

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

BOS GMBH & CO. KG, et al.

Plaintiff,

vs.

MACAUTO USA, INC., et al.,

Defendants.

4:17-CV-10461-TGB

**OPINION AND ORDER
GRANTING MACAUTO'S
MOTION FOR SUMMARY
JUDGMENT (ECF NO. 62)
AND DENYING BOS'S
MOTION FOR SUMMARY
JUDGMENT (ECF NO. 60)**

This is a patent infringement case in which Plaintiffs BOS GmbH & Co. KG and BOS Automotive Products, Inc. (collectively, "Plaintiff BOS" or "BOS") allege that Defendants Macauto USA, Inc. and Macauto Industrial Co., Ltd. (collectively, "Macauto") have infringed upon U.S. Patent No. 7,188,659, entitled "Injection-Molded Plastic Guide Rail" (the "659 Patent").

This matter is before the Court on the parties' cross-motions for summary judgment regarding infringement and validity of the '659 Patent. *See* ECF Nos. 60, 62. The Court held oral argument on October 21, 2020. ECF No. 79.

For the reasons stated in this opinion and order the Court finds that the asserted claims of the '659 Patent are invalid.¹ Accordingly, the Court will **GRANT** Macauto's motion for summary judgment. BOS's motion for summary judgment will be **DENIED**. Because the finding of invalidity makes the question of infringement moot, this case shall be dismissed with prejudice.

I. BACKGROUND

A. Procedural background

The United States Patent and Trademark Office ("USPTO") issued the '659 Patent on March 13, 2007 to Plaintiff BOS. The '659 Patent is directed to a moveable window shade for motor vehicles. The window shade includes injection-molded plastic guide rails that have undercut guide grooves. The guide rails are easier and less costly to manufacture than previous guide rails because they can be formed with injection-molding tools that do not require a complex mold with movable cores to form the undercut guide grooves. Pls.' Br. Ex. A, ECF No. 60-1 ('659 Patent).

On February 13, 2017, BOS filed this patent infringement case against Macauto, alleging that Macauto's retractable rear window shade product infringes the '659 Patent (the "Accused Product"). ECF No. 1. On January 4, 2018, Macauto answered, alleging that the '659 Patent is

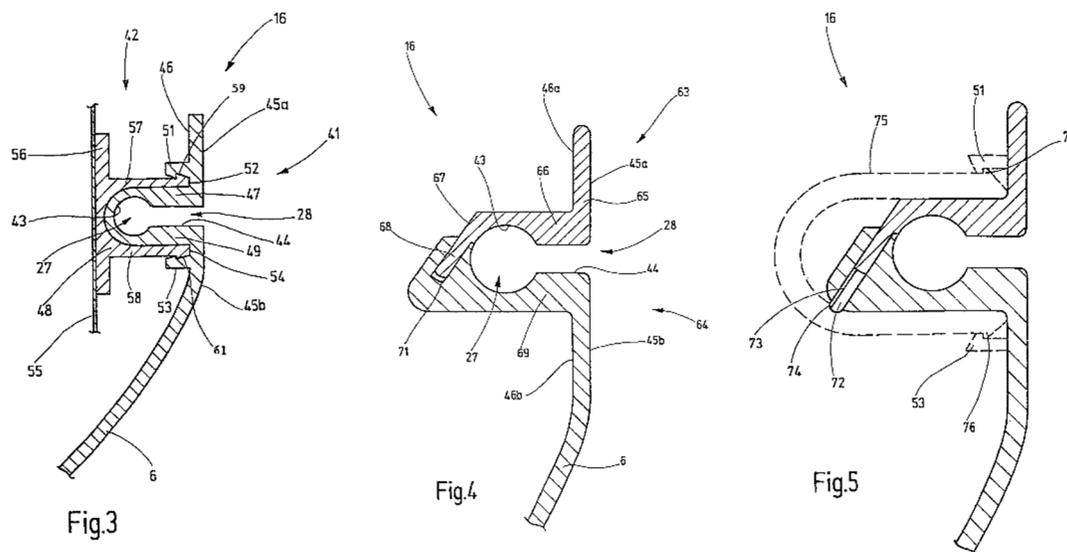
¹The finding on invalidity is dispositive of the case, but the Court provides its reasoning regarding infringement *infra* Section III(B).

invalid, and denying that the Accused Product infringes the '659 Patent. ECF No. 22.

On October 18, 2019, the Court issued an Opinion and Order construing the disputed claim terms within the '659 Patent that are material to the infringement and validity issues in this case, pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). ECF No. 43.

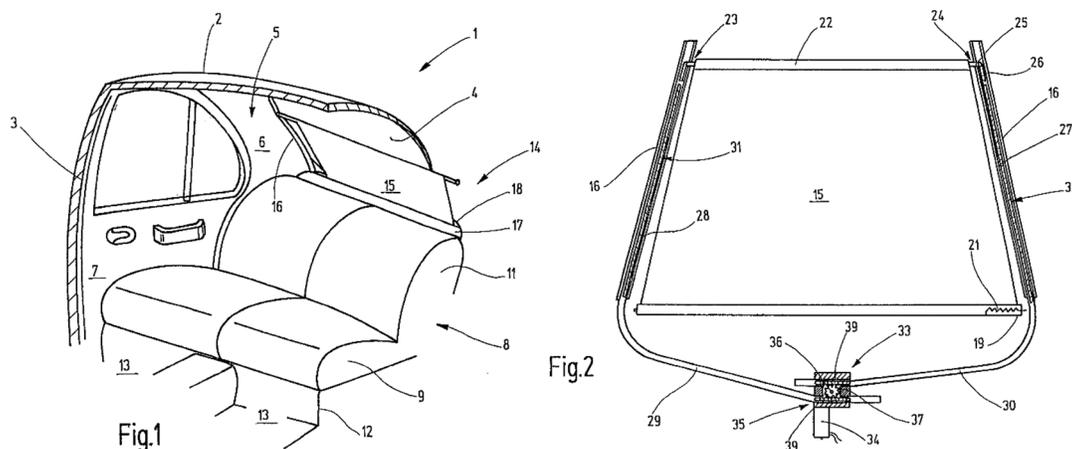
B. The '659 patent

The '659 Patent describes a guide rail (16) that has an undercut guide groove (27). In a first embodiment, shown in Figure 3, reproduced below, the guide rail (16) has an outer part (41) that defines the undercut guide groove (27). In a second embodiment, shown in Figures 4 and 5, reproduced below, the guide rail (16) has first and second parts (63, 64) that are interconnectable to define the undercut guide groove (27).



Figures 3, 4, and 5 from the '659 Patent

As shown with additional reference to Figures 1 and 2, reproduced below, two of the guide rails (16) are used in a moveable window shade (14) for motor vehicles. In addition to the guide rails (16), the window shade (14) has a strip-shaped shade (15). The undercut guide grooves (27) are used to mount the strip-shaped shade (15) for movement between the guide rails (16). The undercut guide grooves (27) have slots (28) through which the undercut guide grooves (27) open outwardly in the direction of the strip-shaped shade (15). The strip-shaped shade (15) is mounted using guides (23, 24) that have neck parts (25) through the slots (28), and guide members (26) received in the undercut guide grooves (27). Relatedly, the undercut guide grooves (27) have narrower rectangular sections (44) that correspond to the slots (28), and wider circular sections (43) whose diameters are adapted to the diameters of the guide members (26). In addition to guiding the guide members (26), the undercut guide grooves (27) prevent the release of the guide members (26) from the undercut guide grooves (27).

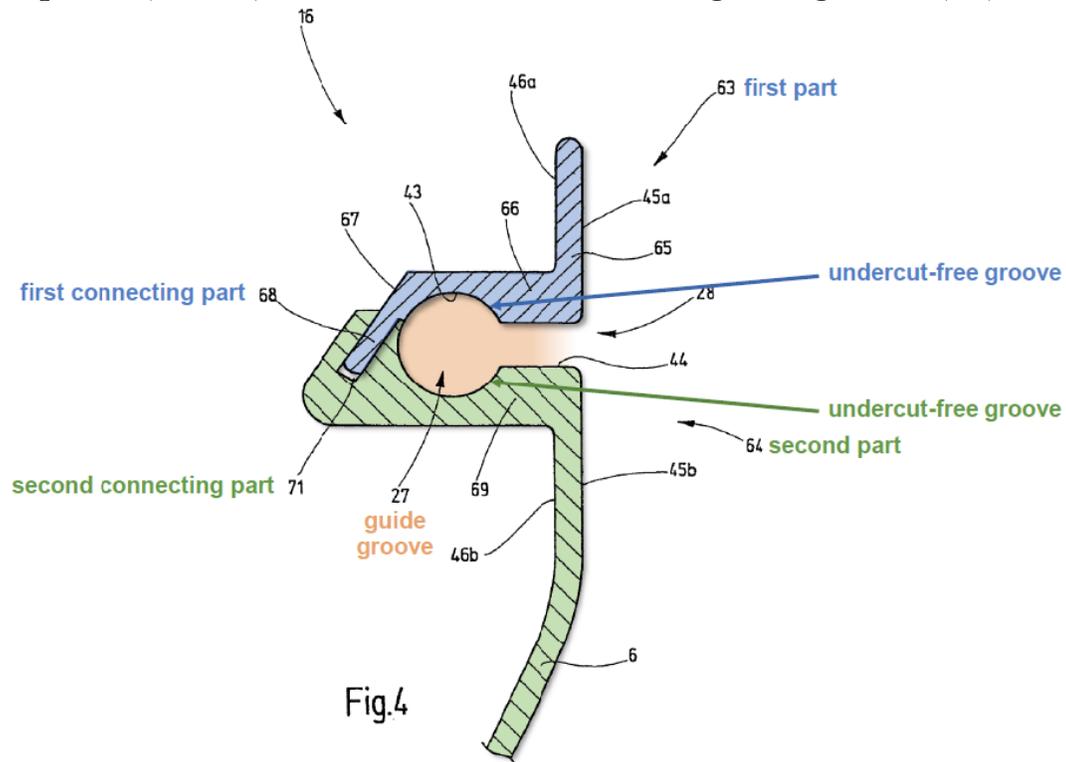


Figures 1 and 2 from the '659 Patent

Each guide rail (16) is an injection-molded plastic part. Despite the undercut guide groove (27), each guide rail (16) can be formed with injection-molding tools that do not require a complex mold with movable cores to form the undercut guide groove (27). In the first embodiment, the outer part (41) of the guide rail (16) is elastically deformable. Accordingly, the outer part (41) can be removed from a mold core that produces the circular section (43) and the rectangular section (44). Specifically, the outer part (41) can be widened enough for the mold core to slide through the slot (28), and subsequently spring back into shape. In the second embodiment, the first and second parts (63, 64) of the guide rail (16) are essentially free of undercuts.

With respect to the second embodiment (shown in Figures 4 and 5, *supra*), according to the claims, the first and second parts (63, 64) of the guide rail (16) have “grooves” that define the undercut guide groove (27). However, the specification of the ’659 Patent does not use “grooves” to describe how the undercut guide groove (27) is defined. Instead, in the “Detailed Description of the Preferred Embodiments” section, the ’659 Patent describes that the first and second parts (63, 64) of the guide rail (16) have limbs (66, 69), and that to form the undercut guide groove (27), the limbs (66, 69) have supplementary outside contours related to the circular section (43) and the rectangular section (44). *See* ’659 Patent at 6:28-51, ECF No. 60-1, PageID.1421. As shown in BOS’s annotated Figure 4 (*see* Pls.’ Br., ECF No. 60, PageID.1386), reproduced below, both

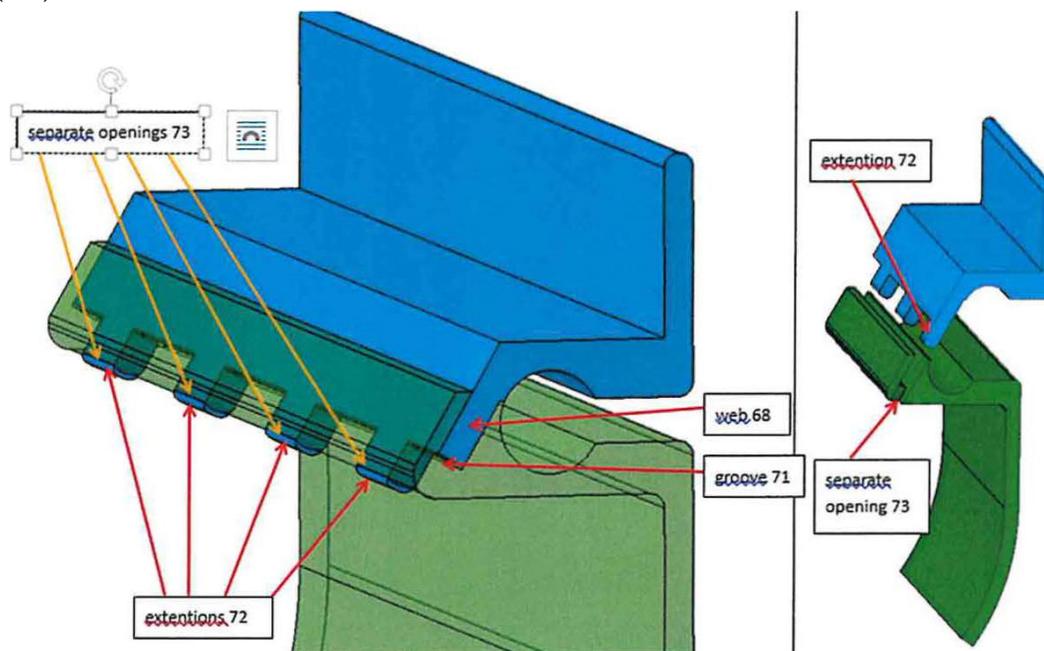
BOS and Macauto point to the supplementary outside contours of the limbs (66, 69) as corresponding to the claimed “grooves” of the first and second parts (63, 64) that define the undercut guide groove (27).



BOS's annotated Figure 4 from the '659 Patent

In the second embodiment of the guide rail (16), one limb (66) has a web (68), and the other limb (69) has a groove (71) that accommodates the web (68). As shown in Macauto's 3-D rendering of Figures 5 and 6 (see Defs.' Claim Construction Br., ECF No. 37, PageID.573), reproduced below, the web (68) has spaced apart tabs (72), and the groove (71) has openings (73). The tabs (72) are inserted into the openings (73) to hold the first and second parts (63, 64) in the correct position in the longitudinal direction of the guide rail (16). Moreover, the tabs (72) have

ribs (74), and the walls of the openings (73) are welded or bonded to the ribs (74).



Macauto's 3-D rendering of Figures 5 and 6 from the '659 Patent

The '659 Patent has forty-three claims, including independent claims 1, 22, 33, 37, and 43. Independent claims 1, 33, and 43 (and dependent claims 2-21 and 34-36) are drawn to the first embodiment of the guide rail (16) (*supra* Figure 3). Claims 1-21 are drawn to one guide rail (16) by itself, and claims 33-36 and 43 are drawn to the combination of at least one guide rail (16) with the strip-shaped shade (15) and other elements of the window shade (14). Independent claims 22 and 37 (and dependent claims 23-32 and 38-42) are drawn to the second embodiment of the guide rail (16) (*supra* Figures 4 and 5). Claims 22-32 are drawn to one guide rail (16) by itself, and claims 33-36 and 43 are drawn to the combination of at least one guide rail (16) with the strip-shaped shade

(15) and other elements of the window shade (14). *See* '659 Patent at 8:5-12:16; ECF No. 60-1, PageID.1422-24.

C. BOS's infringement allegations

BOS alleges that Macauto infringes claims 22-24, 29, 32, 37, 38, and 42 of the '659 Patent. The asserted claims are drawn to the second embodiment of the guide rail (16) (*supra* Figures 4 and 5). The asserted claims are reproduced below with reformatting to include each clause in its own paragraph, and with the claim elements numbered in brackets for later reference:

22. [22a] A guide rail arrangement (16) for window shades (14) in motor vehicles comprising

[22b] an first part (63) in the form of an elongated molded part, said first part (63) including a first connecting portion (68) and an elongated section formed with a groove that is essentially free of undercuts and extends continuously over at least a part of the length of the guide rail arrangement,

[22c] a second part (64) in the form of an elongated molded part, said second part (64) having a second connecting portion (71) and an elongated section formed with a groove that is essentially free of undercuts and extends continuously over at least a part of the length of said guide rail arrangement (16); and

[22d] said connecting parts (68, 71) of said first and second parts (63, 64) being interconnectable to position and retain the first and second parts (63, 64) relative to one another

[22e] with said grooves of said first and second parts (**63, 64**) defining an undercut guide groove (**27**).

23. The guide rail arrangement of claim **22** in which one of said first and second connecting portions (**68, 71**) is in the form of a web.

24. The guide rail arrangement of claim **23** in which one of said first and second connecting portions (**68, 71**) includes a groove.

* * *

29. The guide rail arrangement of claim **24** in which one of said first and second parts is made of a thermoplastic material.

* * *

32. The guide rail arrangement of claim **22** in which one of said first and second parts (**63, 64**) forms an integral component of a section of an inside lining (**6**) of a motor vehicle.

* * *

37. [37a] A window shade (**14**) for motor vehicles comprising [37b] a rotatably supported window shade shaft (**19**), [37c] a strip-shaped shade (**15**) having one edge fixed to said window shade shaft (**19**), [37d] a guide (**23, 24**) connected to an edge (**22**) of the window shade strip (**15**) distant from said window shade shaft (**19**),

[37e] at least one guide rail (**16**) for receiving and guiding one end of said window shade guide (**23, 24**) for relative movement, said guide rail (**16**) including

[37f] a first part (63) in the form of an elongated molded part having a first connecting portion (68) and an elongated section formed with a groove that is essentially free of undercuts and extends continuously over at least a part of the length of said guide rail arrangement,

[37g] a second part (64) in the form of an elongated molded part that includes a second connecting portion (71) and an elongated section formed with a groove that is essentially free of undercuts and extends continuously over at least a part of the length of the guide rail arrangement, and

[37h] said connecting portions (68, 71) of said first and second parts (63, 64) being interconnectable to hold the longitudinal sections of the first and second parts (63, 64) together

[37i] such that the grooves therein forming a guide groove (27) for said window shade guide (23, 24).

38. The guide rail arrangement of claim 37 in which one of said first and second connecting portions (68, 71) is in the form of a web, and in which one of said first and second connecting portions (68, 71) includes a groove.

* * *

42. The guide rail arrangement of claim 37 in which one of said first and second parts (63, 64) forms an integral component of a section of an inside lining (6) of a motor vehicle.

'659 Patent at 9:17-11:16, ECF No. 60-1, PageID.1423-24 (bracketed numbering added).

II. STANDARD OF REVIEW

“Summary judgment is as available in patent cases as in other areas of litigation.” *Cont’l Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1265 (Fed. Cir. 1991).

Under Rule 56, summary judgment is proper when there is “no genuine dispute as to any material fact,” and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a). “In deciding a motion for summary judgment, the court must view the evidence in the light most favorable to the non-moving party, drawing all reasonable inferences in that party’s favor.” *Sagan v. United States*, 342 F.3d 493, 497 (6th Cir. 2003). “Where the moving party has carried its burden of showing that the pleadings, depositions, answers to interrogatories, admissions and affidavits in the record, construed favorably to the non-moving party, do not raise a genuine issue of material fact for trial, entry of summary judgment is appropriate.” *Gutierrez v. Lynch*, 826 F.2d 1534, 1536 (6th Cir. 1987) (citing *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986)).

The court does not weigh the evidence to determine the truth of the matter, but rather, to determine if the evidence produced creates a genuine issue for trial. *Sagan*, 342 F.3d at 497 (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986)). The moving party discharges its burden by “showing”—that is, pointing out to the district court—that there is an absence of evidence to support the nonmoving

party's case." *Horton v. Potter*, 369 F.3d 906, 909 (6th Cir. 2004) (citing *Celotex*, 477 U.S. at 325). The burden then shifts to the nonmoving party, who "must do more than simply show that there is some metaphysical doubt as to the material facts." *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 (1986). The non-moving party must put forth enough evidence to show that there exists "a genuine issue for trial." *Horton*, 369 F.3d at 909 (citing *Matsushita*, 475 U.S. at 587). Summary judgment is not appropriate when "the evidence presents a sufficient disagreement to require submission to a jury . . ." *Anderson*, 477 U.S. at 251-52.

The existence of a factual dispute alone does not, however, defeat a properly supported motion for summary judgment—the disputed factual issue must be material. "The judge's inquiry, therefore, unavoidably asks whether reasonable jurors could find . . . that the plaintiff is entitled to a verdict—'whether there is [evidence] upon which a jury can properly proceed to find a verdict for the party producing it, upon whom the *onus* of proof is imposed.'" *Id.* at 252 (alteration in original) (citation omitted). A fact is "material" for purposes of summary judgment when proof of that fact would establish or refute an essential element of the claim or a defense advanced by either party. *Kendall v. Hoover Co.*, 751 F.2d 171, 174 (6th Cir. 1984) (citation omitted).

III. DISCUSSION

A. Validity analysis

As set forth above, BOS alleges that Macauto infringes claims 22-24, 29, 32, 37, 38, and 42 of the '659 Patent. As affirmative defenses to BOS's infringement allegations, Macauto alleges the asserted claims are invalid under 35 U.S.C. §§ 101, 102, 103, and 112. *See* Defs.' Answer, ECF No. 22, PageID.235. In cross-motions for summary judgment, Defendant Macauto moves for summary judgment that the asserted claims are invalid under § 103, while Plaintiff BOS moves for summary judgment that the asserted claims are not invalid under §§ 101, 102, 103, and 112.

A patent enjoys a statutory presumption of validity, and the party asserting invalidity must prove invalidity by clear and convincing evidence. 35 U.S.C. § 282(a); *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011).

i. Invalidity under §§ 101, 102, and 112

With respect to §§ 101, 102, and 112, BOS argues that Macauto has not come forward with clear and convincing evidence to support its affirmative defenses of invalidity, and Macauto does not dispute BOS's argument. *See* Pls.' Br., ECF No. 60, PageID.1403-06 (BOS addressing §§ 101, 102, 103, and 112); Defs.' Resp., ECF No. 71, PageID.2984-90 (Macauto only addressing § 103). At oral argument, Macauto indicated that it is not pursuing invalidity under these sections, so the Court will only address invalidity under § 103.

ii. Invalidity under § 103

Section 103 outlines the affirmative defense of “obviousness.” A patent is invalid as obvious “if the differences between the subject matter sought to be patented 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.” 35 U.S.C. § 103(a). Obviousness is a legal question based on underlying factual findings. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The relevant factual findings include (1) the scope and content of the prior art, (2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) any relevant secondary considerations. *Id.* at 17-18. Summary judgment of obviousness is appropriate if the relevant factual findings under the *Graham* factors “are not in material dispute, and the obviousness of the claim is apparent in light of these factors.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 427 (2007).

1. The parties’ positions on Macauto’s obviousness argument

Macauto argues that the asserted claims are obvious in light of four prior art references: BOS’s own prior patent reference directed to one-part injection-molded plastic window shade guide rails (“Schlecht”), a textbook that recommends two-part designs for molded plastic products to avoid undercuts (“Beck”), and two prior patent references directed to two-part injection-molded plastic curtain rails (“Nagano” and

“Gastmann”). *See* Defs.’ Br. Ex. E, ECF No. 62-5 (U.S. Pat. Appl. Publ’n No. 2002/0074824 A1 to Schlecht et al.); Ex. P, ECF No. 62-16 (Ronald D. Beck, *PLASTIC PRODUCT DESIGN*, Van Nostrand Reinhold Co., 2nd ed. 1970); Ex. O, ECF No. 62-15 (certified translation of Japanese Pat. No. 6-61293 B2 to Nagano); Ex. Q, ECF No. 62-17 (certified translation of European Pat. Appl. Publ’n No. 0 948 922 A2 to Gastmann). As to the independent claims, with respect to the window shade (14), Macauto argues that Schlecht applies to claim elements [37a]-[37d]. With respect to the guide rail (16), Macauto argues that Schlecht applies to claim elements [22a] and [37e], that Nagano applies to claim elements [22b], [22c], [37f], and [37g], that Beck and Nagano apply to claim elements [22d] and [37h], and that Nagano applies to claim elements [22e] and [37i]. As to the dependent claims, Macauto argues that Gastmann applies to claims 23, 24, and 38, that Nagano applies to claim 29, and that Schlecht applies to claims 32 and 42. Defs.’ Br., ECF No. 62, PageID.1658-60.

Macauto does not offer any expert report on obviousness. *See* ECF No. 55 (Order Den. Defs.’ Mot. to Amend Scheduling Order for Disclosure of Invalidity Expert Report). However, Macauto points out that in matters involving foreign family members of the ’659 Patent, it has secured foreign decisions that invalidate foreign counterparts of the asserted claims in light of the prior art references. *See* Defs.’ Br. Ex. I, ECF No. 62-9 (certified translation of Chinese Pat. No. 101172457 B); Ex.

G, ECF No. 62-7 (certified translation of decision of the China National Intellectual Property Administration (applying Nagano and Gastmann)); Ex. L, ECF No. 62-12 (certified translation of German Pat. No. 103 62 017 B4); Ex. H, ECF No. 62-8 (certified translation of decision of the German Federal Patent Court (applying Schlecht and Beck)). In connection with the foreign decisions, Macauto submits an affidavit from an employee, Mr. Hsiao, and points to a report from its expert witness on Macauto's advice-of-counsel defense, Mr. Leone. *See* Defs.' Br. Ex. M, ECF No. 62-13 (Hsiao Aff.); Ex. J, ECF No. 62-10 (Leone Report). Mr. Hsiao and Mr. Leone liken the '659 Patent to its foreign family members, and based on the same use of reference numbers, liken the asserted claims to their foreign counterparts. Hsiao Aff., ECF No. 62-13, PageID.2212-13; Leone Report, ECF No. 62-10, PageID.1962-66. For each claim element of the asserted claims, Mr. Hsiao summarizes the applicable prior art reference, and quotes how the foreign decisions apply the prior art reference to the foreign counterparts of the asserted claims. Hsiao Aff., ECF No. 62-13, PageID.2213-39.

BOS does not counter-argue that the asserted claims are nonobvious in light of the prior art references or point out any genuine disputes concerning the application of the prior art references to the asserted claims. Instead, relying on an "absence of evidence" theory under *Celotex*, BOS argues that Macauto does not support its affirmative defense of obviousness with clear and convincing evidence. Pls.' Br., ECF

No. 60, PageID.1403 (citing *Celotex*, 477 U.S. at 325). In particular, BOS argues that under the clear and convincing evidence standard, Macauto's obviousness argument fails due to the lack of expert testimony (*i.e.*, testimony from a person of ordinary skill in the art) comparing the prior art references to the asserted claims. *Id.* at PageID.1403-04 (citing *Creative Compounds, LLC v. Starmark Labs.*, 651 F.3d 1303, 1313 (Fed. Cir. 2011) (affirming summary judgment that a patent was not anticipated by a prior art reference previously considered by the USPTO during examination because the accused infringer "failed to provide any testimony from one skilled in the art identifying each claim element and explaining how each claim element is disclosed in the prior art reference"))).

BOS also points out what it believes to be deficiencies in the evidence that is submitted. It argues that even if the asserted claims were identical to their foreign counterparts, the Court cannot defer to the foreign decisions. Pls.' Resp., ECF No. 72, PageID.3694-95 (citing, *inter alia*, *Medtronic, Inc. v. Daig Corp.*, 789 F.2d 903, 907-08 (Fed. Cir. 1986) (argument urging the Federal Circuit to adopt a German tribunal's obviousness conclusion was "specious")). With respect to Macauto's submissions in connection with the foreign decisions, BOS argues that pursuant to Rule 56(c)(2), the Court should not consider Mr. Hsiao's affidavit because his testimony is inadmissible. From a procedural standpoint, BOS points out that Mr. Hsiao was not identified either

under Rule 26(a)(1)(A)(i) as someone likely to have discoverable information on obviousness, or under Rule 26(a)(2)(A) as an expert witness. *Id.*, ECF No. 72, PageID.3676-77 (BOS's Counterstatement of Material Facts) (citing Ex. A, ECF No. 72-2 (Defs.' Rule 26 Initial Disclosures)). From a substantive standpoint, BOS points out that Mr. Hsiao is not a person of ordinary skill in the art. BOS argues that Mr. Hsiao's testimony is therefore inadmissible under Rule 56(c)(4) because he is not competent to testify about the foreign family members of the '659 Patent, the asserted claims, the prior art references, or the foreign decisions. Likewise, BOS argues that Mr. Hsiao's testimony about the foreign decisions is inadmissible hearsay.

BOS also argues that even with the benefit of Mr. Hsiao's affidavit, Macauto's obviousness argument fails for lack of clarity.² Pls.' Resp., ECF No. 72, PageID.3693 (citing *Schumer v. Lab. Comput. Sys., Inc.*, 308 F.3d 1304, 1315 (Fed. Cir. 2002) ("Evidence of invalidity must be clear as well as convincing.")). In particular, BOS points out that in its written brief, as opposed to providing "claim charts or textual argument" comparing

²The Court notes that as a threshold matter, BOS claims that "Macauto never even bothers to explain whether it is contending that the '659 Patent is invalid as anticipated or obvious, nor what specific references or combinations of references it is relying on." *See* Pls.' Resp., ECF No. 72, PageID.3693. This is incorrect. In addition to submitting the prior art references as exhibits, in its written brief Macauto invokes § 103, quotes the Supreme Court's *Graham* and *KSR* decisions, and for each claim element of the asserted claims, states which prior art reference applies. Defs.' Br., ECF No. 62, PageID.1655-60.

the prior art references to the asserted claims, Macauto reproduces the asserted claims, and, after each claim element, adds a general (*i.e.*, non-pinpoint) footnote citation to the applicable prior art reference and the foreign decision that applies it. *See* Pls.' Resp., ECF No. 72, PageID.3693 (referring to Defs.' Br., ECF No. 62, PageID.1658-60). BOS argues that Macauto therefore leaves it to the Court to determine how the prior art references compare to the asserted claims. *Id.* (citing *Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1353 (Fed. Cir. 2001) (rejecting the accused infringers' argument that "the district court should have read the cited references and determined for itself whether they could invalidate the Biotec patents" because "[i]t is not the trial judge's burden to search through lengthy technologic documents for possible evidence"))).

Conceding that the Court cannot defer to the foreign decisions, Macauto argues that the purpose they serve is to provide the analysis for Macauto's obviousness argument. Likewise, Macauto argues that the foreign decisions compensate for the lack of expert testimony comparing the prior art references to the asserted claims. In particular, Macauto argues that the foreign decisions make the prior art references and the motivation to combine them "easily understandable and capable of being done with 'logic, judgment, and common sense, in lieu of expert testimony.'" Defs.' Reply, ECF No. 73, PageID.3739 (quoting *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1239-40 (Fed. Cir. 2010)). As to Mr.

Hsiao's affidavit, Macauto argues that his testimony is fact testimony offered under F.R.E. 701 in the form of particularized knowledge incident to his employment, not opinion testimony offered under F.R.E. 702 in the form of analysis. In any event, Macauto resubmits Mr. Hsiao's affidavit as an unattributed exhibit, titled "Invalidity Claim Reference For The '659 Patent," which the Court will deem attorney argument. *See* Defs.' Reply Ex. 1, ECF No. 73-1 (Att'y Arg.). Like Mr. Hsiao, for each claim element of the asserted claims, Macauto summarizes the applicable prior art reference, and quotes how the foreign decisions apply the prior art reference to the foreign counterparts of the asserted claims. *Id.* at PageID.3746-90.

2. Obviousness analysis

For the reasons set out in detail below, the Court finds that Macauto has supported its affirmative defense of obviousness with clear and convincing evidence that the asserted claims are obvious in light of Schlecht, Beck, Nagano, and Gastmann. Macauto is therefore entitled to summary judgment on its claim that the '659 patent is invalid under § 103.

a. The relevant factual findings and the available evidence

Before reaching the legal question of obviousness, the Court must make the relevant factual findings under the *Graham* factors. Here, the relevant factual findings concern the content of the prior art references

and the differences between the prior art references and the asserted claims. As to the remainder of the *Graham* factors, a review of the written briefs reveals that the scope of the prior art and secondary considerations are not at issue. For instance, BOS does not dispute that Schlecht, Beck, Nagano, and Gastmann are relevant prior art references, and neither Macauto nor BOS addresses any secondary considerations. Moreover, the level of ordinary skill in the art is not genuinely disputed. In particular, Macauto points to reports from BOS's expert witness on infringement, Mr. Parker, and Macauto's expert witness on non-infringement, Dr. Malloy. *See* Pls.' Mot. For Leave To File Exs. Under Seal Ex. J, ECF No. 56-2 (Parker Report); Defs.' Br. Ex. B, ECF No. 62-2 (Malloy Report). Relevant to obviousness, Mr. Parker and Dr. Malloy similarly define the level of ordinary skill in the art. *See* Parker Report, ECF No. 56-2, PageID.1164; Malloy Report, ECF No. 62-2, PageID.1688.

With respect to the relevant factual findings, the only available sources of evidence, other than the '659 Patent itself, are the prior art references. As BOS points out, and Macauto concedes, the Court cannot defer to the foreign decisions. *See, e.g., Medtronic*, 789 F.2d at 907-08. The Court also agrees with BOS that pursuant to Rule 56(c)(2), it should not consider Mr. Hsiao's affidavit because his testimony is inadmissible. From a procedural standpoint, Mr. Hsiao was not identified either under Rule 26(a)(1)(A)(i) as someone likely to have discoverable information on obviousness, or under Rule 26(a)(2)(A) as an expert witness. From a

substantive standpoint, Mr. Hsiao likens the '659 Patent to its foreign family members, likens the asserted claims to their foreign counterparts, and summarizes the prior art references. Contrary to Macauto's argument, these aspects of Mr. Hsiao's testimony are akin to F.R.E. 702 opinion testimony in the form of analysis. The Court therefore agrees with BOS that Mr. Hsiao's testimony is inadmissible under Rule 56(c)(4) because he is not competent to testify about the foreign family members of the '659 Patent, the asserted claims, or the prior art references. Mr. Hsiao also quotes how the foreign decisions apply the prior art references to the foreign counterparts of the asserted claims. To the extent this aspect of Mr. Hsiao's testimony is, as Macauto argues, F.R.E. 701 fact testimony in the form of particularized knowledge incident to his employment, the Court agrees with BOS that it incorporates inadmissible hearsay in the form of his testimony about the foreign decisions.

For reasons that became more apparent at oral argument, BOS also argues that without the benefit of expert testimony comparing the prior art references to the asserted claims, the prior art references themselves are not available evidence. *Cf.* Pls.' Resp., ECF No. 72, PageID.3692-93 ("there is *no competent evidence in the record* to support Macauto's invalidity defense") (emphasis original in part and added in part); Pls.' Hr'g Ex. A, ECF No. 80, PageID.3854 (Macauto "*fail[s] to come forward with competent evidence* on which a jury could properly make a finding of

invalidity”) (emphasis added). On this point, however, the Court disagrees. For instance, although BOS argued at oral argument that the prior art references are inadmissible for lack of sponsorship, BOS has not provided any authority for its argument. In the absence of contrary authority, the Court finds that the prior art references are admissible, at least, under F.R.E. 201(b)(2) (judicial notice), F.R.E. 604 (translations), and/or F.R.E. 902(5) (official publications). *See, e.g., Hoganas AB v. Dresser Indus., Inc.*, 9 F.3d 948, 954 n.27 (Fed. Cir. 1993) (taking judicial notice of a patent not part of the record on appeal because it was referred to at the oral argument and was publicly accessible); *Hollis v. Comm’r of Soc. Sec.*, No. 13-13054, 2015 WL 357133, at *19 (E.D. Mich. Jan. 27, 2015) (“Patents and patent applications are public records “subject to judicial notice””) (citing *Carlucci v. Han*, 886 F.Supp.2d 497, 521 (E.D. Va. 2012)). Similarly, although BOS argued that in the absence of expert testimony, comparing the prior art references to the asserted claims would be beyond the Court’s comprehension, the Court finds that such expert testimony is not necessary because the ’659 Patent and the prior art references are “easily understandable.” *See Wyers*, 616 F.3d at 1240-43 (discussing the content of a prior art reference at length while rejecting the patentee’s argument that the prior art reference “could not be considered” in the absence of expert testimony directed thereto because “expert testimony is not required when the references and the

invention are easily understandable”) (citing *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009)).

With the ’659 Patent and the prior art references as available evidence, Macauto’s obviousness argument does not collapse simply because the foreign decisions and Mr. Hsiao’s affidavit are not being considered as evidence. Indeed, in its opening brief, independent of the foreign decisions and Mr. Hsiao’s affidavit, Macauto states which prior art reference applies for each claim element of the asserted claims. Defs.’ Br., ECF No. 62, PageID.1658-60. Moreover, when Mr. Hsiao’s affidavit is accepted as attorney argument, Macauto sets forth each claim element of the asserted claims, summarizes the applicable prior art reference, and, by extension from the foreign decisions, applies the prior art reference to the asserted claims. Att’y Arg., ECF No. 73-1, PageID.3746-90; *see also* Pls.’ Hr’g Ex. A, ECF No. 80, PageID.3855 (acknowledging “bare attorney argument” “which purports to map certain prior art references to the asserted claims”).

The Court finds that in the specific context of the ’659 Patent and the prior art references, Macauto’s obviousness argument is sufficiently supported. To be clear, for an accused infringer who asks the Court to resolve the question of obviousness in its favor, the Court would have expected a more thorough presentation of Macauto’s obviousness argument through the use of textual argument, claim charts, and the like. At bottom, however, this is a case where the prior art references are not

only easily understandable, but also clear and convincing, lending significant support to Macauto's obviousness argument in their own right. In particular, with Schlecht being directed to one-part injection-molded plastic window shade guide rails, Beck, Nagano, and Gastmann (which were not considered by the USPTO during examination) speak directly to the obviousness of the asserted claims compared to Schlecht. *See infra* Sections III(A)(ii)(2)(b)-(c) (discussing the content of the prior art references, the differences between the prior art references and the asserted claims, and the "apparent" obviousness of the asserted claims in *KSR*, 550 U.S. at 427).

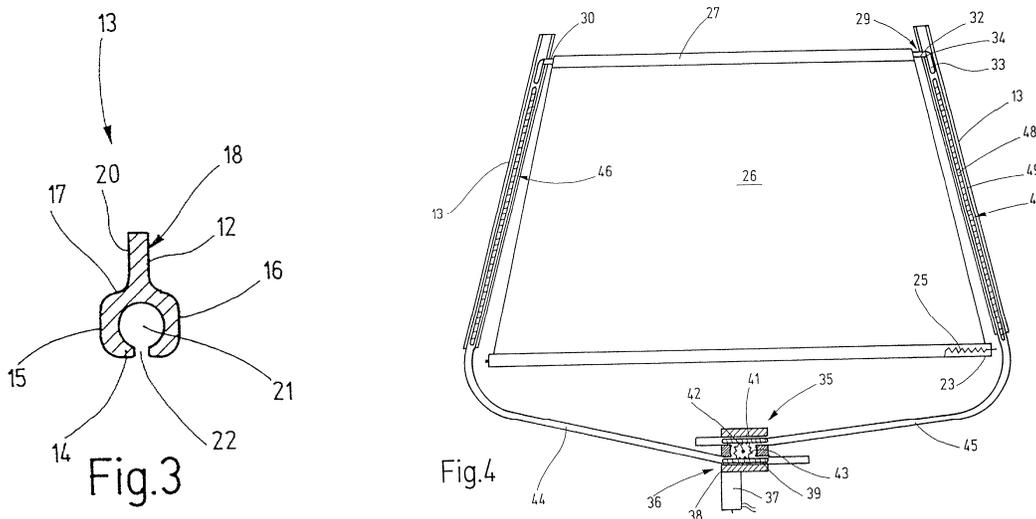
For the same reasons, this is not a case where the Court cannot resolve the question of obviousness in favor of Macauto because BOS did not have an opportunity to respond. *Cf.* Pls.' Hr'g Ex. A, ECF No. 80, PageID.3859 (citing *Cooper v. Ford Motor Co.*, 748 F.2d 677, 680 (Fed. Cir. 1984) (reversing summary judgment including, *inter alia*, a *sua sponte* holding that a patent was obvious in light of a prior art reference that the alleged infringer discussed outside the context of obviousness, noting that "the Federal Rules do not contemplate that a court may dispose of a cause by summary judgment, when the basis for the judgment was not raised by the movant with sufficient precision for the nonmovant to respond")). Despite Macauto raising the defense that the asserted claims are obvious in light of the prior art references, BOS ignores the prior art references, and points to no genuine disputes

concerning the application of the prior art references to the asserted claims. Rather than not having an opportunity to respond, BOS *chose* not to, and instead decided to assign dispositive weight to its contention that Macauto’s obviousness argument fails for lack of expert testimony comparing the prior art references to the asserted claims. *See* Pls.’ Br., ECF No. 60, PageID.1404 (“require[ment]” and “need” for such expert testimony); Pls.’ Resp., ECF No. 72, PageID.3692 (“generally must present” such expert testimony); Pls.’ Reply, ECF No. 76, PageID.3819 (“Macauto cannot prevail . . . because, as a *threshold matter*, it is unable to present” such expert testimony) (emphasis added).

b. The prior art references

With respect to the content of the prior art references, Schlecht, titled “Windup Shade for Simplified Assembly in a Window,” is a U.S. patent application that describes a guide rail (13) with a guide groove (21). Schlecht is assigned to Plaintiff BOS GmbH & Co. KG, and shares a common inventor, Herbert Walter, with the ’659 Patent. As shown in Figures 3 and 4, reproduced below, two of the guide rails (13) are used in a windup window shade (12) for a motor vehicle (1). In the motor vehicle (1), the guide rails (13) are fastened on C-pillars (4, 5) next to the lateral edges of a window opening (6). In addition to the guide rails (13), the window shade (12) has a window shade web (26) with one edge fastened to a windup shaft (23). The guide grooves (21) have circular parts and open via slits (22) to create undercuts, and are used to mount the window

shade web (26) for movement between the guide rails (13). At the edge remote from the windup shaft (23), the window shade web (26) is mounted using end pieces (29, 30) that have arms (32) whose widths correspond to the widths of the slits (22), and guide elements (33) whose cross section is matched to the circular parts of the guide grooves (21). In addition to guiding the guide elements (33), the guide grooves (21) prevent the guide elements (33) from passing outside the guide grooves (21) through the slits (22).



Figures 3 and 4 of the Schlecht patent application

In the embodiment shown in Figure 8, reproduced below, sections of the guide rails (13) are injection-molded plastic parts formed integrally with interior trim elements (76) of the C-pillars (4, 5). Schlecht ¶¶ [0026] [0036], [0090], ECF No. 62-5, PageID.1803, 1806.

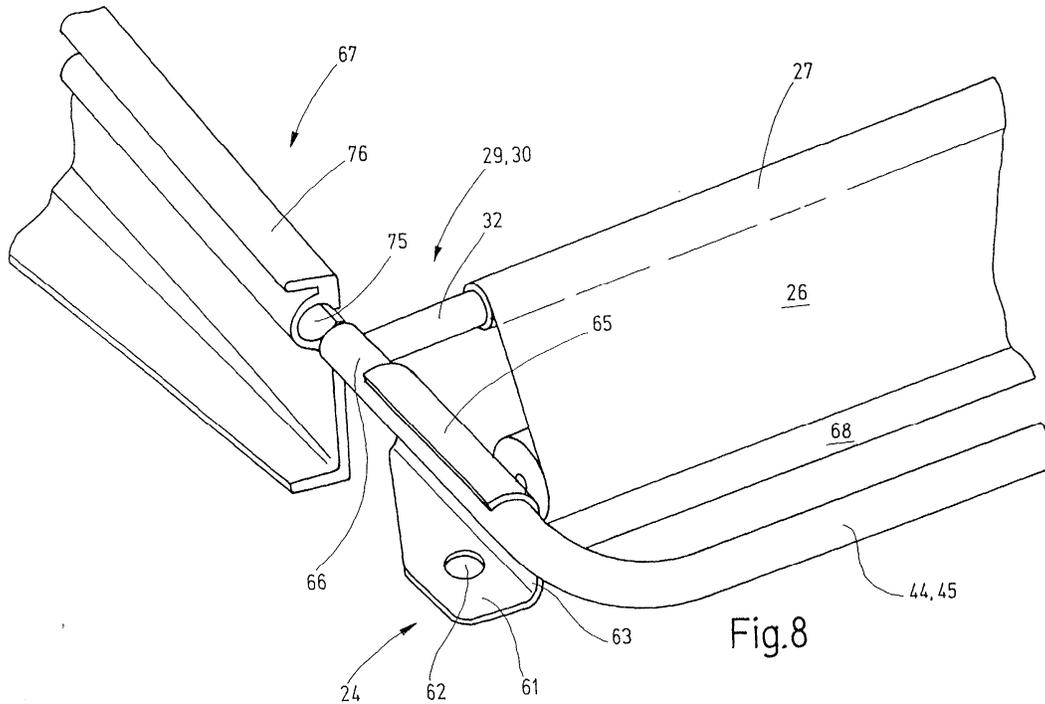


Figure 8 of the Schlecht patent application

Beck is a textbook on plastic product design. After describing a number of problems that arise when molded plastic products have undercuts, Beck recommends two-part designs:

Undercuts are frequently necessary in a molded plastic part design. However, these should be avoided whenever possible as they increase mold costs and parts prices and lengthen the molding cycle.

* * *

Internal undercuts . . . are impractical and expensive and should be avoided. Whenever undercuts are encountered, it is best to design the part in two halves and assemble the two parts after they have been molded.

Beck, ECF No. 62-16, PageID.2308-09. As to assembly, as shown in Figure 8-15, reproduced below, Beck elsewhere describes a number of

plastic fasteners for joining plastic parts, including a “snap-on fit,” a “snap-in fit,” “snap-in clasps,” “push-through fasteners,” “snap-together fasteners,” an “xmas tree fastener,” “snap-fingers” and a “ball snap-in.”
Id. at PageID.2310-11.

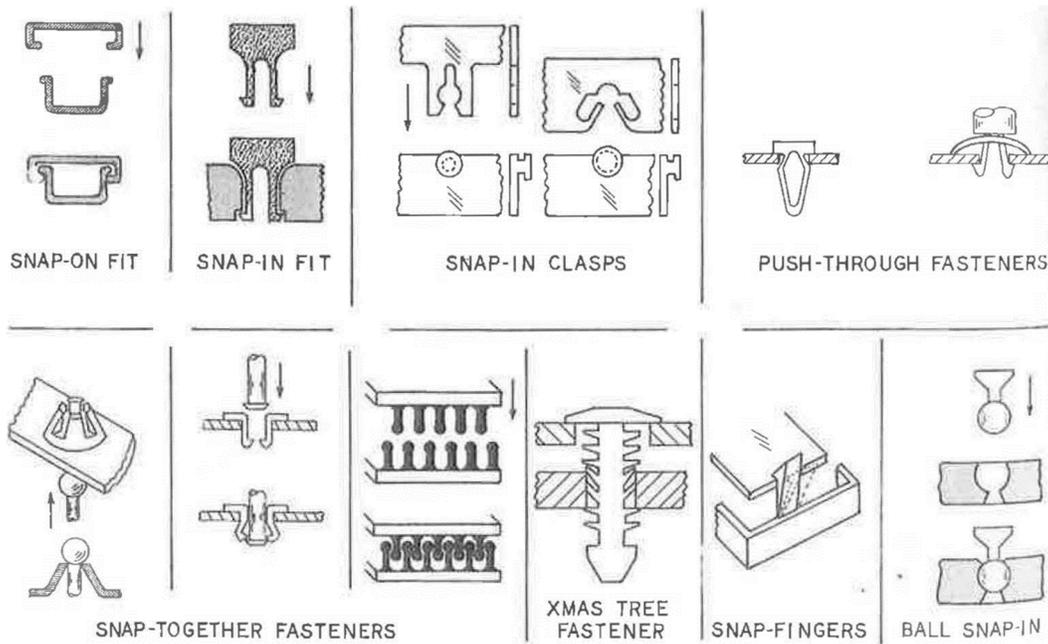
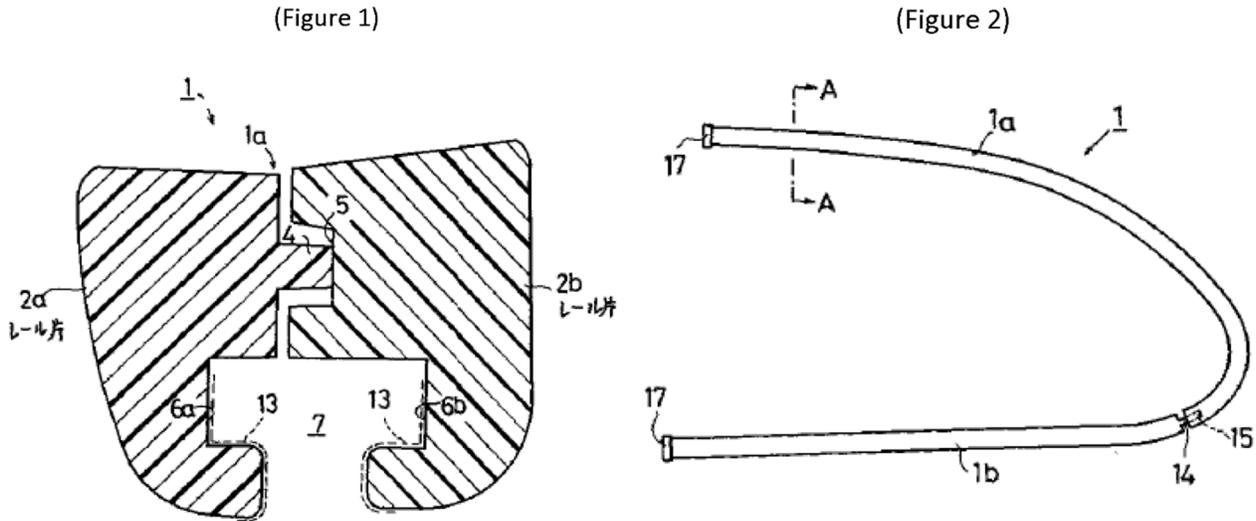


Figure 8–15. A group of many different types of plastic fasteners.

Figure 8-15 of the Beck textbook

Nagano, titled “Curtain Rail Production Method,” is a Japanese patent that describes an upper curtain rail (1a) with an attaching part (7) for the hook support (8) of a curtain (12). As shown in Figures 1 and 2, reproduced below, the upper curtain rail (1a) includes two rail pieces (2a, 2b). The rail pieces (2a, 2b) have concave parts (6a, 6b) that form the attaching part (7). The rail piece (2a) has a ridge (4), and the rail piece (2b) has a groove (5) corresponding to the ridge (4). According to a method of manufacturing the upper curtain rail (1a), after injection-molding the

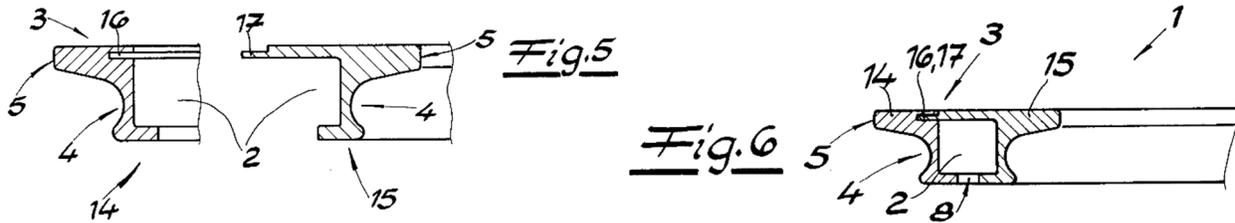
rail pieces (2a, 2b) from polyamide resin, the ridge (4) and the groove (5) are joined by vibration welding. Nagano, ECF No. 62-15, PageID.2299-2300.



Figures 1 and 2 of the Nagano patent

Gastmann, titled “Curtain Rail,” is a European patent application that describes a curtain rail (1) with a guide channel (2) for curtain track gliders. The guide channel (2) includes two L-shaped sidewalls (6) that each have a guide bar (7) angling inward to form a guide slot (8). In the embodiment shown in Figures 5 and 6, reproduced below, the curtain rail (1) is a semi-finished product that is longitudinally divided into two curtain rail halves (14, 15). The curtain rail halves (14, 15) are plastic extruded or injection-molded parts that can be assembled and permanently connected to form the guide channel (2). To assemble the curtain rail halves (14, 15), one curtain rail half (14) has a connecting groove (16), and the other curtain rail half (15) has a connecting tongue (17). Once assembled, the curtain rail halves (14, 15) are glued to each

other in the region of the connecting groove (16) and the connecting tongue (17). Gastmann ¶¶ [0006], [0011], ECF No. 62-17, PageID.2323-24, 2325.



Figures 5 and 6 of the Gastmann patent application

c. Application of the prior art references

With respect to the differences between the prior art references and the asserted claims, the Court finds that it cannot be genuinely disputed that the prior art references disclose all of the claim elements of the asserted claims.

As to the independent claims, with respect to the window shade (14), it cannot be genuinely disputed that Schlecht discloses claim elements [37a]-[37d]. As to claim element [37a], “A window shade (14) for motor vehicles,” Schlecht discloses the window shade (12) for the motor vehicle (1). As to claim element [37b], “a rotatably supported window shade shaft (19),” Schlecht discloses the windup shaft (23). As to claim element [37c], “a strip-shaped shade (15) having one edge fixed to said window shade shaft (19),” Schlecht discloses the window shade web (26) with one edge fastened to the windup shaft (23). As to claim element [37d], “a guide (23, 24) connected to an edge (22) of the window shade strip (15) distant from

said window shade shaft (19),” Schlecht discloses the end pieces (29, 30) used to mount the window shade web (26) at the edge remote from the windup shaft (23). *See supra* Section III(A)(ii)(2)(b) (discussing Figures 3 and 4 of Schlecht).

With respect to the guide rail (16), it cannot be genuinely disputed that Schlecht discloses claim elements [22a] and [37e]. As to claim element [22a], “A guide rail arrangement (16) for window shades (14) in motor vehicles,” Schlecht discloses the guide rails (13) used in the window shade (12) for the motor vehicle (1). Schlecht likewise discloses the guide rails (13) as to claim element [37e], “at least one guide rail (16) for receiving and guiding one end of said window shade guide (23, 24) for relative movement.” *Id.*

Schlecht does not disclose the claim elements directed to the two-part guide rail design of the ’659 Patent, [22b]-[22e] and [37f]-[37i]. However, it cannot be genuinely disputed that Nagano and Gastmann disclose claim elements [22b], [22c], [22e], [37f], [37g], and [37i]. Claim elements [22b], [22c], and [22e] are representative. As to claim element [22b], “an [*sic*, a] first part (63) in the form of an elongated molded part, said first part (63) including a first connecting portion (68) and an elongated section formed with a groove that is essentially free of undercuts and extends continuously over at least a part of the length of the guide rail arrangement,” Nagano discloses the injection-molded rail piece (2a) that has the ridge (4) and the concave part (6a). Similarly,

Gastmann discloses the injection-molded curtain rail half (14) that has the connecting groove (16). As to claim element [22c], “a second part (64) in the form of an elongated molded part, said second part (64) having a second connecting portion (71) and an elongated section formed with a groove that is essentially free of undercuts and extends continuously over at least a part of the length of said guide rail arrangement (16),” Nagano discloses the injection-molded rail piece (2b) that has the groove (5) and the concave part (6b). Similarly, Gastmann discloses the injection-molded curtain rail half (15) that has the connecting tongue (17). As to claim element [22e], “with said grooves of said first and second parts (63, 64) defining an undercut guide groove (27),” Nagano discloses that the rail pieces (2a, 2b) have the concave parts (6a, 6b) that form the attaching part (7). Similarly, Gastmann discloses that the curtain rail halves (14, 15) form the guide channel (2). *See supra* Section III(A)(ii)(2)(b) (discussing Figures 1 and 2 of Nagano and Figures 5 and 6 of Gastmann).

The remaining claim elements, [22d] and [37h], include a term, “said connecting parts/portions . . . being interconnectable,” that was disputed at the claim construction stage of this case. As set forth in its opinion and order construing disputed claim terms, the Court found that the term should be construed to mean “said connecting parts/portions . . . having structures capable of connecting with one another in a mating fashion.” Claim Construction Op. and Order, ECF No. 43, PageID.923-27. Under the Court’s construction, viewing the evidence in the light most

favorable to BOS, *Sagan*, 342 F.3d at 497, it is genuinely disputable whether Nagano discloses claim elements [22d] and [37h] because the ridge 4 and the groove 5 are joined by vibration welding. *See supra* Section III(A)(ii)(2)(b) (discussing Nagano's method of manufacturing the upper curtain rail 1a). However, it cannot be genuinely disputed that Gastmann and Beck disclose claim elements [22d] and [37h]. Claim element [22d] is representative. As to claim element [22d], "said connecting parts (68, 71) of said first and second parts (63, 64) being interconnectable to position and retain the first and second parts (63, 64) relative to one another," Gastmann discloses that the connecting groove (16) and the connecting tongue (17) are used to assemble the curtain rail halves (14, 15). Similarly, Beck discloses a number of plastic fasteners for joining plastic parts. *See supra* Section III(A)(ii)(2)(b) (discussing Figures 5 and 6 of Gastmann and Figure 8-15 of Beck).

As to the dependent claims, it cannot be genuinely disputed that Gastmann discloses claims 23, 24 and 38. Claims 23 and 24 are representative. As to claim 23, "in which one of said first and second connecting portions (68, 71) is in the form of a web," Gastmann discloses that the curtain rail half 15 has the connecting tongue 17. As to claim 24, "in which one of said first and second connecting portions (68, 71) includes a groove," Gastmann discloses that the curtain rail half 14 has the connecting groove 16. *See supra* Section III(A)(ii)(2)(b) (discussing Figures 5 and 6 of Gastmann). Moreover, it cannot be genuinely disputed

that Nagano discloses claim 29. As to claim 29, “in which one of said first and second parts is made of a thermoplastic material,” Nagano discloses that the rail pieces 2a, 2b are injection-molded from polyamide resin. *See supra* Section III(A)(ii)(2)(b) (discussing Nagano’s method of manufacturing the upper curtain rail 1a). Moreover, it cannot be genuinely disputed that Schlecht discloses claims 32 and 42. Claim 32 is representative. As to claim 32, “in which one of said first and second parts (63, 64) forms an integral component of a section of an inside lining (6) of a motor vehicle,” Schlecht discloses that sections of the guide rails 13 are formed integrally with the interior trim elements 76 of the C-pillars 4, 5. *See supra* Section III(A)(ii)(2)(b) (discussing Figure 8 of Schlecht).

d. The legal question of Obviousness

Against the above background of the relevant factual findings under the *Graham* factors that are either not at issue, not genuinely disputed, or cannot be genuinely disputed, the Court finds that the obviousness of the asserted claims in light of Schlecht, Beck, Nagano, and Gastmann is “apparent” because they do not “involve more than . . . the mere application of a known technique to a piece of prior art ready for the improvement.” *KSR*, 550 U.S. at 417, 427.

As set forth above, Schlecht is directed to one-part injection-molded plastic window shade guide rails and, with the exception of not being a two-part guiderail design, is almost identical in overall configuration to the ‘659 Patent. In fact, Plaintiff BOS owns the Schlecht patent

application and there is a common inventor, Herbert Walter, between the Schlecht patent application and the '659 Patent. According to the "References Cited" section of the '659 Patent, BOS cited Schlecht to the USPTO by way of a foreign family member, German Pat. Appl. Publ'n No. 100 62 690 A1.

Compared to Schlecht, the asserted claims involve an improvement of Schlecht's one-part guide rail design with the two-part guide rail design of the '659 Patent. In particular, the '659 Patent describes that compared to one-part guide rail designs, its two-part guide rail design makes guide rails easier and less costly to manufacture because they can be formed with injection-molding tools that do not require a complex mold with movable cores to form the undercut guide grooves. However, Beck, Nagano, and Gastmann fill in the gaps—they speak directly to the obviousness of the asserted claims compared to Schlecht.

In particular, as set forth above, Beck recommends two-part designs for molded plastic products with undercuts, and Nagano and Gastmann are directed to two-part injection-molded plastic curtain rails. For context, according to the "References Cited" section of the '659 Patent, Beck, Nagano, and Gastmann were not considered by the USPTO during examination. *Cf. KSR*, 550 U.S. at 426 (noting that the rationale underlying the statutory presumption of validity "seems much diminished" when prior art references before the factfinder were not considered by the USPTO during examination). Although the asserted

claims involve an improvement of Schlecht's one-part guide rail design, the improvement—the two-part guide rail design of the '659 Patent—is represented, in a similar field, by Nagano's and Gastmann's two-part curtain rail designs. Moreover, in the general field of plastic product design, Beck establishes that Schlecht's one-part guide rail design was ready for the improvement represented by Nagano's and Gastmann's two-part curtain rail designs. In particular, Beck recommends two-part designs for molded plastic products with undercuts because undercuts “are impractical and expensive” and “increase mold costs and parts prices and lengthen the molding cycle.” Beck, ECF No. 62-16, PageID.2308-09.

Accordingly, the Court holds that the asserted claims are invalid as being obvious in light of the prior art references. Consequently, Macauto is entitled to summary judgment on the question of validity.

B. Infringement analysis

Although the preceding analysis is dispositive of the case in Macauto's favor, the parties have extensively briefed and the Court has carefully analyzed their respective arguments on the issue of infringement. In order to provide the parties the benefit of the Court's analysis in case of appeal, the Court will address the parties' contentions on the issue of infringement as well.

As set forth above, BOS alleges that Macauto infringes claims 22-24, 29, 32, 37, 38, and 42 of the '659 Patent. In their cross-motions for summary judgment, BOS contends that Macauto literally infringes claim

22, while Macauto contends it does not infringe independent claims 22 and 37, and, by extension, any of the asserted dependent claims, either literally or under the doctrine of equivalents. Defs.' Br., ECF No. 62, PageID.1641 (citing *Wahpeton Canvas Co., Inc. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n.9 (Fed. Cir. 1989) (“One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”)).

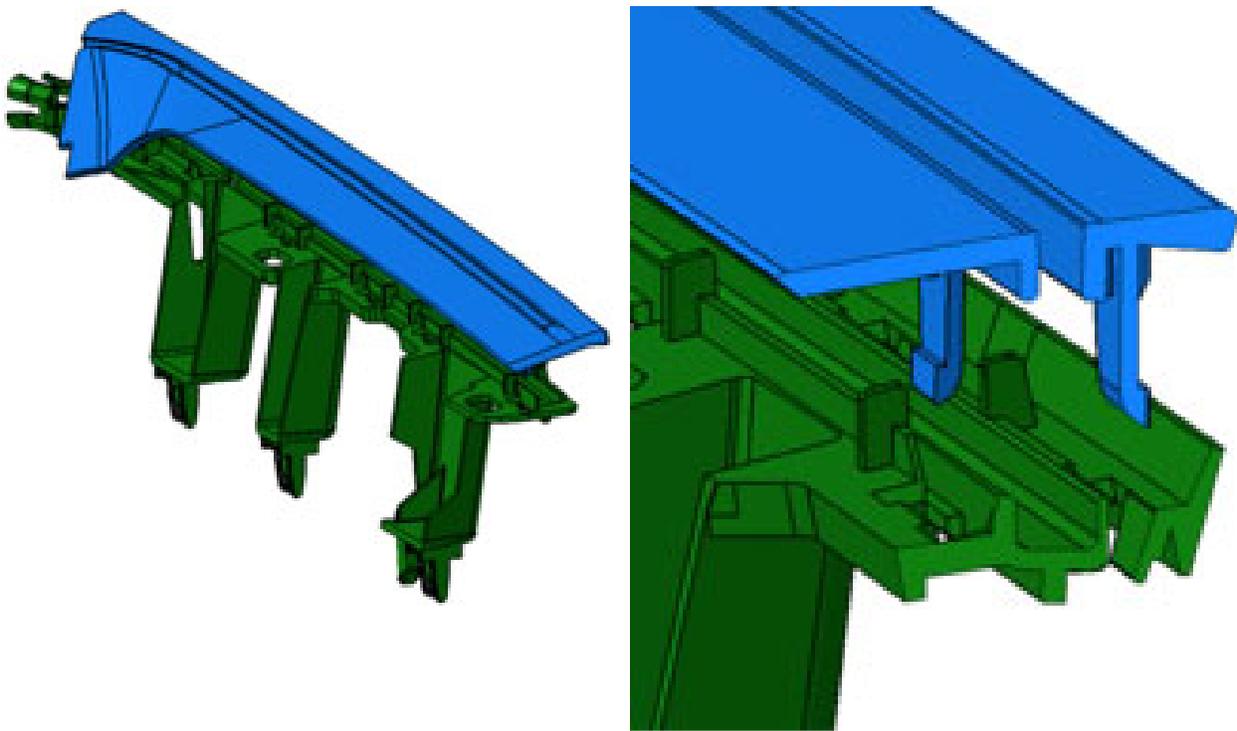
A patent is infringed when one “without authority makes, uses, offers to sell, or sells any patented invention, within the United States, or imports into the United States any patented invention during the term of the patent therefor.” 35 U.S.C. § 271(a). Infringement of a patent, “whether literal or under the doctrine of equivalents, is a question of fact.” *Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1129-30 (Fed. Cir. 2011). “Summary judgment of non-infringement is proper when no reasonable jury could find that every limitation recited in a properly construed claim is found in the accused device literally or under the doctrine of equivalents.” *Advanced Steel Recovery, LLC v. X-Body Equip., Inc.*, 808 F.3d 1313, 1317 (Fed. Cir. 2015). “Where . . . the parties do not dispute any relevant facts regarding the accused product but disagree over which of two possible meanings of [a particular claim] is the proper one, the question of literal infringement collapses to one of claim construction and is thus amenable to summary judgment.” *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1578 (Fed. Cir. 1996).

Under the judicially created doctrine of equivalents, “a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.” *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (1997). The doctrine of equivalents is applied to each individual element of a patent claim, not to the claim as a whole. *Id.* at 29. An accused product is “equivalent” if it is only insubstantially changed from what is claimed. *Viskase Corp. v. Am. Nat. Can Co.*, 261 F.3d 1316, 1324 (Fed. Cir. 2001). Under the “function-way-result” test for establishing equivalency, an element of the accused product is only insubstantially changed from what is claimed when one of ordinary skill in the art at the time of infringement would consider the accused equivalent to perform substantially the same function in substantially the same way to achieve substantially the same result. *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608 (1950).

i. The accused product and the parties’ infringement dispute

A review of the written briefs reveals that the nature of the Accused Product is not at issue. *See* Pls.’ Br., ECF No. 60, PageID.1387-98 (BOS’s Statement of Material Facts ¶¶ 5, 11, 12, 14-16, 18-20, 22-25); Defs.’ Br., ECF No. 62, PageID.1636 (Macauto’s Statement of Material Facts ¶¶ 3, 4); Defs.’ Resp., ECF No. 71, PageID.2973-75 (Macauto’s Counter-

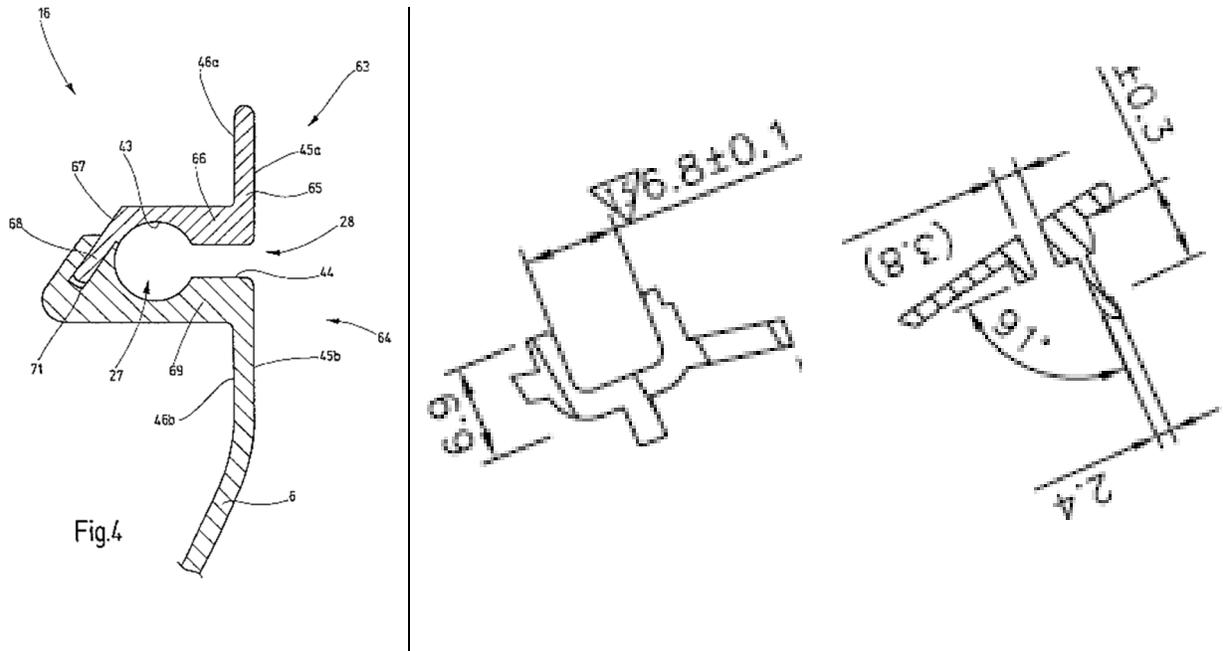
Statement of Material Facts ¶¶ 5, 11, 12, 14-16, 18-20, 22-25); Pls.’ Resp., ECF No. 72, PageID.3674 (BOS’s Counter-Statement of Material Facts ¶¶ 3, 4). As shown in Macauto’s exploded views (*see* Defs.’ Br., ECF No. 62, PageID.1647), reproduced below, the Accused Product includes a two-part molded plastic window shade guide rail (the “Accused Guide Rail”). Similar to the guide rail (16) in the ’659 Patent, the Accused Guide Rail has an undercut guide groove. Likewise, similar to the second embodiment of the guide rail (16) in the ’659 Patent, the Accused Guide Rail has what both BOS and Macauto refer to as “first” and “second” interconnectable “parts” with undercut-free features that define the undercut guide groove.



Macauto’s “exploded view” rendering of the accused product

The dispute between the parties is illuminated by a key difference between the two-part guide rail designs of the '659 Patent and the Accused Product. With respect to the '659 Patent, as seen in Figure 4, the guide rail (16) has an outer visual side (45) that is divided by the slot (28) into visual side sections (45a, 45b) (*see supra* Section I(B) (discussing, *inter alia*, Figures 3, 4, and 5 of the '659 Patent)). As shown below, in the second embodiment of the guide rail (16), the first part (63) is connected to the visual side section (45a), and the second part (64) is connected to the visual side section (45b). According to the two-part guide rail design of the '659 Patent, to form the undercut guide groove (27), the limbs (66, 69) of the first and second parts (63, 64) have the supplementary outside contours related to the circular section (43) and the rectangular section (44), as set forth above (*see supra* Section I(B)) (discussing BOS's annotated Figure 4 of the '659 Patent)).

As shown in Macauto's cross section views, reproduced below (*see* Defs.' Br., ECF No. 62, PageID.1637), in the Accused Guide Rail, the second part is a cover for the first part, and on either side of the undercut guide groove, only the second part is visible. According to the two-part guide rail design of the Accused Product, to define the undercut guide groove, the second part has a narrower bottomless feature that opens to a wider closed-bottom feature of the first part.



L: Figure 4 from the '659 patent; R: Macauto's cross section views of the Accused Product

With respect to the Accused Guide Rail, the parties dispute whether the bottomless feature of the second part is a groove. Claim 22 is representative. BOS argues that the Accused Guide Rail satisfies claim elements [22a]-[22e]. See BOS's Statement of Material Facts ¶¶ 10-26, ECF No. 60, PageID.1388-99; BOS's Counterstatement of Material Facts ¶ 11, ECF No. 72, PageID.3674. Macauto concedes that the Accused Guide Rail satisfies claim elements [22a], [22b], [22d] and [22e], but argues that the Accused Guide Rail does not entirely satisfy claim element [22c]. Among other things, Macauto concedes that the first part satisfies claim element [22b], "an [sic] first part (63) in the form of an elongated molded part, said first part (63) including a first connecting portion (68) and an elongated section formed with a groove that is

essentially free of undercuts and extends continuously over at least a part of the length of the guide rail arrangement,” including that the closed-bottom feature of the first part is a groove. However, Macauto argues that the bottomless feature of the second part is not a groove, relevant to claim [22c].³ See Macauto’s Statement of Material Facts ¶ 11, ECF No. 62, PageID.1638; Macauto’s Counter-Statement of Material Facts ¶¶ 10-26, ECF No. 71, PageID.2973-76.

ii. The presence of a “groove”

The term “groove,” which appears throughout the claims of the ’659 Patent, was disputed at the claim construction stage of this case. BOS argued that “groove” should be construed to mean “a long cut or depression that, when viewed in cross-section, has two sidewalls.” Macauto argued that “groove” should be construed to mean “a long narrow channel or depression, which is defined by having a bottom.” Among other things, BOS argued that its proposed construction was consistent with the dictionary definition of “groove” as “a long, narrow cut or depression in a hard material.” See Pls.’ Claim Construction Br. Ex. C, ECF No. 36-4, PageID.549 (definition from THE CONCISE-OXFORD DICTIONARY). Similarly, Macauto argued that its proposed construction

³ Macauto concedes that the second part otherwise satisfies claim element [22c], “a second part (64) in the form of an elongated molded part, said second part (64) having a second connecting portion (71) and an elongated section formed with a groove that is essentially free of undercuts and extends continuously over at least a part of the length of said guide rail arrangement (16).”

was consistent with the dictionary definition of “groove” as “a long narrow channel or depression,” as well as the follow-on dictionary definitions of “channel,” “gutter,” “furrow” and “trough.” *See* Defs.’ Claim Construction Br. Ex. 5, ECF No. 37-1, PageID.788-92 (definition from MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY).

For reasons that are apparent now that the infringement and validity issues are known, both BOS’s and Macauto’s proposed constructions go beyond the dictionary definitions and add the “two sidewalls” and “bottom” language. From an infringement standpoint, with respect to the Accused Guide Rail, it appears that Macauto’s proposed construction adds the “bottom” language to preclude the bottomless feature of the second part from satisfying the “groove” portion of claim element [22c]. Similarly, it appears that BOS was proposing a construction that a “groove” has two sidewalls to distinguish the ‘659 Patent from Schlecht. Schlecht describes the guide rail 13 that has the guide groove 21 with the slit 22, as set forth above. *See supra* Section III(A)(ii)(2)(b) (discussing Figures 3 and 4 of Schlecht). In the embodiment shown in the Court’s annotated Figure 13, reproduced below, a section of a guide rail (13) includes two parts, a flange (79) with a strip (89) and a leg (86) with a strip (91). The flange (79) and the leg (86) create groove (92) with a slit (93) that, in turn, corresponds to the guide groove (21) with the slit (22). Schlecht ¶ [0105], ECF No. 62-5, PageID.1807. Because the flange (79) only includes one sidewall, it appears that BOS’s

proposed construction adds the “two sidewalls” language to preclude Schlecht from disclosing the “groove” portion of claim element [22b].

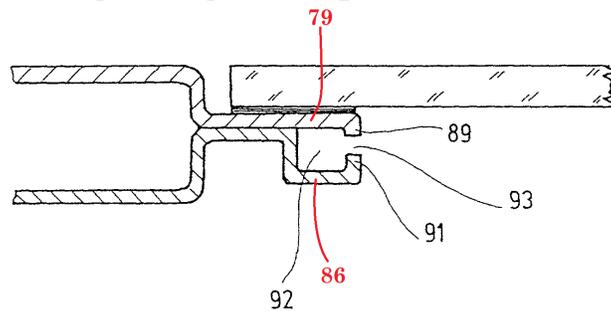


Fig.13

Court’s annotation of Figure 13 from the Schlecht patent application

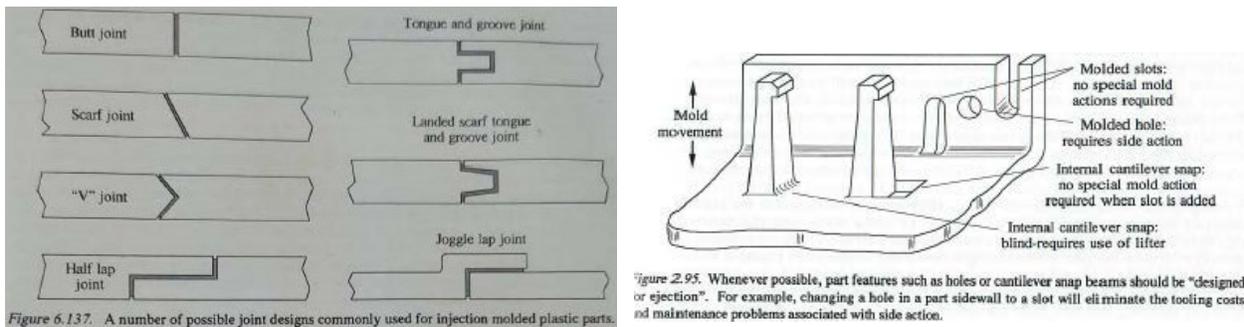
As set forth in its opinion and order construing disputed claim terms, the Court found that the term “groove” should be construed to mean “a long, narrow cut, channel or depression” according to the dictionary definition portions of BOS’s and Macauto’s proposed constructions. Claim Construction Op. and Order, ECF No. 43, PageID.936. To recap the Court’s reasoning, the intrinsic evidence of record does not define the term or otherwise reveal that the term has a special definition other than its ordinary meaning. *Phillips v. AWH Corporation*, 415 F.3d 1314 (Fed. Cir. 2005) (*en banc*). Accordingly, to give the term its ordinary meaning, the Court turned to standard dictionaries for guidance on “the commonly understood meaning” of the term. *Id.* at 1322. With respect to the “two sidewalls” and “bottom” language, although the intrinsic evidence does not express intent to limit the claimed grooves to the embodiments shown in the figures of the ‘659 Patent, *id.* at 1323-24, both BOS’s and Macauto’s proposed constructions are consistent with the ‘659 Patent in the sense that all of the named “grooves” are shown in the Figures as having two sidewalls and bottoms.

Because the intrinsic evidence therefore “allows the Court to elaborate on the ordinary meaning of the term ‘groove’ if the elaboration is helpful to the jury or if required at the summary judgment stage of the case,” the Court “preliminarily adopt[ed] BOS’s and Macauto’s dictionary definitions for its construction of the term, while preserving the right to modify its claim construction as the infringement and validity issues become known.” ECF No. 43, PageID.917-20 (citing *Lava Trading, Inc. v. Sonic Trading Mgmt., LLC*, 445 F.3d 1348, 1350 (Fed. Cir. 2006) (without “the vital contextual knowledge of the accused products,” a court’s claim construction decision “takes on the attributes of something akin to an advisory opinion”)).

iii. The parties’ infringement and non-infringement arguments

In connection with their infringement and non-infringement arguments, BOS and Macauto submit reports from their expert witnesses on infringement, Mr. Parker and Dr. Malloy, as well as the transcript from Dr. Malloy’s deposition. *See* Pls.’ Mot. For Leave To File Exs. Under Seal Ex. J, ECF No. 56-2 (Parker Report); Defs.’ Br. Ex. B, ECF No. 62-2 (Malloy Report); Defs.’ Br. Ex. D, ECF No. 62-4 (Malloy Dep. Tr.). With respect to the Accused Guide Rail, according to Mr. Parker, the bottomless feature of the second part is a groove because it satisfies the Court’s construction as a long and narrow cut. Parker Report, ECF No. 56-2, PageID.1173. According to Dr. Malloy, the bottomless feature of the second part is a through slot, not a groove. Malloy Report, ECF No. 62-2,

PageID.1689. As to the difference between grooves and through slots, with reference to Figures 6.137 and 2.95 of his textbook, reproduced below, Dr. Malloy maintains that a person of ordinary skill in the art would understand that a groove requires a bottom or base or connecting structure. *Id.* at PageID.1689-90 (citing Robert A. Malloy, *PLASTIC PART DESIGN FOR INJECTION MOLDING*, Hanser/Gardner Publ'ns, Inc., 1970). Dr. Malloy also reads a bottom or base or connecting structure requirement as being consistent with the Court's construction. For instance, Dr. Malloy reads the Court's construction as implying a bottom or base or connecting structure requirement because according to BOS's dictionary definition, a groove is a long and narrow something "in," as opposed to "through," a material. *Id.* at PageID.1690-91.



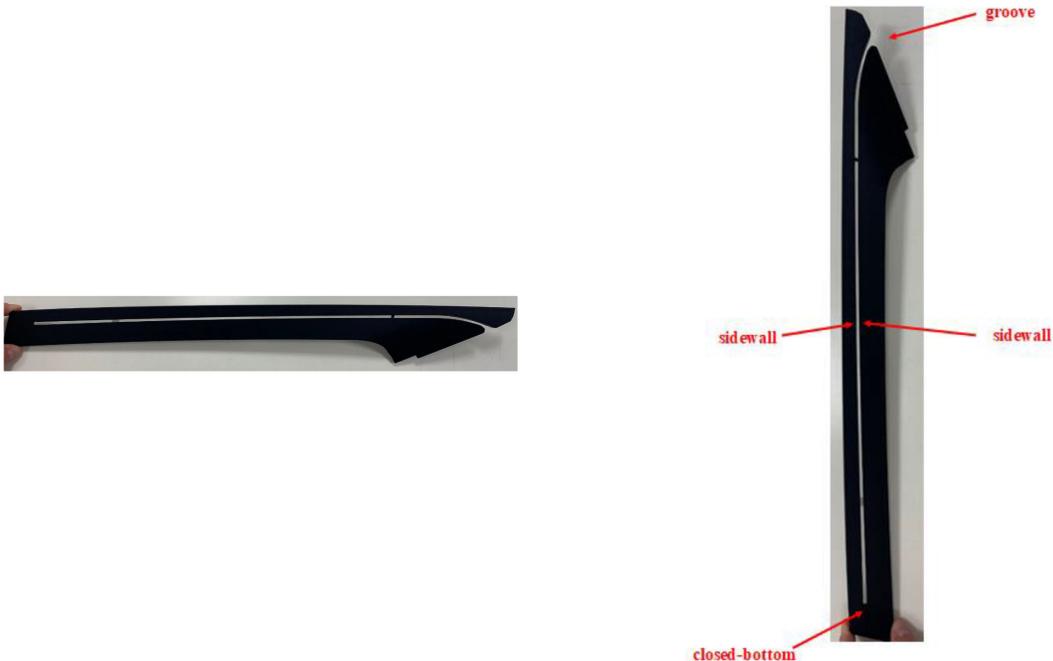
Figures 6.137 and 2.95 of the Malloy textbook

Pointing out that the Court's construction does not adopt the "bottom" language portion of Macauto's proposed construction, BOS reads a bottom or base or connecting structure requirement as being inconsistent with the Court's construction. Likewise, BOS argues that by adding a bottom or base or connecting structure requirement, Dr. Malloy

applies his own construction, not the Court's. *See* Pls.' Br., ECF No. 60, PageID.1401 (citing Malloy Dep. Tr. 42:17-24, ECF No. 62-4, PageID.1746 ("Q. . . . did you assume that a groove has to have a base? A. Yes. . . .")), PageID.1402-03 (citing *Lisle Corp. v. A.J. Mfg. Co.*, 398 F.3d 1306, 1314 (Fed. Cir. 2005) (affirming summary judgment of infringement because the accused infringer's noninfringement positions were premised solely on the Federal Circuit adopting its rejected proposals for narrowing constructions)). To the extent the Court reconsiders its construction based on Dr. Malloy's testimony concerning a bottom or base or connecting structure requirement, BOS reads such a requirement as being inconsistent with extrinsic references that describe open-bottom grooves. *See* Pls.' Resp. Ex. B, ECF No. 72-3 (E. A. Suverkrop, *The Manufacture of Steel Balls*, AMERICAN MACHINIST, May 2, 1912) (describing an "angular groove" or "V-groove" that is "open at the bottom"); Ex. C, ECF No. 72-4 (U.S. Pat. No. 4,406,088 A to Berndt) (describing an "open bottom V-groove"); Ex. D, ECF No. 72-5 (U.S. Pat. No. 5,949,938 A to Tabur et al.) (describing a "small clearance between [two dowel pins], forming an open-bottom alignment groove").

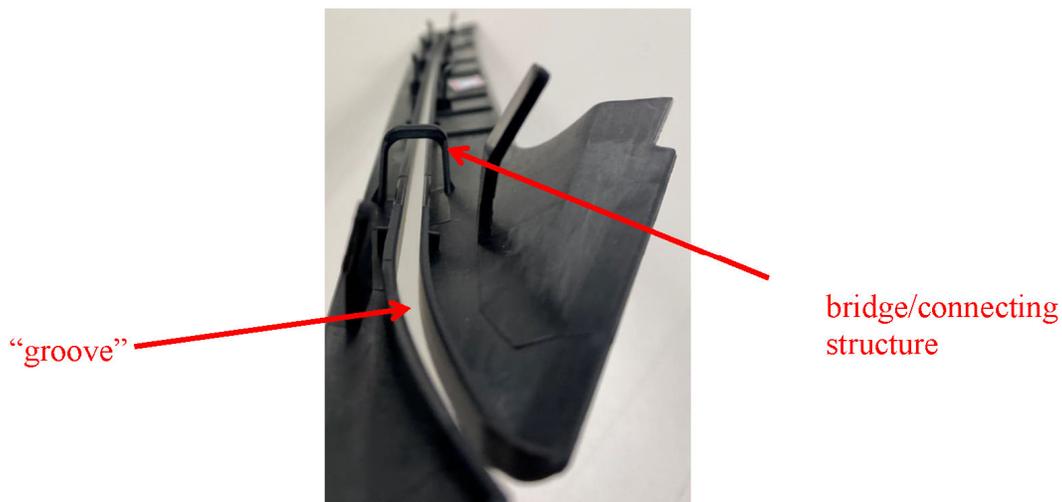
Alternatively, in connection with Dr. Malloy's deposition, BOS raises infringement arguments it reads as being consistent with Dr. Malloy's testimony concerning a bottom or base or connecting structure requirement. In particular, with respect to the Accused Guide Rail, BOS argues that the bottomless feature of the second part is a groove even if,

as Dr. Malloy maintains, a groove requires a bottom or base or connecting structure. First, BOS points out that in connection with his testimony concerning the difference between grooves and through slots, Dr. Malloy acknowledges that the named through “slot” in Figure 2.95 of his textbook, reproduced above, could be called a “groove” when viewed from above instead of from the side. Pls.’ Resp., ECF No. 72, PageID.3681-82 (citing Malloy Dep. Tr. 50:13-51:2, ECF No. 62-4, PageID.1748). Likewise, with reference to BOS’s annotated front views, reproduced below (*see* Pls.’ Resp., ECF No. 72, PageID.3683), BOS argues that when the Accused Guide Rail is reoriented to view the bottomless feature of the second part from above instead of from the side, the bottomless feature of the second part is a closed-bottom groove.



BOS’s annotated front views of the Accused Product

Second, with reference to BOS’s annotated back view, reproduced below (*see* Pls.’ Resp., ECF No. 72, PageID.3690), BOS points out that in the Accused Guide Rail, the second part includes a “bridge” that loops over the bottomless feature. Moreover, BOS points out that in connection with his testimony concerning a bottom or base or connecting structure requirement, Dr. Malloy acknowledges that the bridge of the second part could be called a “connecting structure.” Pls.’ Resp., ECF No. 72, PageID.3689-90 (citing Malloy Dep. Tr. 72:11-20, ECF No. 62-4, PageID.1753). Based on Dr. Malloy’s testimony concerning the bridge of the second part, BOS argues that there is a genuine dispute concerning whether the bottomless feature of the second part includes a connecting structure and is therefore a groove.



BOS’s annotated back view of the Accused Product

Macauto disputes BOS’s argument that Dr. Malloy applies his own construction. For instance, Macauto points out that Dr. Malloy acknowledges the Court’s construction, and reads a bottom or base or

connecting structure requirement as being consistent with the Court's construction. Pointing out that the Court's construction is preliminary and subject to modification, Macauto argues that in any event, Dr. Malloy's testimony concerning a bottom or base or connecting structure requirement is extrinsic evidence that informs the proper construction of the term. Macauto also disputes that a bottom or base or connecting structure requirement is inconsistent with BOS's extrinsic references. For instance, Macauto points out that BOS's extrinsic references add modifying language specifying that the named "grooves" are open-bottom. Defs.' Resp., ECF No. 71, PageID.2977-84.

With respect to BOS's first alternative infringement argument, Macauto argues that regardless of how the Accused Guide Rail is oriented, when analyzing whether the bottomless feature of the second part is a groove under the Court's construction, it must be viewed in relation to the long and narrow direction. Defs.' Br., ECF No. 62, PageID.1647; Defs.' Reply, ECF No. 73, PageID.3737. In particular, as became more apparent at oral argument, Macauto argues that the bottomless feature of the second part must be viewed in cross section to the long and narrow direction. Defs.' Hr'g Ex. 1, ECF No. 81, PageID.3869-70.

With respect to BOS's second alternative infringement argument, Macauto points out that Dr. Malloy explains that in the Accused Guide Rail, while the second part includes the bridge, the bridge is not part of either the bottomless feature or the undercut guide groove:

A. Yes. So I would say this is a connecting structure, which is why I used that word “bridge” because I feel like it’s something different. It’s not located at what would be the bottom of a groove.

So as you said, this part has vertical sidewalls. If it was a groove the base would connect the top of those vertical sidewalls. . . .

* * *

Q. And the bridge part that we’re talking about, when you connect them together, does the bridge part go under the groove in what would be here Exhibit 109?

A. Yes. Its height is well above where the groove would be.

Defs.’ Br. n. 3, ECF No. 62, PageID.1645 (citing Malloy Dep. Tr. 140:7-18, ECF No. 62-4, PageID.1770); Defs.’ Reply, ECF No. 73, PageID.3738 (citing Malloy Dep. Tr. 141:25-142:6, ECF No. 62-4, PageID.1770-71). Macauto also argues that, to the extent the bridge is part of the bottomless feature, it is an undercut.

iv. Literal infringement

For the reasons set out in detail below, the Court finds that a reasonable jury could only find that Macauto does not literally infringe the asserted claims and therefore Macauto is entitled to summary judgment.

As discussed above, with respect to the Accused Guide Rail, the parties dispute whether the bottomless feature of the second part is a groove. Because the nature of the Accused Product is not at issue, the

dispute between the parties represents an issue of claim construction, not infringement. *Athletic Alternatives*, 73 F.3d at 1578. In particular, a review of the written briefs reveals that the dispute between the parties turns on an unresolved ambiguity in the scope of the term “groove” concerning whether a long and narrow something (*i.e.*, a cut, channel or depression) is a groove regardless of whether it is bottomless.

As set forth in its opinion and order construing disputed claim terms, the Court gave notice to the parties that it was “preserving the right to modify its claim construction as the infringement and validity issues become known,” particularly with respect to “elaborat[ing] on the ordinary meaning of the term ‘groove’ if the elaboration is . . . required at the summary judgment stage of the case.” Claim Construction Op. and Order, ECF No. 43, PageID.919-20. Now that the infringement issues are known, the Court finds that its construction of the term “groove” requires modification to resolve the above ambiguity in the scope of the term. To resolve the above ambiguity in the scope of the term, the Court finds that the term “groove” should be construed to mean “a long, narrow cut, channel or depression in a material, but not through the material” according to the dictionary definition portions of BOS’s and Macauto’s proposed constructions.

Compared to its original construction, the Court more fully adopts BOS’s dictionary definition by adding “in a material” to clarify that a groove is a long and narrow something “in,” as opposed to “through,” a

material. In modifying its construction, the Court finds that in the absence of such clarification, the scope of the term is improperly broadened beyond any meaning supported by the '659 Patent or extrinsic evidence. With respect to the '659 Patent, all of the named "grooves" are shown in the Figures as being in, as opposed to through, materials. None of the named "grooves" are shown in the Figures as being bottomless. The same is true for the named "grooves" in Figure 6.137 of Dr. Malloy's textbook, reproduced above (*see supra* Section III(B)(iii)). Moreover, with respect to the Accused Guide Rail, consistently with both the '659 Patent and Figures 6.137 and 2.95 of his textbook, reproduced above (*see supra* Section III(B)(iii)), Dr. Malloy maintains that the bottomless feature of the second part is a through slot, not a groove. As to BOS's extrinsic references, the Court finds that they do not inform the proper construction of the term because, as Macauto points out, they add modifying language specifying that the named "grooves" are open-bottom.

Under the Court's construction, it cannot be genuinely disputed that the Accused Guide Rail does not satisfy all the claim elements of the asserted claims. Claim 22 is representative. The Court agrees with the parties that the Accused Guide Rail satisfies claim elements [22a], [22b], [22d] and [22e]. However, as to claim element [22c], "a second part (64) in the form of an elongated molded part, said second part (64) having a second connecting portion (71) and an elongated section formed with a groove that is essentially free of undercuts and extends continuously over

at least a part of the length of said guide rail arrangement (16),” it cannot be genuinely disputed that the bottomless feature of the second part is not a groove. To the extent the bottomless feature of the second part is, according to Mr. Parker, a long and narrow cut, the long and narrow cut is through, as opposed to in, the material of the second part, and therefore is not a groove.

With respect to BOS’s first alternative infringement argument, the Court agrees with Macauto that regardless of how the Accused Guide Rail is oriented, when analyzing whether the bottomless feature of the second part is a groove under the Court’s construction, it must be viewed in cross section to the long and narrow direction. With respect to the Accused Guide Rail, in accordance with claim element [22c], the second part is in the form of an “elongated” molded part having an “elongated” section formed with the bottomless feature. Consistently with the way all of the named “grooves” are shown in the Figures of the ’659 Patent (*see, e.g., supra* Section I(B) (discussing, *inter alia*, Figures 3, 4, and 5 of the ’659 Patent)), the bottomless feature “extends” in the elongation direction (*i.e.*, “continuously over at least a part of the length of” the Accused Guide Rail), and is “essentially free of undercuts” in cross section to the elongation direction. Moreover, in accordance with the Court’s construction, the bottomless feature is “long” in the elongation direction and “narrow” in the width direction. On the other hand, according to BOS’s first alternative infringement argument, the purported groove

would “extend” in the depth direction, not the elongation direction. Moreover, with the purported groove “extending” in the depth direction, it is not “essentially free of undercuts” in cross section to the depth direction, and, while “narrow” in the width direction, is not “long” in the depth direction.

With respect to BOS’s second alternative infringement argument, the Court does not agree with BOS that there is a genuine factual dispute concerning whether, in the Accused Guide Rail, the bottomless feature of the second part includes a connecting structure and is therefore a groove. Instead, the Court finds that a reasonable jury could only agree with Dr. Malloy that while the second part includes the bridge, the bridge is not part of either the bottomless feature or the undercut guide groove. Moreover, the Court agrees with Macauto that, to the extent the bridge is part of the bottomless feature, a reasonable jury could only find that it is an undercut.

Accordingly, the Court finds that Macauto is entitled to summary judgment that it does not literally infringe the asserted claims.

v. Infringement under the Doctrine of Equivalents

Having resolved the question of literal infringement in favor of Macauto, the Court must also consider whether any infringement can be found under the doctrine of equivalents. For the reasons set out in detail below, the Court finds that there is a genuine factual dispute concerning whether Macauto infringes the asserted claims under the doctrine of

equivalents, and that Macauto is therefore not entitled to summary judgment on the infringement claim.

As noted, in connection with their infringement and non-infringement arguments, BOS and Macauto submit reports from their expert witnesses on infringement, Mr. Parker and Dr. Malloy.

Mr. Parker concludes that Macauto infringes the asserted claims under the doctrine of equivalents. In particular, applying the function-way-result test to the second part (64) of the guide rail (16) in claims 22 and 37, Mr. Parker concludes that the second part of the Accused Guide Rail is equivalent because it performs substantially the same function in substantially the same way to achieve substantially the same result. In reaching his conclusion, Mr. Parker maintains the relevant function is combining with the first part (63), the relevant way is being essentially free of undercuts, and the relevant result is defining the undercut guide groove (27). Parker Report, ECF No. 56-2, PageID.1173-74.

Dr. Malloy, on the other hand, concludes Macauto does not infringe the asserted claims under the doctrine of equivalents. In particular, applying the function-way-result test to the entire guide rail (16) in claims 22 and 37, including both the first and second parts (63, 64), Dr. Malloy concludes that the Accused Guide Rail is not equivalent because it does not perform substantially the same function in substantially the same way to achieve substantially the same result. In reaching his conclusion, Dr. Malloy points to the difference between the two-part

guide rail designs of the '659 Patent and the Accused Product. For instance, Dr. Malloy maintains that the relevant function is combining to define the undercut guide groove (27), and that the relevant way is being formed with two grooves, as opposed to a groove and a through slot, that are essentially free of undercuts. Moreover, Dr. Malloy maintains that the relevant result is twofold: first, that the first and second parts (63, 64) are visible, and second, that the undercut guide groove (27) might widen in the absence of the additional stabilizing element (75) shown in Figure 5, reproduced above (*see supra* Section I(B)). As to why the Accused Guide Rail does not achieve substantially the same result, Dr. Malloy points out that only the second part is visible, and that the first and second parts have tight “sidewall to sidewall” tolerances. For the same reason, Dr. Malloy maintains that the two-part guide rail design of the Accused Product offers significant advantages over the two-part guide rail design of the '659 Patent. Malloy Report, ECF No. 62-2, PageID.1692-96.

BOS argues that Dr. Malloy misapplies the function-way-result test. For instance, BOS points out that Dr. Malloy’s testimony is directed to the way the guide rail (16) is shown in the Figures and described in the specification, not the way it is claimed in claims 22 and 37. ECF No. 72, PageID.3685-86. Macauto does not address Mr. Parker’s testimony except to argue that it is rebutted by Dr. Malloy’s testimony.

Having considered the relevant evidence, the Court finds that there is a genuine factual dispute concerning whether Macauto infringes the asserted claims under the doctrine of equivalents. Although Mr. Parker and Dr. Malloy both apply the function-way-result test, their testimonies conflict as to the relevant “element” at issue in claims 22 and 37, as well as to the relevant function, the relevant way and the relevant result. Given the conflicts between Mr. Parker’s and Dr. Malloy’s testimonies on every aspect of the function-way-result test, as well as BOS’s argument that Dr. Malloy misapplies it, the Court finds that there is a genuine dispute concerning whether Macauto infringes the asserted claims under the doctrine of equivalents. Accordingly, if the Court’s prior conclusion regarding invalidity were incorrect, a jury would need to adjudicate the question of whether the Accused Product infringes the asserted claims under the doctrine of equivalents.

CONCLUSION

For the reasons stated in this opinion and order, the Court finds the asserted claims of the ’659 Patent invalid. Consequently, Macauto’s motion for summary judgment is **GRANTED** and BOS’s motion for summary judgment is **DENIED**. If the ’659 Patent were held to be valid, the Court nevertheless concludes that no reasonable jury could find for BOS on the issue of literal infringement: there is none. Macauto would thus also be entitled to summary judgment in its favor on the issue of literal infringement. But the Court also concludes that the record does

raise a genuine issue of fact as to whether the Accused Product infringes the '659 Patent under the doctrine of equivalents. Consequently, if the '659 Patent were not found to be invalid, a jury would need to decide the question of infringement under the doctrine of equivalents.

Because the '659 Patent is invalid, however, the contentions regarding infringement are moot, and this case shall therefore be **DISMISSED** with **PREJUDICE**.

SO ORDERED, this 27th day of January, 2021.

s/Terrence G. Berg

TERRENCE G. BERG

UNITED STATES DISTRICT JUDGE