar 223.” *Id.* at 30–33 (citing Ex. 1005, 6:41–50, 18:18–28; Ex. 1003 ¶ 84, Claim 2 (iv)). Petitioner asserts this is shown in more detail in enlarged excerpts from Figures 7 and 8. *Id.* at 31–32. Figures 7 and 8 of Stone are reproduced below.

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<sup>8</sup> Petitioner’s declarant Mr. Hatch uses a different numbering scheme than Petitioner to identify the elements of the challenged claims. For example, starting with the preamble, Petitioner numbers claim 2’s limitations as 2.0 through 2.8. Pet. 24–46. Mr. Hatch identifies claim 2’s limitations as 2(i) through 2(xiv). *See* Ex. 1003 ¶ 84.



Figures 7 and 8 are fragmentary side elevation views of Figure 4 of Stone. Ex. 1005, 2:58–62. Petitioner asserts that its excerpts of Figures 7 and 8 “illustrate the connections between all panels and spacer bars, including the junction where the first panel is on the left and the first spacer bar is on the right.” Pet. 32 (citing Ex. 1003 ¶ 84, Claim 2 (iv); Ex. 1005, 6:41–50, 18:18–28). In that regard, Petitioner notes that Stone discloses the following:

The outwardly extending one of said ends thus forms an extension 144 mounted on and downwardly of the corresponding respective first edge of the panel. Said opposite end forms a notch 146 extending inwardly of the panel. Each notch extends inwardly from its respective panel substantially the same distance as the extension projects outwardly from the panel. Therefore, each notch is fitted to receive one of said extensions of another panel.

*Id.* (quoting Ex. 1005, 6:41–50).



Petitioner also asserts that Stone discloses “with first panel pivotally attached to the spacer bar,” as recited in limitation 2.3, because Stone teaches “[e]ach second edge 134 of the juxtapositioned pairs thereof of the panels 121 through 126 is interconnected to the other of said edges by a hinge assembly 160 which defines a substantially horizontal pivotal axis 161 extending between and substantially parallel to said edges.” *Id.* at 33–34 (quoting Ex. 1005, 7:38–43; citing Ex. 1003 ¶ 84, Claim 2 (v)).

Patent Owner argues that Stone fails to disclose or render obvious “the first lateral frame member including a first interlocking element interlocked with a back lateral edge of the first spacer bar and with first panel pivotally attached to the first spacer bar,” as recited in limitation 2.3. Prelim. Resp. 15–20. In particular, Patent Owner first argues that “neither Stone’s ‘extension 144’ or ‘notch 146’ are in any sense part of or otherwise ‘included’ in Stone’s ‘second bars 149,’ as claim 2 requires.” *Id.* at 17. Second, Patent Owner argues that neither Stone’s extension 144 nor notch 146 provide for “pivotal attachment of Stone’s panels to any alleged panels or spacer bars.”<sup>9</sup> *Id.* at 17–18.

We agree with Patent Owner’s first argument. In that regard, Patent Owner asserts, and we agree, that Stone describes “extension 144” is formed from an “outwardly extending . . . end[]” of “bar 142,” which extends along

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<sup>9</sup> This argument is based on Patent Owner’s assertion that “first interlocking element” should be construed to be a particular structure which: “(i) is part of the lateral frame member; (ii) is interlocked with the spacer bar; and (iii) provides a pivotal attachment of the first panel to the first spacer bar.” *See* Prelim. Resp. 6, 15. Because our decision on Patent Owner’s first argument regarding limitation 2.3 is dispositive with respect to claim 2, we do not decide Patent Owner’s second argument.

the sides of each of Stone's panels. *Id.* (citing Ex. 1005, 6:30–44, Fig. 4 at 142). Patent Owner also asserts, and we agree, that Stone's "notch 146" is a void "extending inwardly" to the next panel by shortening the opposite end of bar 142 in the next panel an appropriate amount to receive "extension 144." *Id.* (citing Ex. 1005 at 6:26-54, Figs. 6, 7). Thus, we also agree with Patent Owner that "Stone's 'extension 144' and 'notch 146' are part of a **longitudinal** structure (Stone's bar 142), not a lateral member attached to the lateral edge of the first panel, as required by the claim." *Id.* at 17.

Moreover, although limitation 2.3 requires "the first lateral frame member including a first interlocking element," we agree with Patent Owner that "Stone does not describe or depict 'second bar 149' as having any structural relationship with 'extension 144' or 'notch 146,' but at most "is simply adjacent to the end of second bar 149." *Id.* (citing Ex. 1005, Fig. 5) (emphasis added). We further agree with Patent Owner's argument that "neither Petitioner nor their expert provide any reasoned analysis for how Stone's 'second bars 149' 'include' Stone's 'extension 144' and/or 'notch 146.'" *Id.* (citing Pet. 27–33; Ex. 1003 ¶ 84 (pp. 53–54, 58); see *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 ("It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify 'with particularity' the 'evidence that supports the grounds for the challenge to each claim.'")) (quoting 35 U.S.C. § 312(a)(3)). Thus, Petitioner has failed to identify with particularity evidence sufficient to establish a reasonable likelihood that Stone teaches or renders obvious "the first lateral frame member including a first interlocking element," as recited in limitation 2.3.

#### 4. Summary

For the foregoing reasons, Petitioner has not established a reasonable likelihood of prevailing on its contention that Stone in view of Thoman renders claim 2 unpatentable. Petitioner does not contend that Thoman remedies Stone's deficiencies identified with respect to limitation 2.3. Because claim 3 depends from claim 2, Petitioner has also not established a reasonable likelihood of prevailing on its contention that Stone in view of Thoman renders claim 3 unpatentable.

##### *E. Ground 2: Obviousness of Claims 3 and 4 Over Stone, Thoman, and Kooiker 296*

Petitioner contends that claims 3 and 4 of the '758 patent would have been obvious under 35 U.S.C. § 103(a) over Stone in view of Thoman and Kooiker 296.<sup>10</sup> Pet. 48–61. As with respect to ground 1, Petitioner argues that the combination of Stone and Thoman teaches every limitation of claim 2 and claim 3. *Id.* at 48. Petitioner also asserts that the modification of Stone and Thoman in view of Kookier 296 does not impact how the combination of Stone and Thoman meets the limitations of claim 2. *Id.* at 57 (citing Ex. 1003 ¶¶ 94–95). Petitioner notes that claim 4 depends directly from claim 2 and adds “longitudinal side members attached to the sides of the panels, with a resilient strip attached to each of the longitudinal side members.” *Id.* at 48. According to Petitioner, “[l]ongitudinal side members

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<sup>10</sup> As Petitioner states, Kooiker 296 expressly incorporates by reference U.S. Patent No. 5,931,521 (“Kooiker 521”), which is titled “Folding Cover for Pickup Truck Bed” and issued on August 3, 1999. Pet. 48 (Ex. 1007, 4:25–27). Kooiker 521 is included in the record as Ex. 1008. Petitioner asserts that “together the two Kooiker references effectively represent a single disclosure.” *Id.*

with resilient strips were well known by the '758 priority date as shown by Kooiker 296 (Ex. 1007).” *Id.*

Patent Owner notes that Petitioner relies on its arguments from ground 1’s combination of Stone and Thoman for satisfying claim 2, from which claims 3 and 4 depend, and argues that because Petitioner’s arguments for ground 1 fail to demonstrate the obviousness of claim 2, Petitioner’s arguments for ground 2 similarly fail. Prelim. Resp. 20. Patent Owner also notes that Petitioner does not explain or analyze Kooiker 296 with respect to the “first interlocking element” limitation. *Id.*

We agree with Patent Owner. For the reasons discussed *supra* regarding claim 2 in ground 1, Petitioner’s arguments in ground 2 fail because Petitioner has not demonstrated that Stone (or any combination of Stone, Thoman, and Kooiker 296) teaches or renders obvious claim 2’s “first lateral frame member including a first interlocking element,” as recited in limitation 2.3. Accordingly, because claims 3 and 4 depend directly from claim 2, Petitioner has not established a reasonable likelihood of prevailing on its contention that Stone in view of Thoman and Kooiker 296 renders claims 3 and 4 unpatentable.

*F. Ground 3: Obviousness of Claims 2–4 Over Stone,  
Thoman, Erlandsson, and Kookier 296*

Petitioner contends that, even if Stone did not disclose the interlocking elements of claim 2, “Erlandsson teaches using this exact feature between connected automotive panels.” Pet. 62. Petitioner argues that the combination of Stone, Thoman, Kooiker 296, and Erlandsson meets the limitations of claims 2 through 4 in the same way as shown in grounds 1 and 2, except for the interlocking elements of limitations 2.3, 2.4, 2.6, and

2.7 set forth in a claim chart. *Id.* at 65–66 (citing Pet. Sections IV.A.4 and IV.B.3). Petitioner also argues that, although Erlandsson does not address truck covers specifically, Erlandsson constitutes analogous prior art to the ’758 patent because Erlandsson is from the same field of endeavor as the ’758 patent (i.e., multi-panel covers for use in vehicles) and is highly pertinent to the problem addressed in the patent of “providing a vehicle cover made up of pivotally attached panels that is ‘durable, strong, and rigid.’” *Id.* at 64 (citing Ex. 1001, 1:46-47; Ex. 1003 ¶ 110). Petitioner further argues that a person of ordinary skill in the art would have been both “motivated and able to use interlocking elements disclosed by Erlandsson between the panels and spacer bars in the Stone cover in order to ‘add[] structural strength and rigidity to the hinge apparatus’ as taught by Erlandsson.” *Id.* at 65 (citing Ex. 1003 ¶ 111; Ex. 1009, Fig. 3, 3:29–33).

In response, Patent Owner contends that ground 3 fails for three reasons. Prelim. Resp. 21–29. First, Patent Owner argues that Erlandsson is non-analogous art, and Petitioner’s and its expert’s analysis of the motivation to combine Erlandsson is conclusory and fails to address “the significant differences between the structure, function and purpose of Erlandsson and that of Stone.” *Id.* at 22–25. Second, Patent Owner argues that Petitioner fails to specifically identify the “first lateral frame member,” and appears to rely on Stone’s second bar 149, as in ground 2. *Id.* at 25–26 (citing Pet. 65–66; Ex. 1003 ¶ 114). Patent Owner also argues that neither Petitioner nor its expert explains how Erlandsson’s base members would be included as part of Stone’s second bar 149. *Id.* at 26–27. Third, Patent Owner argues that Petitioner’s proposed combination does not disclose or render obvious an interlocking element providing pivotal attachment. *Id.* at

27–29.

*1. Overview of Erlandsson*

Erlandsson is a U.S. patent titled “Hinge Apparatus for Vehicle Floor Systems.” Ex. 1009, code (54). Erlandsson relates generally to vehicles and, more particularly, to floor systems within vehicles. *Id.* at 1:14–15. Erlandsson discloses that vehicle cargo compartments often include a floor panel, which may be covered with carpeting, and that overlies a spare tire compartment or additional storage space. *Id.* at 1:22–24, 1:27–28. Access to the area beneath the floor panel is usually provided by lifting an edge portion of the floor panel and pivoting the floor panel about a hinge, which may pinch or otherwise damage the overlying carpet. *Id.* at 1:26–29. Figure 1 of Erlandsson is reproduced below.

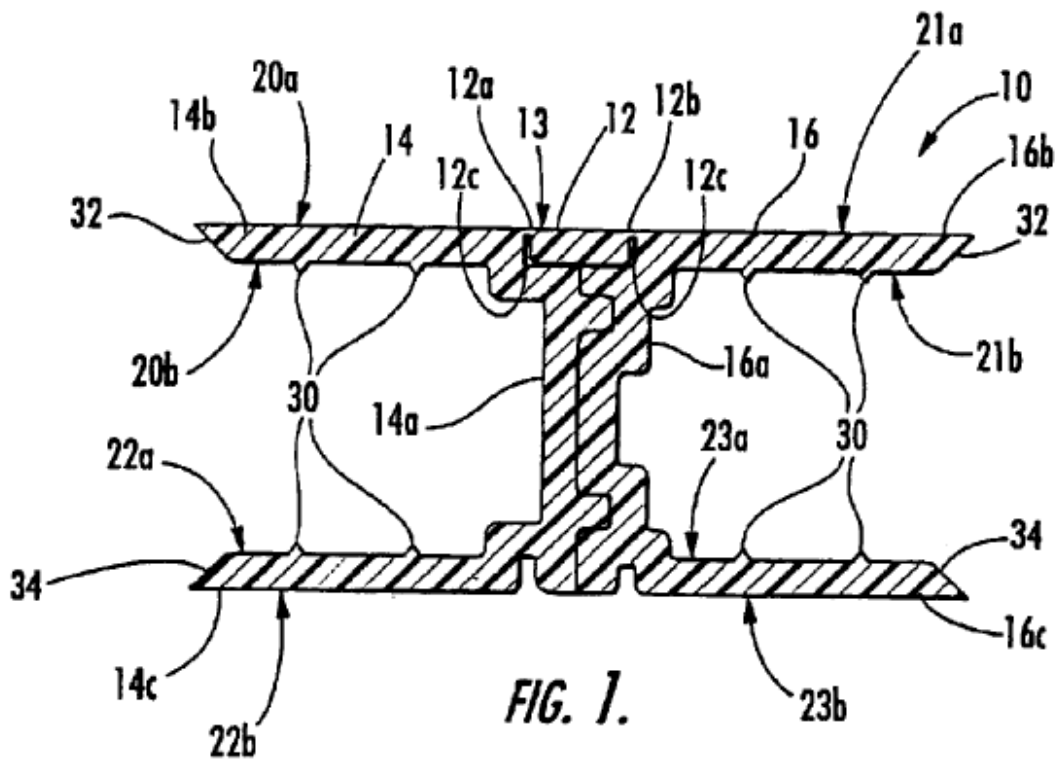


Figure 1 of Erlandsson is a side elevation view of hinge apparatus 10,

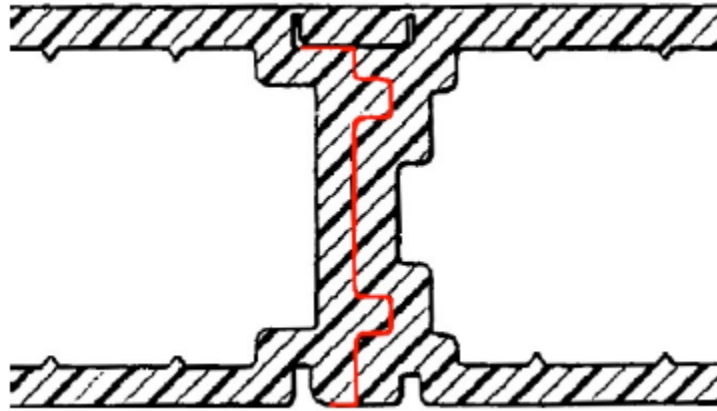
in which first and second hinge members 14 and 16 are in respective first positions. *Id.* at 2:23–25; 3:6–8. Each hinge member 14 and 16 has a base member 14a and 16a, respectively, and a generally planar upper panel 14b and 16b, respectively, extending outwardly from base members 14a and 16a. *Id.* at 3:17–20. As shown in Figure 1, base members 14a and 16a of hinge members 14 and 16 interlock with each other when hinge members 14 and 16 are in the first positions. *Id.* at 3:28–31. Erlandsson also discloses that each hinge member 14 and 16 includes lower panel 14c and 16c, respectively, that extend outwardly from base members 14a and 16a in spaced-apart, opposing relationship with upper panels 14b and 16b. *Id.* at 3:54–57. Erlandsson explains that upper and lower panels 14b, 14c and 16b, 16c, respectively, are configured to removably secure a vehicle floor panel therebetween. *Id.* at 3:62–64.

## 2. Analysis

In its claim chart for ground 3 with respect to limitation 2.3, Petitioner includes an excerpt from Figure 5 of Stone showing first spacer bar 223 between first panel 222 and second panel 224. Pet. 66. Petitioner also states that Erlandsson discloses a number of different designs for interlocking lateral edges of adjacent spacer/bars, such as the one shown in annotated Figure 1, which is reproduced below.<sup>11</sup> *Id.* at 66–69.

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<sup>11</sup> Although Petitioner refers to annotated Figure 3, the figure in the claim chart is annotated Figure 1 of Erlandsson.



Annotated Figure 1 deletes the reference numerals from original Figure 1 and adds a red line between base members 14a and 16a of hinge members 14 and 16 where they touch or interlock with each other.

Petitioner further states the following:

For the reasons discussed, it would have been obvious to employ such mated interlocking elements between each of the panels and spacer bars in the Stone cover—including between the first lateral frame member of the first panel 222 and the back lateral edge of the first spacer bar 223—in order to “add[] structural strength and rigidity to the hinge apparatus” as explicitly taught by Erlandsson (Ex. 1009 at 3:29–33).

*Id.* at 66–67 (citing Ex. 1003 ¶¶ 111–114, Claim 2(iv)).

Petitioner presents these same arguments in its claim chart with respect to limitations 2.4, 2.6, and 2.7, but references other appropriate panel and spacer bar numbers. *Id.* at 67–69.

Even assuming that Erlandsson is analogous prior art to the ’758 patent, we are persuaded by Patent Owner’s second argument that Petitioner has failed to demonstrate how the combination of Erlandsson with Stone, Thoman, and Kookier 296 teaches or renders obvious claim 2’s “first lateral frame member including a first interlocking element,” as recited in limitation



2.3, as well as the corresponding portions of limitations 2.4, 2.6, and 2.7. Prelim. Resp. 25–27. Although Petitioner fails to specifically identify the “first lateral frame member” in its ground 3 claim chart, we agree with Patent Owner that Petitioner appears to rely on the same “first lateral frame member” as in ground 1<sup>12</sup>, “Stone’s second bar 149.” *See id.* at 26 (citing Pet. 65–66; Ex. 1003 ¶ 114). Patent Owner also argues, and we agree, that neither Petitioner nor its expert “articulate *how* they propose Erlandsson’s base members [14 a and 16a] would be combined with Stone, Thoman, and/or Kooiker in the manner claimed,” other than to say that the interlocking elements would have been employed “between each of the panels and spacer bars in the Stone cover—including between the first lateral frame member of the first panel 222 and the back lateral edge of the first spacer bar 223.” *Id.* (citing Pet. at 66–67; Ex. 1003 ¶¶ 108, 114 (p. 94)). As Patent Owner argues, claim 2 recites important structural limitations for the first lateral frame member (Stone’s second bar 149), including that it is “attached to the front lateral edge of the first panel” (limitation 2.2) and “including a first interlocking element” (limitation 2.3). *Id.* (citing Ex. 1001, claim 2). Patent Owner also argues that Petitioner does not “identify how Erlandsson’s base members would be ‘includ[ed]’ as part of Stone’s second bar 149.” *Id.* at 26–27.

Notwithstanding Mr. Hatch’s testimony that “[u]sing the interlocking elements between the Stone panels would require no more than ordinary skill, and the results would have been the expected improvement described in Erlandsson (i.e., increased ‘structural strength and rigidity to the hinge

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<sup>12</sup> Patent Owner mistakenly refers to ground 2.

apparatus” (Ex. 1003 ¶ 112), Petitioner has not shown, and we cannot discern, how these interlocking elements would function within Stone’s apparatus. In particular, Erlandsson’s interlocking elements require direct engagement between base members 14a, 16a (*see, e.g.*, Ex. 1009, Fig. 1), whereas Stone does not teach or suggest that adjacent bars 149 ever contact each other. To illustrate this point, we reproduce Stone’s Figure 6, below:

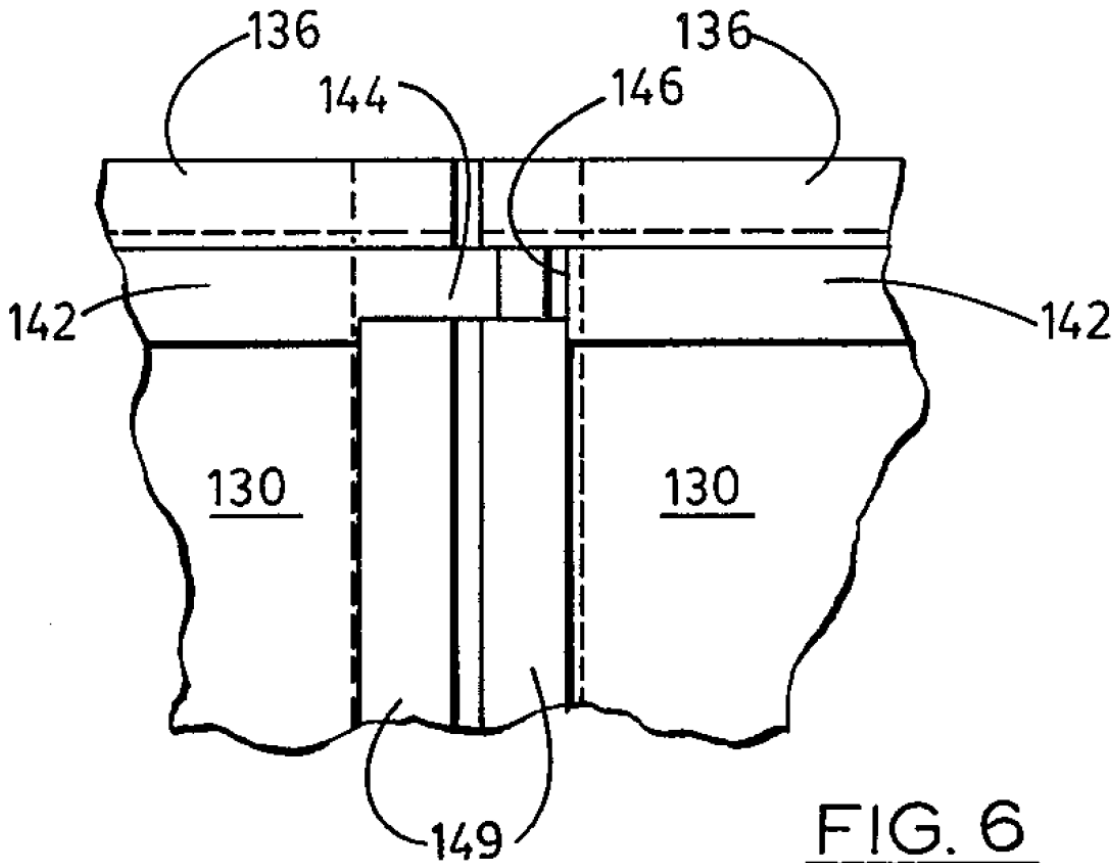


Figure 6 depicts, in relevant part, “second bars 149 which are parallel to the second edges 134 of its respective panel.” *See* Ex. 1005, 6:52–54.

Importantly, we note Figure 6 depicts a space (or other unidentified structure) positioned between bars 149. If a space exists between second bars 149, we are not persuaded that a skilled artisan would have added Erlandsson’s interlocking elements to Stone’s lateral frame member, bars

149, as Petitioner proposes. *See* Pet. 66–67.

Accordingly, we agree with Patent Owner that merely asserting that Erlandsson’s base members (14a and 16a) would be “between” Stone’s panel, including first lateral frame member (second bar 149), and the back lateral edge of the adjacent spacer bar, does not explain or identify with particularity how Erlandsson’s base members would be included as part of Stone’s second bar 149. *See* Prelim. Resp. 26–27.

### 3. *Summary*

For the foregoing reasons, Petitioner has not established a reasonable likelihood of prevailing on its contention that Stone in view of Erlandsson renders claim 2 unpatentable. Petitioner does not contend that Thoman or Kooiker 296 remedies the deficiencies in the combination of Stone and Erlandsson identified with respect to limitations 2.3, 2.4, 2.6, and 2.7. Because claims 3 and 4 depend directly from claim 2, Petitioner has also not established a reasonable likelihood of prevailing on its contention that the combination of Stone, Thoman, Kooiker 296, and Erlandsson renders claims 3 and 4 unpatentable.

#### *G. Ground 4: Obviousness of Claims 2, 3, and 4 Over Steffens, Keller, and Erlandsson*

Petitioner contends that claims 2, 3, and 4 of the ’758 patent would have been obvious under 35 U.S.C. § 103(a) over Steffens in view of Keller and Erlandsson. Pet. 70–98. Petitioner argues that Steffens discloses nearly all elements of claim 2, and that Keller teaches spacer bars that vary in width. *Id.* at 75. As in ground 3, Petitioner argues that Erlandsson discloses the “interlocking element.” *Id.* at 83. Petitioner provides a claim chart for each of claims 2, 3, and 4, and relying in part on the testimony of Mr. Hatch,

Petitioner explains how the references allegedly teach or suggest the limitations of these claims and provides reasoning for combining the teachings of the references. *Id.* at 79–98.

Patent Owner contends that Petitioner’s proposed combination of Steffens, Keller, and Erlandsson does not disclose or render obvious claim 2’s “the first lateral frame member including a first interlocking element interlocked with a back lateral edge of the first spacer bar and with first panel pivotally attached to the first spacer bar.” Prelim. Resp. 29–36. Patent Owner also argues that Petitioner provides “inadequate motivation to combine Erlandsson, which is non-analogous art (interior vehicular floor covers).” *Id.* at 31–34.

### *1. Overview of Steffens*

Steffens is a U.S. patent titled “Folding Cargo Bay Cover for Pickup Truck.” Ex. 1010, code (54). Steffens discloses a cover for a pickup truck cargo bay, including a plurality of rigid panels that fold upon one another to allow access to the cargo bay. *Id.* at 2:33–34, 4:8–10, Figure 1. Figure 10 of Steffens is reproduced below.

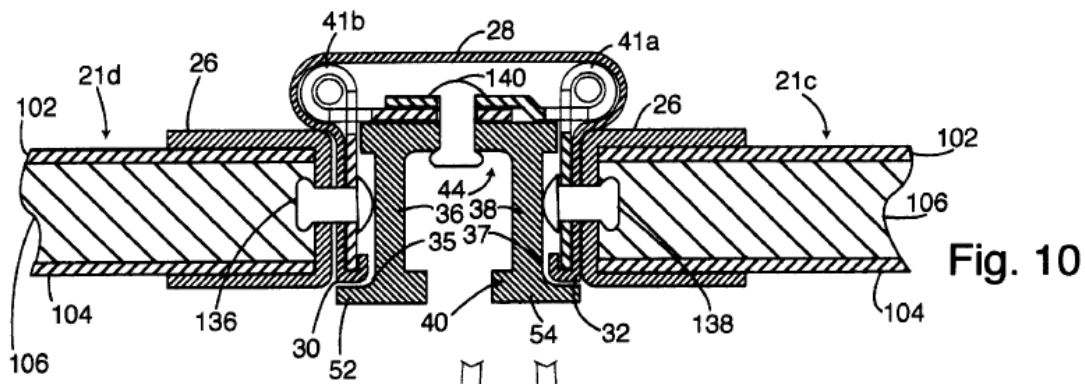


Figure 10 of Steffens is a sectional view of frame member 40 and panels 21c and 21d formed of inner and outer sheets 102 and 104, and a core

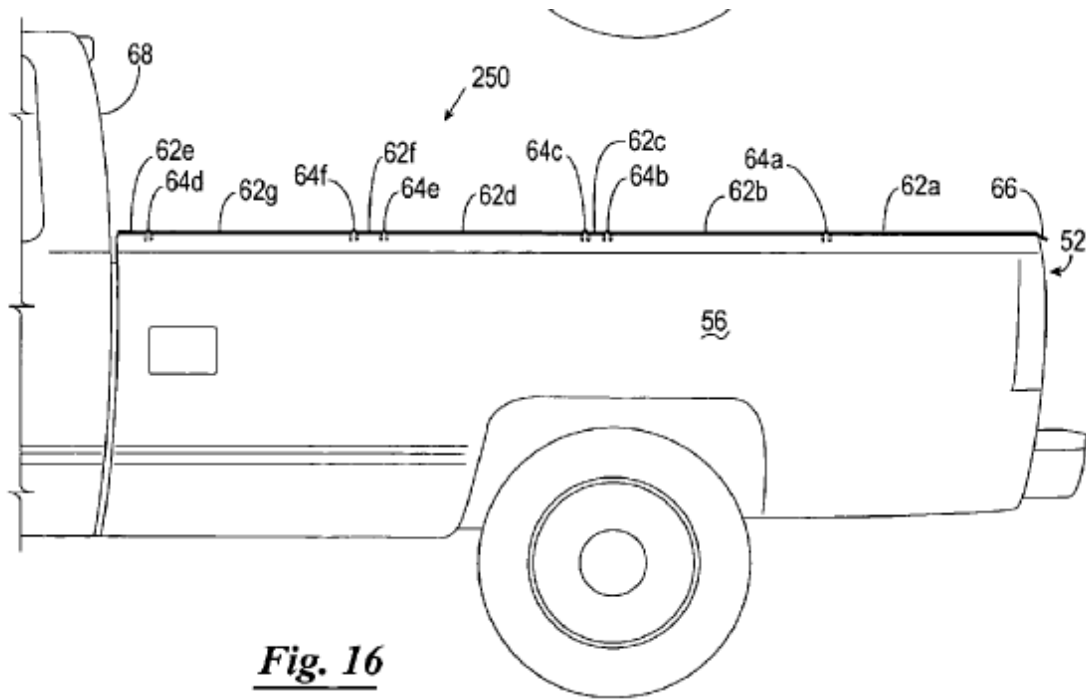
of rigid foam 106. *Id.* at 3:29–30, 7:1–3. Each panel is surrounded by C-frame 26, which protects the edge of the core and adds rigidity to the panels. *Id.* at 7:5–7. Frame member 40<sup>13</sup> includes opposing hinges 41a and 41b, about which panels 21c and 21d pivot. *Id.* at 4:55–57. Rivets 136 and 138 fasten the leaves of hinges 41a and 41b to panel frames 26. *Id.* at 5:36–39. Hinges 41a and 41b are exteriorly covered by flexible plastic jacket 28, having reversed flanges 30 and 32 along its edges to seat over and around the ends of the leaves of hinges 41a and 41b. *Id.* at 7:12–16. Jacket 28 provides a water-tight seal at the edges of C-frames 26 to prevent water from leaking into the cargo bay. *Id.* at 7:18–21.

## 2. Overview of Keller

Keller is a U.S. patent titled “Pickup Bed Cover.” Ex. 1011, code (54). Keller discloses a “multi-section folding pickup bed cover” where the “cover folds against the pickup cab to permit use of the entire pickup bed.” *Id.* at 1:6–14. Keller teaches the cover is formed of multiple rigid panels, hinged together by hinges. *Id.* at 3:7–11. Figure 16 of Keller is reproduced below.

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<sup>13</sup> Petitioner asserts that Steffens nomenclature is different from the ’785 patent in that Stephens’ “spacers” (in the parlance of the ’785 patent) are called “frame members.” Pet. 72 n.6 (citing Ex. 1009, 4:18–26, 6:1–4, Fig. 5).



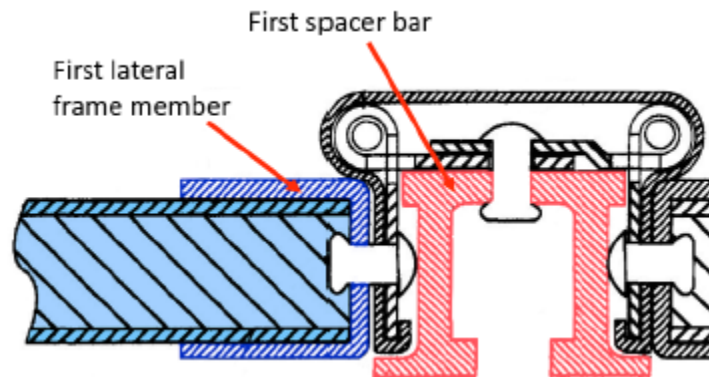
**Fig. 16**

Figure 16 of Keller is a view of a pickup bed cover installed on a long-bed pickup. *Id.* at 2:59–60. The embodiment shown in Figure 16 is formed with panels 62a, 62b, 62c, 62d, 62e, 62f, and 62g that are hinged together by hinges 64a, 64b, 64c, 64d, 64e, and 64f. *Id.* at 5:18–23. Four of the panels, 62a, 62b, 62d, and 62g, are fixed-width panels, and two of the panels, 62c and 62f, are double-hinge panels that increase in width as they near the cab to “accommodate[] folding of multiple layers of rigid panels in pancake fashion.” *Id.* at 5:29–32.

### 3. Analysis

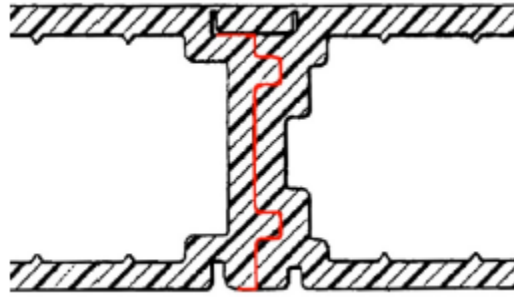
In view of Patent Owner’s argument that the proposed combination of Steffens, Keller, and Erlandsson does not disclose or render obvious claim 2’s “the first lateral frame member including a first interlocking element interlocked with a back lateral edge of the first spacer bar,” we again focus our analysis on limitation 2.3.

In its claim chart analysis regarding limitation 2.3, Petitioner argues that, as shown in annotated Figure 10 reproduced below, Steffens discloses first spacer bar (40) between first panel and second panel. Pet. 86 (citing Ex. 1010, 4:18–22; Ex. 1003 ¶ 147, Claim 2(iv)).



Annotated Figure 10 deletes the reference numerals from original Figure 10, and adds red hatching to the center panel frame (or spacer) and a blue color scheme to the end of the panel depicted on the left and the frame member holding it.

Petitioner also argues that, as discussed, a person of ordinary skill in the art would have been motivated and able to use interlocking elements disclosed by Erlandsson between the panel lateral members and the spacer bars in the Steffens cover to “add[] structural strength and rigidity to the hinge apparatus” as expressly taught by Erlandsson. *Id.* at 87 (citing Ex. 1009, 3:29–33; Ex. 1003 ¶¶ 141–142). Petitioner further argues that using, for example, Erlandsson’s interlock design shown in annotated Figure 1, which is reproduced below, “would require little more than creating one or more male elements on the lateral edge of the panel lateral member and one or more corresponding female elements on the lateral edge of the spacer bar, and it would have been obvious to a POSITA to do so.” *Id.* (citing Ex. 1003, ¶¶ 141–142).



As discussed *supra*, Patent Owner contends that Erlandsson is non-analogous art because it is directed to interior vehicular floor covers, which underlie carpets, and is not concerned with “water tightness, security from theft, or frequent access, and does not use a durable hinge.” Prelim. Resp. 31–32. Even assuming that Erlandsson is analogous prior art to the ’758 patent, we are nevertheless persuaded by Patent Owner’s argument that Petitioner has failed to demonstrate how the combination of Erlandsson with Steffens teaches or renders obvious claim 2’s “first lateral frame member including a first interlocking element,” as recited in limitation 2.3. Patent Owner argues that, like Petitioner’s analysis of the combination of Erlandsson and Stone in ground 3, Petitioner’s analysis of the combination of Erlandsson and Steffens is deficient because it is conclusory and provides “clear difficulties” that Petitioner and its expert fail to address. *Id.* at 32–33. We agree with Patent Owner.

As in ground 3, Petitioner argues that a person of ordinary skill would have motivated and able to use interlocking elements disclosed by Erlandsson “between” the panel lateral members and the spacer bars in Steffens. Pet. 87. However, as discussed *supra*, merely asserting that Erlandsson’s base members (14a and 16a) would be “between” Steffens’s panel lateral members and spacer bars does not explain or identify with particularity how Erlandsson’s base members would be included as part of



Steffens's lateral member. Petitioner's argument that Erlandsson's interlock design (as shown in Figure 3) "would require little more than creating one or more male elements on the lateral edge of the panel lateral member and one or more corresponding female elements on the lateral edge of the spacer bar" is also conclusory and lacks particularity. As Patent Owner argues, Steffens teaches using rivets 136 and 138 to attach panel frames 26 to the leave of hinges 41a and 41b. *Id.* at 33 (citing Ex. 1010, 5:33–39, Fig. 10). Patent Owner also argues, and we agree, that "the heads of those rivets are exactly where Petitioner[] and [its] expert argue Erlandsson's base members would be placed in the proposed combination." *Id.* (citing Pet. 70–75; Ex. 1003 ¶¶ 135, 147 (pp. 121–122)). Patent Owner further argues, and we agree, that neither Petitioner nor its expert "explain how Erlandsson's base members could be compatible with Steffens'[s] rivet or how Steffens could otherwise be modified to be combined with Erlandsson's base members and still maintain appropriate attachment between the panel and the hinge." *Id.* Moreover, Patent Owner notes, and we agree, that jacket 28 of Steffens, which provides water tightness in the hinge, is between Steffens's panel frame 26 and the leaf of the hinge, but again "this is exactly where Petitioner[] and [its] expert suggest placing Erlandsson's allegedly interlocking base members." *Id.* As Patent Owner argues, "neither Petitioner[] nor [its] expert provide any explanation for how such a structure could be formed and still maintain the water tightness provided by Steffens' jacket 28." *Id.* Thus, Petitioner has failed to identify with particularity evidence sufficient to establish a reasonable likelihood that the combination of Erlandsson and Steffens teaches or renders obvious "the first lateral frame member including a first interlocking element," as recited in limitation 2.3.

#### 4. Summary

For the foregoing reasons, Petitioner has not established a reasonable likelihood of prevailing on its contention that Steffens in view of Keller and Erlandsson renders claim 2 unpatentable. Petitioner does not contend that Keller remedies the deficiencies in the combination of Steffens and Erlandsson identified with respect to limitation 2.3. Because claims 3 and 4 each depend directly from claim 2, Petitioner has also not established a reasonable likelihood of prevailing on its contention that Steffens in view of Keller and Erlandsson renders claims 3 and 4 unpatentable.

### III. CONCLUSION

After considering the evidence and arguments presented in the Petition and Preliminary Response, we determine that the record does not demonstrate a reasonable likelihood that Petitioner will prevail with respect to any claim challenged in the Petition. We, therefore, do not institute *inter partes* review of the '758 patent.

### IV. ORDER

Accordingly, it is

ORDERED that no *inter partes* review is instituted.

IPR2020-01030  
Patent 8,061,758 B2

For PETITIONER:

Kristopher Reed  
[kreed@kilpatricktownsend.com](mailto:kreed@kilpatricktownsend.com)

Joshua Pond  
[jpond@kilpatricktownsend.com](mailto:jpond@kilpatricktownsend.com)

Matthew Meyer  
[mmeyer@kilpatricktownsend.com](mailto:mmeyer@kilpatricktownsend.com)

For PATENT OWNER:

Michael Saunders  
[msaunders@dickinson-wright.com](mailto:msaunders@dickinson-wright.com)