

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ANDERSEN CORPORATION,
Petitioner,

v.

GED INTEGRATED SOLUTIONS, INC.,
Respondent.

Case DER2017-00007
Petitioner Application 15/058,862
Respondent Patent 9,428,953 B2

Before JONI Y. CHANG, JOSIAH C. COCKS, and JUSTIN T. ARBES,
Administrative Patent Judges.

ARBES, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 135(b)

I. INTRODUCTION

Petitioner Andersen Corporation (“Andersen”) filed a corrected Petition (Paper 4, “Pet.”) to institute a derivation proceeding under 35 U.S.C. § 135 with respect to claims 1–22 of U.S. Patent No. 9,428,953 B2 (Ex. 1005, “the ’953 patent”) owned by Respondent GED Integrated Solutions, Inc. (“GED”). We exercised exclusive jurisdiction over the ’953 patent and Andersen’s involved application, U.S. Patent Application No. 15/058,862 (Ex. 2010, “the ’862 application”), under 37 C.F.R. § 42.3(a) for the purpose of determining whether to institute a derivation proceeding. *See* Papers 28, 29. We instituted a derivation proceeding on March 21, 2018. Paper 32 (“Dec. on Inst.”). GED subsequently filed a Response (Paper 42, “Resp.”), Andersen filed a Reply (Paper 50, “Reply”), and GED filed a Sur-Reply (Paper 54, “Sur-Reply”). An oral hearing was held on November 14, 2018, and a transcript of the hearing is included in the record (Paper 56, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 135(b). For the reasons that follow, we conclude that Andersen has not shown that an inventor named in the ’953 patent derived any of the inventions recited in claims 1–22 from an inventor named in Andersen’s ’862 application.

II. BACKGROUND

A. *GED’s ’953 Patent*

The ’953 patent, titled “Spacer Frame and Method of Making Same,” issued on August 30, 2016, from U.S. Patent Application No. 14/703,027

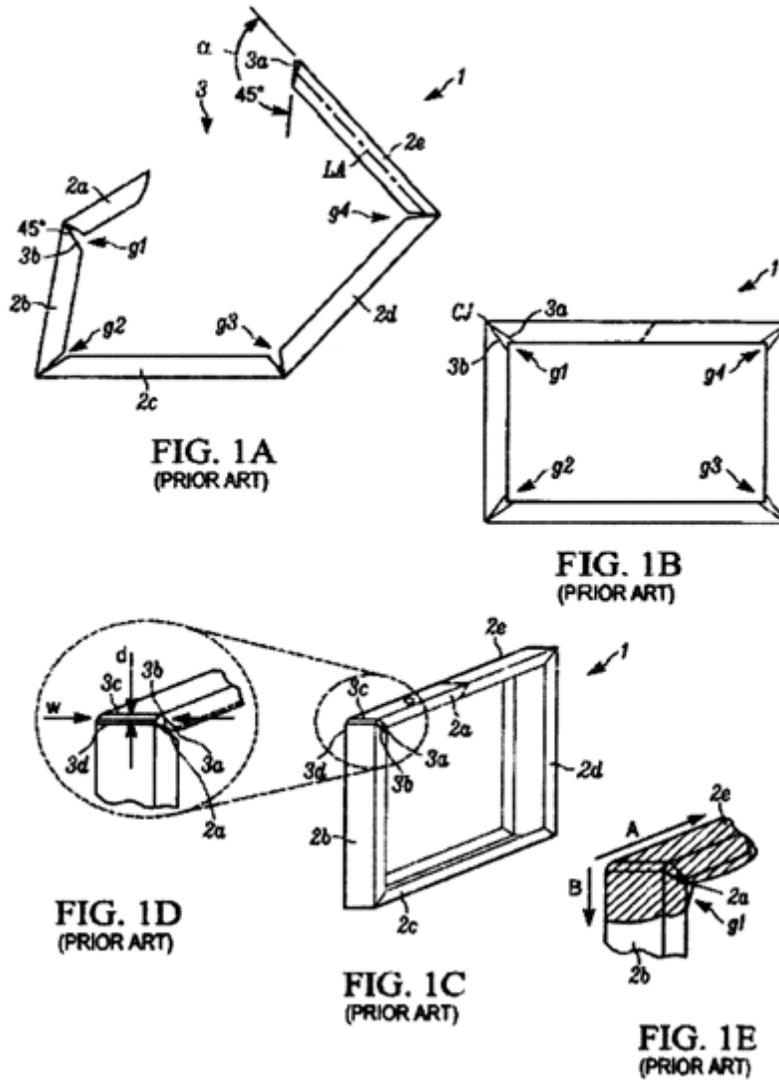
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(“the ’027 application”) filed on May 4, 2015.¹ The named inventors are William Briese and Clifford J. Weber.

The ’953 patent discloses “a spacer frame and fabrication process for use with an insulating glass unit (‘IGU’).” Ex. 1005, col. 1, ll. 17–20. IGUs “are used in windows to reduce heat loss from building interiors during cold weather” and are “typically formed by a spacer assembly sandwiched between glass lites.” *Id.* at col. 1, ll. 24–27. The spacer assembly includes “a frame structure extending peripherally about the unit, a sealant material adhered both to the glass lites and the frame structure, and a dessicant for absorbing atmospheric moisture within the unit,” with the sealant extending continuously around the frame structure so that the inside of the IGU is hermetic. *Id.* at col. 1, ll. 27–35. The ’953 patent describes known processes for fabricating IGUs, including the use of “tubular, roll formed aluminum or steel frame elements connected at their ends to form [a] square or rectangular spacer frame.” *Id.* at col. 1, ll. 46–60. For example, a known process involved roll forming an elongated metal strip, cutting “V” shaped notches where the corners will be, cutting the strip to the appropriate length, manually bending the strip into a frame shape, and applying sealant to the outside. *Id.* at col. 1, ll. 61–67.

¹ The ’027 application published on December 17, 2015, as U.S. Patent Application Publication No. 2015/0361713 A1. The ’953 patent claims the benefit of U.S. Provisional Patent Application No. 62/011,253 (Ex. 2027, “the ’253 provisional application”), filed on June 12, 2014. U.S. Patent Application No. 15/224,783 (“the ’783 application”), filed on August 1, 2016, is a divisional of the ’027 application, and U.S. Patent Application No. 15/806,962 is a continuation of the ’783 application. The ’783 application was involved in Case DER2018-00008, in which we denied institution of a derivation proceeding.

Figures 1A–E of the '953 patent are reproduced below.



Figures 1A–E depict conventional spacer frame 1 with five legs 2a–e. *Id.* at col. 2, ll. 55–59. “Leg 2a is a tab that when the spacer frame is assembled is inserted into leg 2e to form a corner juncture or connection at CJ.” *Id.* at col. 2, ll. 60–62. Leg 2e has chamfered end 3, which “allows the tab leg 2a to be completely inserted into leg [2e] until end sides 3a and 3c of the leg 2e bottom out on corresponding ends 3b and 3d to form corner juncture CJ.” *Id.* at col. 2, l. 60–col. 3, l. 3. Sealant is applied in directions A and B along

the frame. *Id.* at col. 3, ll. 7–11. The '953 patent discloses a known problem with conventional IGUs where “atmospheric water vapor infiltrated the sealant barrier,” which typically occurred at the frame corners where cutting the “V” shaped notches created “potential infiltration paths” (e.g., at corner gaps g1–4 shown above). *Id.* at col. 2, ll. 10–20, col. 3, ll. 4–7. As shown in Figure 1D, the problem typically occurs at corner gap g1 where gaps d and w may result from leg 2e sliding over leg 2a. *Id.* at col. 3, ll. 4–23.

The '953 patent describes an improved spacer frame and spacer frame fabrication process. Figures 2 and 3 of the '953 patent are reproduced below.

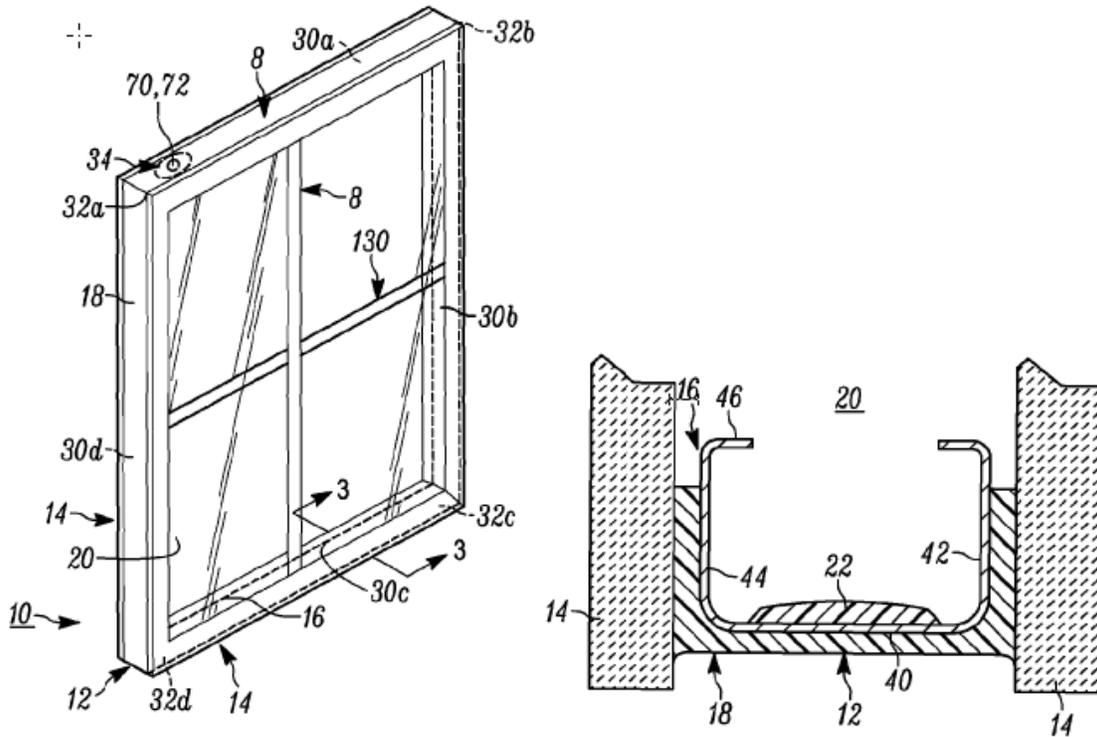


FIG. 2

FIG. 3

Figure 2 depicts IGU 10 in final assembled form, with spacer frame assembly 12 sandwiched between glass lites 14 and frame structure 16 of spacer frame assembly 12 covered with sealant material 18 to create

insulating air space 20 between glass lites 14. *Id.* at col. 7, ll. 15–55.

Figure 3 depicts the shape of frame structure 16 comprising peripheral wall 40, first and second lateral walls 42 and 44, and stiffening flanges 46, which resist bending. *Id.* at col. 7, l. 56–col. 8, l. 4.

Figure 7 of the '953 patent is reproduced below.

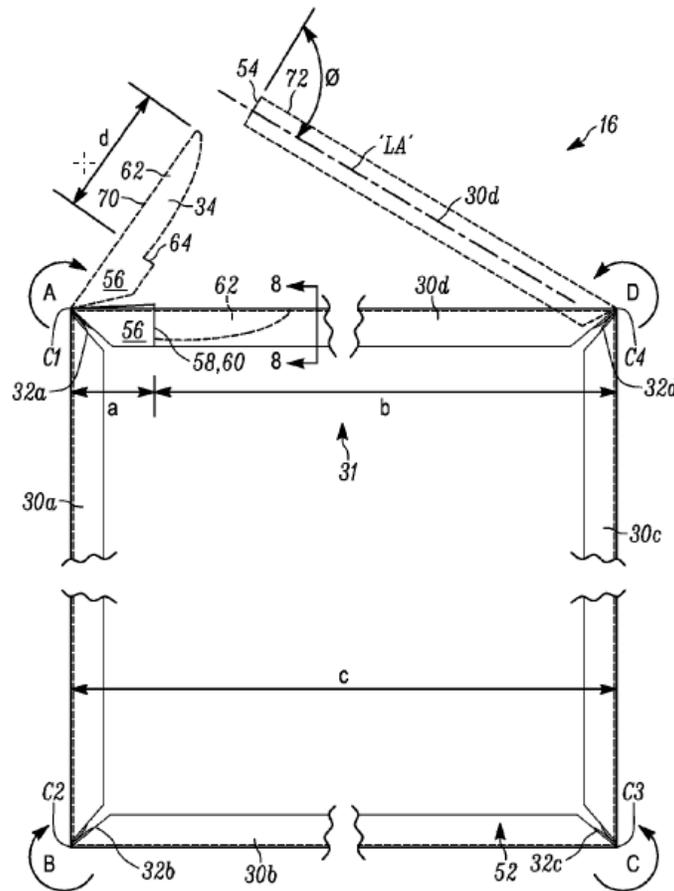


FIG. 7

Figure 7 depicts spacer frame assembly 16 comprising spacer frame segments or members 30a–d and connecting structure or tab 34, all of which are bent in the direction of arrows A–D to form a rectangular shape with frame corner structures 32a–d. *Id.* at col. 7, ll. 45–55, col. 9, ll. 7–17.

Specifically, nose 62 of connecting structure or tab 34 is inserted “into the channel formed at the opposite end 54 of segment 30d with concomitant

rotation of the segments.” *Id.* at col. 9, ll. 10–17. Rotation “continues until the channel of segment 30*d* at the opposite end 54 engages positive stops 64 in the connecting structure 34 first frame end 56 forming a telescopic union 5 and lateral connection 60 to make a compound lateral leg 31.” *Id.* at col. 9, ll. 18–22, Fig. 8 (section view showing stops 64 along line 8-8 in Fig. 7). The ’953 patent describes the functionality and advantages of stops 64, particularly with respect to aligning apertures 70 and 72, as follows:

[T]he connector structure 34 further comprises a first aperture 70 and corresponding second aperture 72 in the segment 304 for a fastener arrangement (not shown) for both connecting the opposite frame end 54 with the first frame end 56 and providing a temporary vent for the evacuation of air or insertion of gas into the space 20 while the unit 10 is being fabricated. The apertures 70 and 72 are automatically aligned because of the configurable dimensions A and B that when summed equal C (see FIG. 7) when the frame ends 54, 56 are properly telescoped together and the end 54 engages stops 64. The stops 64 reassure concentric alignment of the apertures 70, 72.

The stops 64 further reassure a repeatable length of the telescopic union of the lateral connection 60. This advantageously reassures that all four corner structures 32 are identical in spacing, size, angle orientation, and construction, thus reducing the potential for failure. In conventional spacer frames without the union 58 and lateral connection 60, over and under extension of the corners readily occurs. This over and under extension in convention frames is in part because of differences in tolerances because the last connecting leg 2*e* (see FIGS. 1C–1D) fails to bottom out, leaving . . . gaps *d* and *w* in FIG. 1D.

Id. at col. 9, ll. 40–63. According to the ’953 patent, precise alignment of the apertures is “important,” as “[t]he apertures provide a gas passage before a fastener . . . is installed” and sealant is applied, and “in conventional spacer

frames typically require[d] an awl for manual alignment.” *Id.* at col. 11, ll. 8–16.

The ’953 patent describes an embodiment in which the width of connecting structure or tab 34 “varies to a tapered fit . . . for ease of assembly.” *Id.* at col. 10, ll. 34–37, Figs. 10H, 10I. The width of the tab is less than the width of the opening of the opposite end so that it can be inserted into the opposite end, then widens along its length to become a snug fit between the tab and opposite end. *Id.* at col. 10, ll. 37–46. Similar to the connection shown in Figure 7 above, “[t]he snug or substantially press-fit continues until the opposite end frame 54 engages the stops 64, . . . eliminating any gaps around the profile of the lateral [walls] 42, 44, and peripheral wall 40.” *Id.* at col. 10, ll. 46–50, Figs. 10A–D. The ’953 patent describes other stops in addition to the type shown as stops 64 in Figure 7. *Id.* at col. 10, l. 57–col. 11, l. 7 (stops 64 shown in Figure 10L that “project outward or extend outwardly from the lateral walls 42 and 44” and “engage the stiffening flanges 46 of the opposite end 54 of the connecting leg 30*d*,” and stop 64 shown in Figure 10M that is a “dent or bump” that “extends outward and transversely to the peripheral wall 40” and “engages or contacts the corresponding side wall 42 of the opposite end 54 of the connecting leg 30*d*”).

Finally, the ’953 patent states that the disclosed spacer frame with “lateral connection 60 spaced away from the corner structures 32” permits application of sealant 18 in one direction (A shown in Figure 9), whereas conventional spacer frames with the connection at a corner required application in two directions (A and B shown in Figure 1E above). *Id.* at

col. 11, ll. 17–24. “[A]s such, the number of failures in the corners of the spacer frame . . . is significantly reduced” in the disclosed design. *Id.* at col. 11, ll. 24–26.

B. Andersen’s ’862 Application

The ’862 application, titled “Offset Seam for Insulating Glass Unit Spacer and Method of Using and Manufacturing the Same,” was filed on March 2, 2016.² The sole named inventor is Sammy H. Oquendo. Figure 1 of the ’862 application is reproduced below.

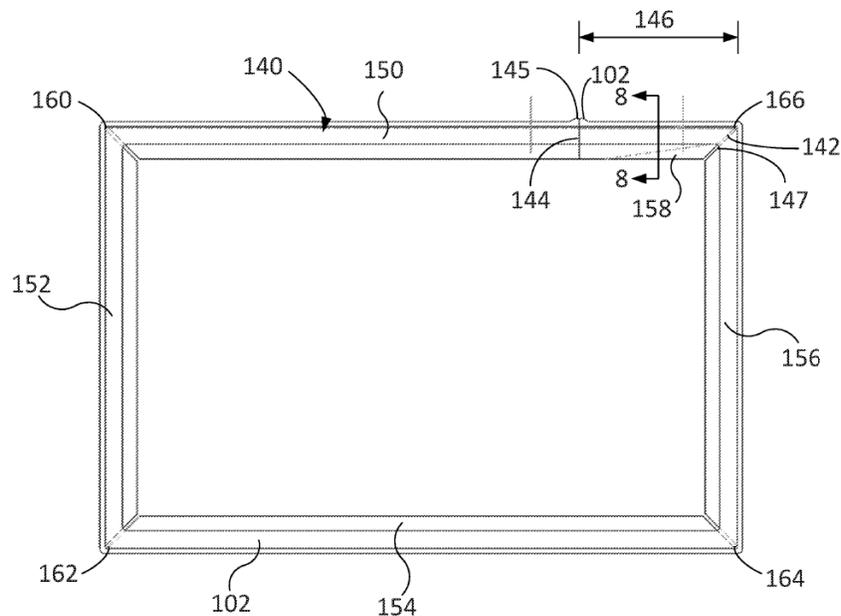


Figure 1

² The ’862 application published on September 8, 2016, as U.S. Patent Application Publication No. 2016/0258205 A1 (Ex. 1004). The ’862 application claims the benefit of U.S. Provisional Patent Application No. 62/127,603 (Ex. 2022, “the ’603 provisional application”), filed on March 3, 2015. U.S. Patent Application No. 15/813,652 (“the ’652 application”), filed on November 15, 2017, is a continuation of the ’862 application. The ’652 application was involved in Case DER2018-00008, in which we denied institution of a derivation proceeding.

Figure 1 depicts spacer frame assembly 140 extending from first end 142 to second end 144 and comprising five segments 150, 152, 154, 156, and 158. Ex. 2010, p. 6, l. 23–p. 7, l. 6, p. 7, ll. 18–21. Overlapping spacer segments 150 and 158 of the assembly define seam/union point 145, which is “offset” from corners 160 and 166 and covered with sealant 102. *Id.* at p. 5, ll. 25–26, p. 7, ll. 7–17, p. 10, l. 25–p. 11, l. 24.

Figure 8 of the '862 application is reproduced below.

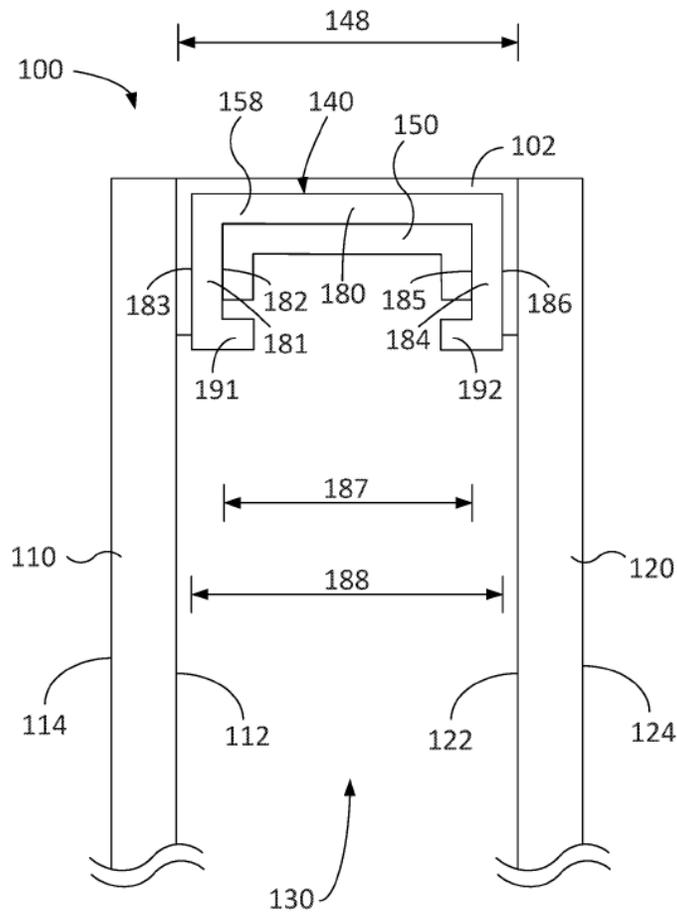


Figure 8

Figure 8 is a cross-sectional view of the assembly shown in Figure 1 taken along line 8-8, showing panes 110 and 120 on opposite sides of spacer frame assembly 140 (defining interior volume 130 between panes 110 and 120),

first spacer segment 150, and fifth spacer segment 158 with walls 181 and 184, bridge portion 180, and flanges 191 and 192. *Id.* at p. 6, l. 23–p. 7, l. 17, p. 12, ll. 1–12.

Figure 4 of the '862 application is reproduced below.

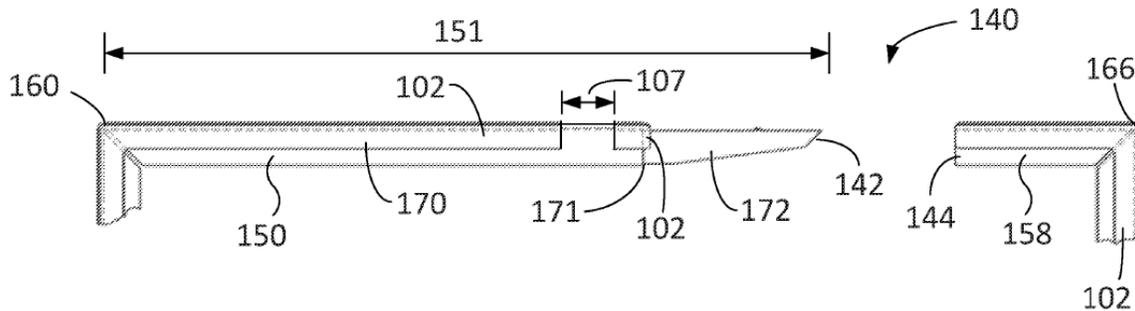


Figure 4

Figure 4 is a side view of first spacer segment 150 and fifth spacer segment 158. *Id.* at p. 13, ll. 16–21. Insert portion/connecting structure 172 of first spacer segment 150 is inserted into fifth spacer segment 158. *Id.* at p. 14, ll. 27–30. According to the '862 application, “[p]roper positioning” of insert portion/connecting structure 172 relative to fifth spacer segment 158 “is required to form a spacer/spacer frame assembly having a selected shape,” and may be accomplished in a number of ways. *Id.* at p. 19, ll. 8–29. For example, insert portion/connecting structure 172 “may be sized such that it butts into (e.g., bottoms out) the fourth corner 166” and is “prevented” from advancing any further. *Id.* at p. 19, ll. 20–29. The '862 application also discloses “swedging or narrowing” of insert portion/connecting structure 172 to “limit/stop further advancement” within fifth spacer segment 158, using sealant 102 to “restrict insertion” of insert portion/connecting structure 172, and having the flanges of the two spacer segments meet to “provide mechanical interference to function as a stop for

proper positioning.” *Id.* at p. 19, l. 30–p. 21, l. 16. Finally, the ’862 application discloses a “locking mechanism” to “couple the first spacer segment 150 to the fifth spacer segment 158.” *Id.* at p. 18, l. 1–p. 19, l. 7, Figs. 6, 7A, 7B (depicting locking tab 106).

C. Illustrative Claim

Other than the numbering of claim dependencies, claims 60–81 of the ’862 application are identical to claims 1–22 of the ’953 patent. *See* Pet. 7–9; Ex. 1006. When referring to the claims herein, we use the numbering from the ’953 patent for convenience. Claims 1, 14, and 20 of the ’953 patent are independent. Claim 1 recites:

1. A spacer frame assembly comprising:
 - a substantially linear channel having first and second ends, the substantially linear channel that when assembled, includes at least three sides and corresponding corners between each of said sides;
 - a connecting structure located at one of said first and second ends and an opposite frame end located at the other of said one of first and second ends, the opposite frame end having an inner channel for receiving a nose portion of said connecting structure;
 - a stop extending from said connecting structure for locating the opposite frame end when in the assembled position;
 - and
 - a lateral connection spaced from said corresponding corners and along one of said at least three sides, the lateral connection forming a union point by said stop between said opposite frame end and said connecting structure.

III. ANALYSIS

A. Principles of Law

The statute governing derivation proceedings, 35 U.S.C. § 135, provides as follows:

(a) Institution of Proceeding.—

(1) In general.—An applicant for patent may file a petition with respect to an invention to institute a derivation proceeding in the Office. The petition shall set forth with particularity the basis for finding that an individual named in an earlier application as the inventor or a joint inventor derived such invention from an individual named in the petitioner’s application as the inventor or a joint inventor and, without authorization, the earlier application claiming such invention was filed. Whenever the Director determines that a petition filed under this subsection demonstrates that the standards for instituting a derivation proceeding are met, the Director may institute a derivation proceeding.

...

(b) Determination by Patent Trial and Appeal Board.—

In a derivation proceeding instituted under subsection (a), the Patent Trial and Appeal Board shall determine whether an inventor named in the earlier application derived the claimed invention from an inventor named in the petitioner’s application and, without authorization, the earlier application claiming such invention was filed. . . .

...

(d) Effect of Final Decision.—The final decision of the

Patent Trial and Appeal Board, if adverse to claims in an application for patent, shall constitute the final refusal by the Office on those claims. The final decision of the Patent Trial and Appeal Board, if adverse to claims in a patent, shall, if no appeal or other review of the decision has been or can be taken or had, constitute cancellation of those claims, and notice of

such cancellation shall be endorsed on copies of the patent distributed after such cancellation.

Although a derivation proceeding is a creation of the Leahy-Smith America Invents Act, Public L. No. 112-29, 125 Stat. 284 (2011) (“AIA”),³ the charge of derivation of invention as a basis for finally refusing application claims and cancelling patent claims had been adjudicated under 35 U.S.C § 135(a) as it existed prior to the enactment of AIA. On the substantive law of derivation of invention, we apply the jurisprudence that developed in that context, including the case law of the U.S. Court of Appeals for the Federal Circuit and the U.S. Court of Customs and Patent Appeals.

1. Conception and Communication

Under the AIA, a petitioner must show that the respondent, without authorization, filed an application claiming such derived invention. 35 U.S.C. § 135(a)(1); 37 C.F.R. § 42.405(b)(2). To prove derivation, the party asserting derivation must establish (1) prior conception of the claimed subject matter, and (2) communication of that conception to an inventor of the other party. *Cooper v. Goldfarb*, 154 F.3d 1321, 1332 (Fed. Cir. 1998); *Price v. Symsek*, 988 F.2d 1187, 1190 (Fed. Cir. 1993); *Hedgewick v. Akers*, 497 F.2d 905, 908 (CCPA 1974); see Changes to Implement Derivation Proceedings; Final Rule, 77 Fed. Reg. 56,068, 56,075 (Sept. 11, 2012) (“Derivation Final Rules”) (“Derivation requires both earlier conception by

³ The language of 35 U.S.C. § 135 was amended to its current form in the Technical Corrections—Leahy-Smith America Invents Act, Pub. L. No. 112-274 §§ 1(e)(1), 1(k), 126 Stat. 2456, 2456–58 (2013).

the party alleging derivation as well as communication of the conception.”). “There can be no derivation without prior conception on the part of the party alleging derivation.” *Davis v. Reddy*, 620 F.2d 885, 889 (CCPA 1980) (quoting *Egnot v. Looker*, 387 F.2d 680, 687 (CCPA 1967)). A charge of derivation addresses originality—who invented the subject matter at issue. *Price*, 988 F.2d at 1190.

“Conception is the formation ‘in the mind of the inventor of a definite and permanent idea of the complete and operative invention, as it is therefore to be applied in practice.’” *Kridl v. McCormick*, 105 F.3d 1446, 1449 (Fed. Cir. 1997) (quoting *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985)); *Burroughs Wellcome Co. v. Barr Labs. Inc.*, 40 F.3d 1223, 1227–28 (Fed. Cir. 1994). “Conception must be proved by corroborating evidence which shows that the inventor disclosed to others his ‘completed thought expressed in such clear terms as to enable those skilled in the art’ to make the invention.” *Coleman*, 754 F.2d at 359 (citation omitted). As with conception, corroboration also is required to support testimony regarding communication. *Price*, 988 F.2d at 1196; *Davis*, 620 F.2d at 889. An inventor “must provide independent corroborating evidence in addition to his own statements and documents.” *Hahn v. Wong*, 892 F.2d 1028, 1032 (Fed. Cir. 1989); *Reese v. Hurst*, 661 F.2d 1222, 1225 (CCPA 1981). A rule of reason applies to determining whether the inventor’s testimony has been corroborated. *Price*, 988 F.2d at 1194–95. “The rule of reason, however, does not dispense with the requirement for some evidence of independent corroboration.” *Coleman*, 754 F.2d at 360.

The showing of prior conception must be made for an invention communicated to an inventor of the other party. Any challenged claim that the petitioner demonstrates is “the same or substantially the same” as the disclosed invention constitutes a derived invention.⁴ *See* 37 C.F.R. § 42.405(b)(3)(i). Proof of conception must encompass all limitations of the disclosed invention. *See Cumberland Pharms. Inc. v. Mylan Institutional LLC*, 846 F.3d 1213, 1218–19 (Fed. Cir. 2017); *Singh v. Brake*, 222 F.3d 1362, 1367 (Fed. Cir. 2000); *Kridl*, 105 F.3d at 1449; *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994); *Coleman*, 754 F.2d at 359; *Davis*, 620 F.2d at 889. Likewise, “[t]he communication must be sufficient to enable one of ordinary skill in the art to make the patented invention.” *Eaton Corp. v. Rockwell Int’l Corp.*, 323 F.3d 1332, 1344 (Fed. Cir. 2003).

If the petitioner identifies one of its own claims as defining or representing that invention disclosed to an inventor of the other party, then the petitioner has to establish corroborated conception of that claimed invention, as well as corroborated communication of that conception. Assuming that corroborated conception and communication both are established, the petitioner would be able to regard as a derived invention those challenged claims of the respondent that are shown by the petitioner to be drawn to the same or substantially the same invention as the disclosed invention. That question is evaluated in the direction from the disclosed invention to each challenged claim.

⁴ “Same or substantially the same” means patentably indistinct, 37 C.F.R. § 42.401, and in this specific context, patentably indistinct is evaluated one-way in the direction from the invention disclosed to the respondent to each challenged claim.

Pursuant to 37 C.F.R. § 42.405(a)(2), a petitioner also has to show that it has at least one claim that is (i) the same or substantially the same as the respondent's claimed invention, and (ii) the same or substantially the same as the invention disclosed to the respondent. If the petitioner selects one of its own claims as the "invention disclosed to the respondent," the selection itself can be relied on as satisfying the requirement of 37 C.F.R. § 42.405(a)(2)(ii).

2. Burden of Proof

To prevail in an instituted derivation proceeding, the petitioner must demonstrate that "an inventor named in the earlier application derived the claimed invention from an inventor named in the petitioner's application and, without authorization, the earlier application claiming such invention was filed." 35 U.S.C. § 135(b). Unlike the statutory provisions governing *inter partes* review and post-grant review, which specify that a petitioner must prove unpatentability of a claim by a "preponderance of the evidence," the statutory provision for derivation proceedings does not set forth an evidentiary standard for proving derivation. *See* 35 U.S.C. §§ 135, 316(e), 326(e). Our rules, however, provide that "[a] derivation proceeding is a trial subject to the procedures set forth in subpart A of this part [i.e., 37 C.F.R. §§ 42.1–42.80]," 37 C.F.R. § 42.400(a), and "[t]he default evidentiary standard [for trial proceedings] is a preponderance of the evidence," 37 C.F.R. § 42.1(d).⁵ We apply that standard for purposes of this Decision.

⁵ The threshold showing for institution of a derivation proceeding is "substantial evidence, including at least one affidavit addressing

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See id.; *Catapult* at 3 (“Once a derivation proceeding has been instituted, the standard of proof for establishing that a challenged claim constitutes a derived invention is by a preponderance of the evidence.”).

GED argues that because “Andersen copied [the ’953 patent] claims into its own application to provoke this derivation,” Andersen must prove derivation by clear and convincing evidence, citing as support *Price*, 988 F.2d at 1194. Sur-Reply 22 n.16. We disagree. *Price* involved an interference in which the junior party filed its application after issuance of the senior party’s patent. 988 F.2d at 1189. The Federal Circuit required proof of derivation by clear and convincing evidence, stating that “[a]n interference involving an already issued patent embraces the societal interests derived from the statutory presumption that an issued patent is valid” and “[t]hese interests require a standard of proof higher than a mere, or dubious, preponderance of the evidence.” *Id.* at 1193–94.

That is not the situation here. GED’s ’027 application was filed on May 4, 2015, and issued as the ’953 patent on August 30, 2016. Andersen’s ’862 application was filed on March 2, 2016, and thus was copending with

communication of the derived invention and lack of authorization that, if unrebutted, would support a determination of derivation.” 37 C.F.R. § 42.405(c); *see* Dec. on Inst. 3; *Catapult Innovations Pty Ltd v. adidas AG*, Case DER2014-00002, slip op. at 2–3 (PTAB July 18, 2014) (Paper 19) (“*Catapult*”). “Requiring such a showing prior to any institution of a proceeding is consistent with the Office’s goal of avoiding institution of proceedings that lack merit and additional costs on both a respondent and a petitioner unnecessarily.” Derivation Final Rules, 77 Fed. Reg. at 56,074. The “ultimate question of whether an invention was derived from the petitioner,” though, “is decided only after a derivation proceeding is instituted and completed.” *Id.*

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the '027 application. In the interference context, “[i]t is well settled that where an interference is between a patent that issued on an application that was copending with an interfering application, the applicable standard of proof is preponderance of the evidence.” *Bosies v. Benedict*, 27 F.3d 539, 541–42 (Fed. Cir. 1994); *see also Bruning v. Hirose*, 161 F.3d 681, 684–85 (Fed. Cir. 1998) (“[R]eliance on *Price* to supply the appropriate burden of proof is misplaced unless the interference involves an application that was not filed until after the interfering patent issued. . . . Copending applications invoke the preponderance of the evidence standard.”); *Davis*, 620 F.2d at 888–89 (“[The junior party in an interference] must prove his case by a preponderance of the evidence where . . . his application was co-pending with that for the patent of the senior party. . . . This ‘preponderance of the evidence’ burden of proof applies where the issue is derivation.”); *Johns Hopkins Univ. v. 454 Life Sciences Corp.*, 230 F. Supp. 3d 357, 381 n.8 (D. Del. 2017) (cited during the hearing at Tr. 66:19–67:3) (applying the preponderance of the evidence standard where the patents at issue were copending). Thus, even assuming the applicability of the cited interference case law to the burden of proof in derivation proceedings under the AIA, the appropriate standard would be preponderance of the evidence, rather than clear and convincing evidence, because Andersen filed the '862 application prior to issuance of the '953 patent.

B. Claim Interpretation

Pursuant to 37 C.F.R. § 42.405(b)(3)(ii), a petitioner must identify how the respondent’s claims to the allegedly derived invention are to be

construed. Andersen argues in its Petition that the term “stop” in all of the claims should be interpreted to mean “[a] physical abutment that prohibits movement of the adjoining structure beyond a predetermined location.”

Pet. 9. In the Decision on Institution, based on the record at the time, we preliminarily agreed with and adopted that interpretation, and concluded that no other terms required interpretation. Dec. on Inst. 17–18.

GED in its Response does not dispute this interpretation, but raises two points. First, GED contends that the “stop” cannot be at the corner of the recited assembly, given how the term is used in the claims. Resp. 6. Claim 1 recites (emphases added):

a stop extending from said connecting structure for locating the opposite frame end when in the assembled position;
and

a lateral connection *spaced from said corresponding corners* and along one of said at least three sides, the lateral connection forming a union point *by said stop* between said opposite frame end and said connecting structure.

Thus, because the stop defines the place of the lateral connection, which is spaced from the corners, logically the stop must be spaced from the corners as well. *Id.* Andersen does not dispute this premise in its Reply, and acknowledged at the hearing that “the stop needs to be away from the corner, spaced apart from the corner.” *See* Tr. 5:19–6:7. We agree as well. No change to our original interpretation is necessary, however, as the cited language is already present in the claims.⁶

⁶ Independent claims 14 and 20 include similar language. Claim 14 recites an “abutment stop for limiting movement of the leading and trailing ends as said leading and trailing ends are telescoped one within the other and said abutment stop defining a lateral connection *spaced from said corners*”

Second, GED argues that “the press-fit of a swaged tab into a frame” does not constitute a “stop” because its movement depends on how hard the operator pushes the tab segment and does not prohibit movement beyond a “predetermined location.” Resp. 7–8. This argument pertains to whether a particular structure is or is not a “stop,” not how the term “stop” should be interpreted overall. Regardless, because Andersen relies only on abutting stiffening flanges (not a press-fit) to show conception and communication, as explained herein, we need not address this argument. *See infra* Section III.D.

Upon review of the full record from trial, we do not perceive any reason to deviate from our earlier interpretation of “stop.” *See* Dec. on Inst. 17–18; Tr. 5:19–6:7, 41:4–7 (the parties agreeing that there is no dispute over the interpretation of “stop”). We adopt the previous analysis (Dec. on Inst. 17–18) and conclude that no other terms require interpretation.

C. Summary of the Parties’ Contentions and Supporting Evidence

We begin by summarizing the parties’ general contentions and supporting evidence. Both parties rely heavily on testimony from individuals who provided declarations and were cross-examined in this proceeding. We then address whether Andersen has proven derivation of

(emphasis added). Claim 20 recites “a stop extending from said connecting structure for contacting the opposite frame end at a lateral connection *spaced from said corresponding corners*, . . . said stop located at said lateral connection preventing further advancement of the nose portion along said inner channel” (emphasis added).

each allegedly derived invention, particularly with respect to the disputed “stop” feature.

1. Andersen’s Contentions and Supporting Evidence

Andersen provides in its Petition an explanation for how Mr. Oquendo, the named inventor of the ’862 application and a former employee of Silver Line Building Products LLC (“Silver Line”), a subsidiary of Andersen, allegedly conceived of a spacer frame assembly and communicated that conception to employees of GED. *See* Pet. 14–31. In support of its arguments, Andersen relies on testimony from Mr. Oquendo and two Andersen employees, Brian Parker and Katherine Graham. *See id.*; Exs. 1001–1003, 2023–25 (cross-examination).⁷ Andersen argues that “Mr. Oquendo conceived the invention in claims 1–22 of the ’953 patent as early as March, and no later than June 2009,” and “disclosed the same information to Mr. Briese as early as March 2009 and no later than January 2011.” Pet. 32.

Mr. Oquendo explains that GED sells machinery for making spacer frames marketed under the name “Intercept,” which Silver Line uses to make IGUs. Ex. 1001 ¶ 8. Mr. Oquendo describes the original Intercept frame, which was manufactured from a strip of metal, cut by a punch and die system, and folded into a frame structure (similar to prior art Figures 1A–1E

⁷ Certain portions of the cross-examination testimony of Mr. Oquendo (Ex. 2025) have been redacted, but neither party filed a motion to seal. *See* 37 C.F.R. § 42.14. Because we do not rely on any portions of the questioning where information has been redacted, we will not require that the error be remedied.

of the '953 patent shown above). *Id.* ¶¶ 10–14. The Intercept frame had stiffening flanges on the side walls of the strip and an “insert tab” inserted into a “trailing end,” forming a seam at the fourth corner that would be covered with sealant. *Id.* ¶¶ 11, 13–15, 17–18. Figures 8 and 11 provided by Mr. Oquendo are reproduced below.



Figure 8, on the left, depicts the insert tab and trailing end prior to insertion, and Figure 11, on the right, depicts how they interact to form the seam at the corner. *Id.* ¶¶ 13, 17.

a. Conception

Mr. Oquendo testifies that Silver Line and Andersen suspected that the fourth corner seal in the Intercept frame was causing IGU failures and, when testing confirmed that fact in 2009, he “conceived of the idea to alter the existing Intercept® spacer frame design by moving the seam away from the 4th corner to a location offset from the corner.” Ex. 1001 ¶¶ 20, 22.

Mr. Oquendo states:

Stated in another way, I conceived of a spacer frame assembly formed of a metal strip bent into a u-shaped linear channel and designed to be bent into a multi-sided spacer frame in a similar manner to the existing Intercept® spacer frame.

My design, however, differs from the existing Intercept® design in that the connecting structure is located offset from, or spaced away from, a corner of the spacer frame. The connecting structure (*i.e.*, the two ends of the frame structure that couple together) of my invention forms a union point between two corners of the frame structure. My invention also includes different types of stops extending from the connecting structure that properly position the opposite ends of the frame structure when coupled.

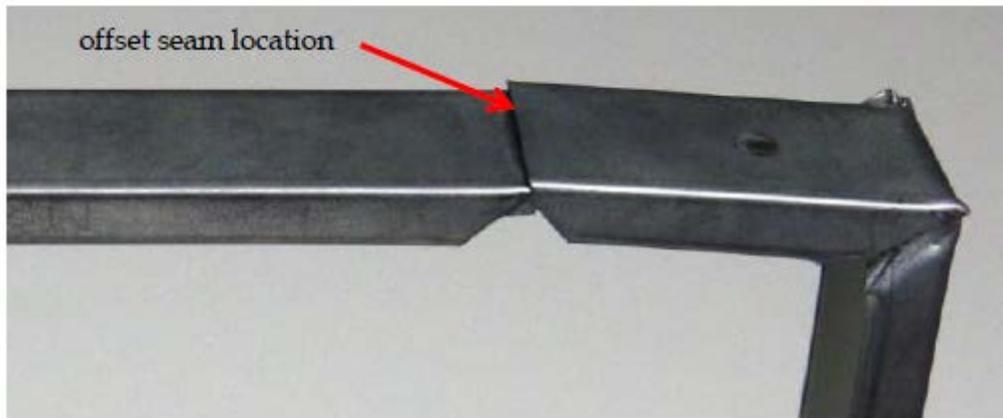
Similar to the existing Intercept® spacer frame, my inventive spacer frame design includes stiffening flanges. I designed my spacer frame so that the stiffening flanges located at opposite ends of the frame structure abut one another when the connecting structure forms a union point at a location offset from the corner. The abutment of the stiffening flanges at the union point functions as a stop that aids in proper positioning of the connecting structure.

Id. ¶¶ 23–24. According to Mr. Oquendo, moving the seam away from the fourth corner would provide numerous benefits, including reducing IGU seal failures, eliminating the need to seal the corner manually, and enabling a standardized process for sealing the IGU. *Id.* ¶ 25.

Mr. Oquendo testifies that in March 2009, he developed a prototype of a spacer frame with a seam offset from the fourth corner, using “two existing Intercept® spacer frames, affixed together by duct tape and modified by metal shears.” *Id.* ¶ 26.⁸

⁸ Mr. Oquendo provides photographs of his prototype as Exhibit 1011, and made the actual spacer frame available to GED during the trial and to the Board during the hearing in this proceeding. GED subsequently provided additional photographs in the record as Exhibit 2017.

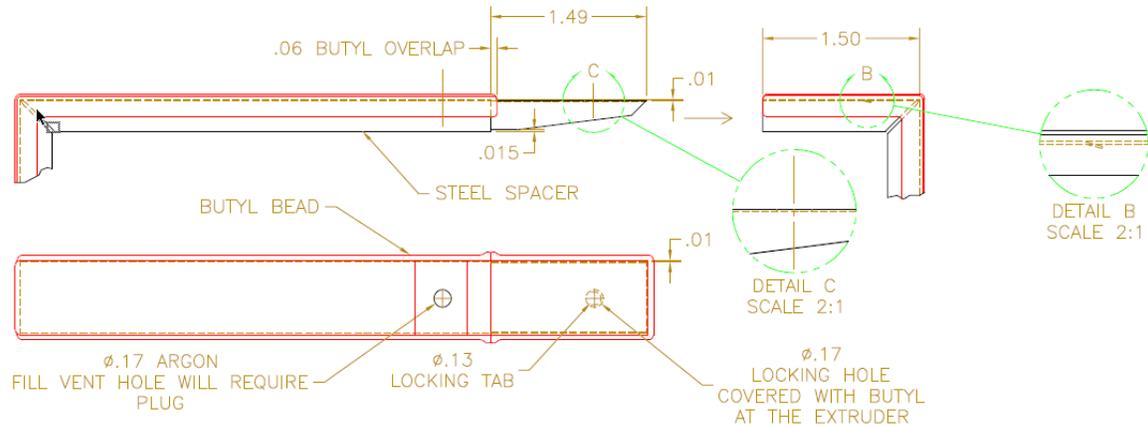
Mr. Oquendo provides the following photograph (Ex. 1011, 1; Ex. 1001 ¶ 28, Fig. 14):



The photograph above shows the tail segment on the left inserted into the tab segment on the right, forming a seam offset from the corner. Ex. 1001 ¶ 28. Because of the V-shaped notches on either side of the tail, its stiffening flanges do not touch the stiffening flanges of the tab, as shown in the photographs of the prototype. See Ex. 1011, 1–2; Ex. 2017, 2. Mr. Oquendo acknowledges this fact, but states that it is simply the result of using an existing Intercept spacer frame, which had a notch punched out for creating the fourth corner. Ex. 1001 ¶ 28. According to Mr. Oquendo, the invention he conceived in 2009 did *not* have a notch at the offset seam location. *Id.*

Mr. Oquendo testifies that he created a set of CAD drawings in 2009 that show that his invention “included an offset seam that was formed by a continuous butt joint, without the notches at the offset seam as shown in [his] prototype.” *Id.* ¶ 29. Mr. Oquendo refers to a “May 14, 2009 CAD drawing of [his] offset spacer frame invention” filed as Exhibit 1012; a “June 5, 2009 CAD drawing of [his] offset spacer frame invention” filed as

Exhibit 1013;⁹ and a screenshot of a computer directory indicating a “Date created” and “Date modified” of June 5, 2009, for a file named “IGU Spacer Concept.pdf” as Exhibit 1029. *Id.* A portion of Exhibit 1013 is reproduced below.



The figure above depicts a side view and top view of a spacer frame.

Mr. Oquendo states that as part of his design, he “conceived of and reduced to practice numerous stops that served to properly position the frame in its assembled form,” including “the abutment of the stiffening flanges when opposite ends of the spacer frame are joined” and “when the length of the insert portion abuts the fourth corner and, thus, properly locates the opposite frame end when in the assembled position.” *Id.* ¶¶ 35–39.

With respect to corroboration of the alleged conception, Mr. Oquendo testifies that he “described [his] invention to at least Alex Bredemus and Brian Parker of Andersen, and Dominick Benevenga, Frank Perna, Robert

⁹ Exhibit 1013 is characterized by Andersen as a “June 2009 CAD Drawing” and by Mr. Oquendo as a “June 5, 2009 CAD drawing,” even though the date on the document is “5/14/09.” *See* Pet. 22; Ex. 1001 ¶ 29. We refer to the document as the “June 5, 2009 CAD drawing” as well for ease of reference, and address Andersen’s contentions regarding Exhibit 1013 in greater detail below.

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Amariti and Peter Grandinetti all of Silver Line,” and “[i]n Lansing, IL at a meeting attended by both Andersen and Silver Line personnel on May 16, 2009, [he] sketched on a whiteboard [his] invention for a spacer frame with an offset corner seam.” *Id.* ¶ 46 (citing Ex. 1015, a June 5, 2009 email from Mr. Oquendo to five Andersen and Silver Line employees). Mr. Parker testifies that he recalls the meeting in which Mr. Oquendo “sketch[ed] his design on a whiteboard” and that Mr. Oquendo’s “idea included the idea of moving the seam away from the fourth corner to a location offset from the corner. In addition, the joint was formed by a stop that enabled an assembly process that ensured the seam was located at the proper, offset location.” Ex. 1002 ¶ 10. Mr. Parker also recalls seeing the June 5, 2009 email from Mr. Oquendo with attached “CAD drawings.” *Id.* (citing Ex. 1015).

b. Communication

Mr. Oquendo also testifies regarding the alleged disclosure of his invention to employees of GED. Mr. Oquendo states that on March 12, 2009, Mr. Briese, one of the named inventors of the ’953 patent, and Timothy McGlinchy of GED “visited Silver Line’s facility for the Silver Line/Andersen Glass Symposium.” Ex. 1001 ¶ 49 (citing Ex. 1018, a March 16, 2009 follow-up email from Mr. McGlinchy, and Ex. 1019, meeting notes dated March 12, 2009). According to Mr. Oquendo, attendees of the symposium discussed the problems with the Intercept fourth corner and GED presented a proposed solution of an “automated fourth corner patch.” *Id.* ¶ 50. Mr. Oquendo states that Silver Line and Andersen did not

believe that the automated patch proposal would solve the problems with the fourth corner. *Id.* ¶ 51. Mr. Oquendo further testifies:

At the March 12, 2009 Glass Symposium, at a side-meeting at my desk, I presented and discussed my ideas for moving the fourth corner seam to an offset location to Bill Briese and Tim McGlinchy of GED. As part of this presentation, I showed both Bill Briese and Tim McGlinchy my prototype of a spacer frame unit with its seam offset from the fourth corner.

Id. ¶ 52.

Mr. Oquendo testifies that he subsequently communicated with Mr. Briese by telephone and email, referring specifically to a May 29, 2009 email from Mr. Briese stating that “[c]hanging the tab insertion to a butt-joint instead of a corner joint does not seem feasible,” but he “like[d] the idea” and would “like to continue this discussion to see if [they] can find a solution.” Ex. 1021;¹⁰ *see* Ex. 1001 ¶ 53.

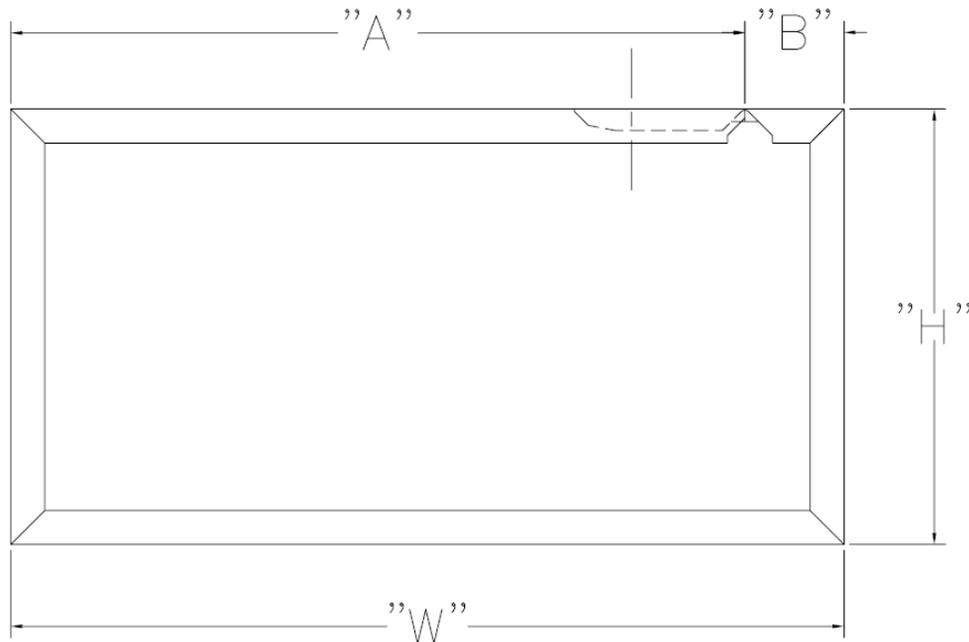
Mr. Oquendo testifies that he “asked GED to try manufacturing a spacer frame with its seam offset from the corner and asked Mr. Briese to send [him] a sample.” Ex. 1001 ¶ 55 (citing Ex. 1016, a June 8, 2009 email thread between Mr. Oquendo and Mr. Bredemus, an Andersen employee). According to Mr. Oquendo, Mr. Briese “said he thought it possible to move the seam away from the fourth corner, but stated he would not be pursuing the idea himself and suggested [Mr. Oquendo] experiment on [his] own at Silver Line.” *Id.*

Mr. Oquendo testifies that Mr. McGlinchy then visited Silver Line “in and around September – December of 2009,” they discussed the

¹⁰ GED provides a copy of the complete May 2009 email thread between Mr. Oquendo and Mr. Briese as Exhibit 2018.

“invention of an offset spacer frame,” and he “showed Mr. McGlinchy the June 5, 2009 CAD drawing detailing [his] invention for a spacer frame with an offset seam.” *Id.* ¶ 57.

Mr. Oquendo testifies that, at a GED training on January 11, 2011, he “requested GED provide [him] a quote for software changes to GED’s system that were needed to manufacture [his] spacer frame design with an offset seam.” *Id.* ¶ 58. According to Mr. Oquendo, Mr. Briese and Mr. McGlinchy showed him a drawing and asked Mr. Oquendo to verify it was what he was requesting. *Id.* Then, on January 12, 2011, Mr. Briese sent an email to Mr. Oquendo with a price quote and the following drawing (“the January 2011 drawing”):



Ex. 1024; *see* Ex. 1023 (copy of January 12, 2011 email). Mr. Oquendo confirms that the “sketch shows a spacer frame with its seam offset from the corner, as [he] had requested.” Ex. 1001 ¶ 58.

Mr. Oquendo testifies that he never spoke with GED about his idea after the January 12, 2011 email, but Mr. Parker and Ms. Graham later informed him of a 2014 exhibition in which GED presented a new spacer frame design under the name “Corner Plus,” which Mr. Oquendo believes is the same invention he disclosed to GED in 2009. *Id.* ¶¶ 59–62. Mr. Parker testifies that he recognized the Corner Plus concept as what Mr. Oquendo developed and that Mr. Briese told him at the 2014 exhibition “that the offset seam concept was, ‘the best thing that has happened to Intercept® since Intercept®.’” Ex. 1002 ¶¶ 11–12. Ms. Graham testifies that she attended the 2014 exhibition as well and that “Bill Weaver, President of GED, told [her] Corner Plus ‘is the largest quality enhancement to Intercept since Intercept came out.’” Ex. 1003 ¶¶ 4, 6.

With respect to corroboration of the alleged communications, Mr. Parker testifies that he also attended the March 12, 2009 symposium and recalls Mr. Briese and Mr. McGlinchy being present. Ex. 1002 ¶ 7. Mr. Parker recalls Mr. Oquendo disclosing to him his idea of solving the fourth corner problem “[i]n and around [the] 2009 timeframe,” Mr. Oquendo “sketching his design on a whiteboard,” and seeing the June 5, 2009 email with attached “CAD drawings.” *Id.* ¶ 10.

2. GED’s Contentions and Supporting Evidence

GED responds that Andersen has not proven derivation because it has not shown that Mr. Oquendo conceived of the spacer frame assemblies recited in claims 1–22 or communicated such conception to a named inventor of the ’953 patent. Resp. 9–59. GED points to multiple limitations

of the claims in support of its arguments. *See id.* We focus herein on one in particular—the “stop”—because it is dispositive.

In support of its arguments, GED relies on testimony from Mr. Briese, GED’s Research & Development/Engineering Manager and one of the named inventors of the ’953 patent, and Mr. McGlinchy, who was Mr. Briese’s supervisor at GED. *See id.*; Exs. 2032, 2033, 2035, 2036, 1057–58 (cross-examination). Mr. Briese denies that he derived any aspect of the inventions claimed in the ’953 patent from Mr. Oquendo or anyone else at Silver Line or Andersen, and states that he “did not rely on any input from Mr. Oquendo in conceiving or reducing [his] invention to practice.” Ex. 2032 ¶¶ 8, 67. Both Mr. Briese and Mr. McGlinchy testify that, prior to this proceeding, they had never seen Mr. Oquendo’s prototype (shown in Ex. 1011), the “May 14, 2009 CAD drawing” (Ex. 1012), or the “June 5, 2009 CAD drawing” (Ex. 1013). *Id.* ¶ 9; Ex. 2033 ¶ 7.

Mr. Briese differentiates his spacer frame idea, as described in the ’953 patent, from the original GED spacer frame design, referred to by Mr. Briese as the “Leopold Frame” and shown in Figures 1A–1B of the ’953 patent above (as well as in an earlier patent assigned to GED, U.S. Patent No. 5,313,761 (Ex. 2026, “the ’761 patent”)), where “insertion of the tab into the tail would stop when the end of the tail reached the *corner* created by bending the joint between the tab and the first spacer frame segment.” Ex. 2032 ¶¶ 13, 21, 36 (emphasis added). Mr. Briese testifies that GED recognized that the original design “could result in slight variations of the positioning of the two segments, resulting in variations of alignment of the two filling holes punched into those two segments.” *Id.*

¶ 22. Also, “greater-than-optimal pressure by the workman when inserting the tab into the tail could result in misalignment of the tab and tail overlap at the corner,” which “could present problems for the necessary second application of sealant over the filling hole area and the nearby corner.” *Id.* Mr. Briese testifies that he conceived of the idea of a spacer frame with a stop away from the corners to address these issues:

An important advance made by my invention is providing a pre-planned, precise, repeatable *stop* that accurately positions the two connecting elements of a folded IGU spacer frame without regard to variations in assembly pressure or technique, thereby facilitating accurate assembly, particularly of the filling holes of the frame, which must precisely overlap each other. . . . A further advance of my invention is to provide such a positive stop at a lateral distance away from a corner of the frame, thereby facilitating a final seal of the frame that relies less on operator skill than previous techniques.

Mr. Oquendo, in contrast, appears not to recognize the value or necessity of the positive stop. . . . The simple relocation of the exterior seam, by itself, . . . does not address the problem of providing a positive stop that is at the heart of my invention Without providing for a positive stop, simply moving the location of the exterior seams will move the location of the problem, not solve it.

Id. ¶¶ 13–14.

a. Events of 2009

Mr. Briese and Mr. McGlinchy acknowledge that they met with Silver Line representatives in March 2009 to discuss the issues with the Intercept fourth corner, but testify that “[a]t no time . . . did Mr. Oquendo mention to [them] a plan to switch to inserting the tail into the tab to create a seam located away from the corner.” Ex. 2032 ¶¶ 23–25; Ex. 2033 ¶¶ 15–16.

Mr. Briese and Mr. McGlinchy specifically deny that Mr. Oquendo ever presented his idea or his prototype at a “side-meeting” with them at the March 2009 symposium as Mr. Oquendo asserts. Ex. 2032 ¶ 27; Ex. 2033 ¶ 19. Mr. Briese, though, believes he likely had a subsequent call with Mr. Oquendo where Mr. Oquendo discussed a “plan to insert the tail into the tab rather than the tab into the tail.” Ex. 2032 ¶ 31.

Regarding his May 29, 2009 email to Mr. Oquendo (Ex. 2018), Mr. Briese testifies that: (1) the email was part of a larger thread pertaining to a different topic (conveyor hanger guards); (2) his comments were in response to Mr. Oquendo’s question of “[h]ave you had a chance to look at the reversal of the swedge and splay?”; and (3) his reference to a “butt-joint” simply referred to “a folded spacer frame configuration where the seam resulting from assembly of the frame was located along a wall rather than at a corner.” Ex. 2032 ¶¶ 31–33; Ex. 2035 ¶¶ 8–9. According to Mr. Briese, Mr. Oquendo’s “idea of an offset seam merely *moved* the problem from the fourth corner to a spot along the wall—it did not solve the problem,” which he pointed out in the email. Ex. 2032 ¶ 33. Mr. McGlinchy has the same opinion. Ex. 2033 ¶ 20. Mr. Briese testifies that in 2009, all he knew about Mr. Oquendo’s idea was that Mr. Oquendo “wanted to insert the tail into the tab in a standard Leopold design, rather than the tab into the tail, resulting in a different location for the exterior seam, . . . but no change in the location of the stop, and no improvement in the precision or repeatability of the connection point.” Ex. 2032 ¶ 37.

Responding to Mr. Oquendo’s testimony concerning an alleged meeting with Mr. McGlinchy in late 2009, Mr. Briese states: “I was not

present at such a meeting, nor did Mr. McGlinchy tell me about any prototype he may have seen at such a meeting, or about any drawings he may have been shown at such a meeting.” *Id.* ¶¶ 41, 51. Mr. McGlinchy testifies that he has no recollection of such a meeting or of any other meeting where Mr. Oquendo showed him the “June 5, 2009 CAD drawing” (Ex. 1013) or any other CAD drawings for his idea. Ex. 2033 ¶ 21.

b. Events of 2011

Mr. Briese testifies that around January 2011, “Mr. Oquendo asked GED to provide a quote for providing to Silver Line a revised spacer frame fabrication method” and Mr. Briese responded with the price quote and drawing of January 12, 2011 (Exs. 1023, 1024) “[b]ased on [his] understanding of what Mr. Oquendo wanted.” Ex. 2032 ¶¶ 42–43. Mr. Briese states that the drawing has the standard arrangement of “inserting the tab into the tail of the spacer frame” (unlike the reversal that Mr. Oquendo mentioned in 2009), but “in this variation, the tail (or fourth side) was shortened by a distance ‘B’ so that it never reached the corner that joined the tab and the first side.” *Id.* ¶ 44; Ex. 2035 ¶¶ 27–29. According to Mr. Briese, the design was “even more problematic than the original 2009 suggestion by Mr. Oquendo” and “completely unworkable and not commercializable” because “nothing is provided to give a fixed stop to the insertion of the tab.” Ex. 2032 ¶ 45; *see* Ex. 1023 (Mr. Briese stating in the email to Mr. Oquendo attaching the drawing that “GED does not recommend the fabrication of Intercept spacers in this manner”). Mr. McGlinchy has the same opinion. Ex. 2033 ¶ 24.

Mr. Briese testifies that he presumed Mr. Oquendo would inform him if there was anything inaccurate in the drawing, but Mr. Oquendo never advised him that he had misunderstood the idea, requested a revised drawing, or pointed out any errors in the drawing. Ex. 2032 ¶¶ 47–48; Ex. 2035 ¶ 31. Mr. Briese and Mr. McGlinchy state that they never heard from Mr. Oquendo or anyone else at Silver Line about the idea after the January 12, 2011 email. Ex. 2032 ¶ 47; Ex. 2033 ¶ 29.

c. Events of 2014

Mr. Briese testifies that during discussions with others at GED in April 2014, Mr. Weber, a GED research and development technician, “proposed the idea that the interaction between the tab and tail in the spacer frame be moved away from the fourth corner area.” Ex. 2032 ¶ 53. Mr. Briese states that he “then realized that the key to an improved design . . . was to *create a more precise and repeatable stop for the tab-into-tail insertion*, and to place that stop at a distance from the fourth corner.” *Id.* ¶ 54. Specifically, Mr. Briese testifies that he

conceived of creating fixed metal structures spaced away from the corner on both the tab and the tail of the frame to provide a lateral connection between the tab and tail that was spaced away from the corner. The metal structures would create a union point for the lateral connection that would assure pre-planned, repeatable, precise locating of the tab when inserted into the tail.

Id. ¶ 56. According to Mr. Briese, this was different from previous unsatisfactory designs that either “relied on the corner to be the stop for further insertion” (such as the original GED design shown in Figures 1A–B

of the '953 patent) or "had no fixed stop for the insertion" (such as Mr. Briese's drawing shown in Ex. 1024). *Id.* ¶ 55.

Mr. Briese provides a copy of pages from his inventor's notebook (Ex. 2031), dated April 17, 2014, and signed by Mr. Briese and Mr. McGlinchy as a witness, a portion of which is reproduced below.

1 APR '14 Book No. _____ TITLE ALTERNATE INTERMITTENT TAB DESIGN

From Page No. _____

NOTE: PRELIMINARY WORK WAS DONE ON THIS PROJECT IN JAN. 2011, BUT NEVER DISCLOSED PUBLICLY, OR PROTOTYPED. (SEE R+D PROJECT FOLDER ON GED NETWORK)

NEW DESIGN IS BUTT-JOINT VS. CORNER JOINT (EXISTING)

ADVANTAGES

- VULNERABLE AREA OF TAB TUCKING (SEE 2 ABOVE) ELIMINATED
- POSSIBLE TO ONLY SEAL ONE SIDE OF IGV AFTER PRESS/GAS FILL.
 - ↳ CURRENT DESIGN REQUIRES SEAL PATCH TO WRAP AROUND CORNER
- ELIMINATES TAB FORM WAFER TOOLING & TAB BLOW-OUTS DURING FOLD
- LOWER COST/SIMPLIFIED 4TH CORNER SEAL MACHINE
- POSITIVE STOP FOR TAB, ENSURES GAS-HOLE ALIGNMENT

DISADVANTAGES

- LONGER TAB MORE DIFFICULT TO INSERT INTO 4TH CORNER
- SWAGE DISTORTION (MAY BE NECESSARY TO ADD SCORE TO TAB)
- SOFTWARE PUNCH ENGINE RE-WRITE
- IGC - REQUIRES ZIG RE-TEST?
- POSSIBLE WET-OUT ISSUES

Witnessed & Understood by me, *Justin B. Middle* Date 4/17/14 Invented by *Justin B. Middle* Date 17 APR 14
 Exhibit 2031 Page 1 Recorded by _____

The inventor's notebook excerpt above depicts drawings of GED's original design and Mr. Briese's new design, stating that the "New Design is Butt-Joint vs. Corner Joint (Existing)" and that one of the advantages of the new design is a "positive stop for tab, [which] ensures gas-hole alignment."

Ex. 2031, 1. Mr. Briese describes the new design as follows:

In this drawing, the tab is inserted into the tail, and the tail is shown in red in its final location after insertion. The tab has a bit of the side wall removed at the union point, while the tail has reinforcing flanges that point inward toward the middle of the spacer at the end of the side walls. As a result of these two geometries, at the union point the vertical sidewall of the right half of the tab strikes the horizontal reinforcing flange of the tail in a "cross" pattern, assuring a fail-safe positive stop so that the tail can move no further along the tab. That is, the abutment of the notching in the vertical sidewall of the tab abuts against the extending flanges of the tail to define a precise, repeatable positive stop location of the tab with respect to the tail.

Ex. 2032 ¶ 58. The inventor's notebook excerpt also includes a copy of Mr. Briese's January 2011 drawing. Ex. 2031, 3. Mr. Briese states that he included it because "it also attempted to address 4th corner seal issues," but that the drawing did not have a stop to ensure alignment like his new design.

Ex. 2032 ¶ 61. GED filed the '253 provisional application (Ex. 2027) on June 12, 2014, shortly after Mr. Briese wrote the notes in his inventor's notebook. Ex. 2032 ¶ 62.

D. Alleged Derivation of the Invention Recited in Claim 1

As explained in the Decision on Institution, the derivation rules provide a framework in which a petitioner can assert and prove that an invention was conceived by a petitioner's inventor(s) and communicated to

a respondent, and then show how one or more of a respondent's challenged claims is the same patentable invention as that proven by the petitioner as having been conceived by the petitioner's inventor(s) and communicated to the respondent. *See* 35 U.S.C. § 135(a)(1); 37 C.F.R. § 42.405; Dec. on Inst. 14. Andersen, however, asserts that Mr. Oquendo conceived of the subject matter of *each* of claims 1–22 and communicated *each* conception to GED. *See* Pet. 31–77; Dec. on Inst. 14, 16.¹¹ In other words, Andersen asserts 22 different conceptions and corresponding communication of those conceptions (i.e., 22 different inventions that allegedly were derived), and we instituted trial on that basis. Dec. on Inst. 20.

Although most of the parties' arguments apply to all of the allegedly derived inventions (i.e., all of claims 1–22), we first determine whether Andersen has proven derivation of the invention recited in claim 1, and then address the remaining claims. A dispositive issue in this proceeding is whether Andersen has proven that Mr. Oquendo conceived of a spacer frame assembly with a “stop” as recited in claim 1 and communicated that conception to Mr. Briese, a named inventor of the '953 patent. Specifically, claim 1 recites “a stop extending from said connecting structure for locating the opposite frame end when in the assembled position,” where a “lateral connection spaced from said corresponding corners . . . form[s] a union point by said stop between said opposite frame end and said connecting structure.”

¹¹ The relief requested by Andersen in the Petition is “cancellation of claims 1–22 in the '953 patent because Mr. Oquendo is the true inventor of the invention disclosed in the '953 patent,” and the trial proceeded on that basis. Pet. 7; *see* 35 U.S.C. § 135(d); 37 C.F.R. § 42.22(a)(1); Paper 51.

Thus, as explained above, the “stop” in the claimed spacer frame assembly must be spaced away from the corners of the frame. *See supra* Section III.B.

1. Prosecution History of the '953 Patent

As an initial matter, we note that the parties disagree as to what feature of the '953 patent claims resulted in allowance of the claims. Andersen argues that “the claims’ novel aspect is moving the seam from the corner.” Reply 2, 8–10. GED contends that it is the “stop” spaced away from the corners. Resp. 10–13; Sur-Reply 4–7. We agree with GED on this point, and discuss claim 1 as representative.

Claim 1 of the '027 application originally recited “a stop extending from said connecting structure for locating the opposite frame end when in the assembled position.” Ex. 2028, 32. After a restriction requirement, the applicants amended the claim to add “a lateral connection spaced from said corresponding corners and along one of said at least three sides, the lateral connection forming a union point between said opposite frame end and said connecting structure.” *Id.* at 115. The examiner rejected the claim as anticipated by GED’s '761 patent, finding that shoulder 84 of the spacer frame described in the '761 patent was such a stop and that the “overlap” shown in Figure 5 constituted a lateral connection. *Id.* at 130. Notably, shoulder 84 is *at the fourth corner* of the frame—not away from the corner. *See* Ex. 2026, col. 7, ll. 24–26 (“The shoulder 84 forms a stop for the edge 82 when the joint is fully assembled.”), Fig. 5. The applicants then amended the claim to require that the lateral connection, which is spaced from the corners, form a union point “by said stop” (i.e., the stop is not at a corner).

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Ex. 2028, 159. The examiner allowed the claims, stating the following as reasons for allowance:

Applicant has amended the claims such that the lateral connection is defined and formed by the stop. *In Leopold, the only part acting as a stop is the corner itself/the back wall of the next part of the frame. There is no stop that is spaced from the corners.* It is further noted that *there would be no motivation or suggestion to add such a stop to Leopold without the use of impermissible hindsight.* The feature of having the lateral connection b[e] formed by the stop and spaced from the corner, in combination with the rest of the limitations of each independent claim respectively, is novel and non-obvious.

Id. at 181–183 (emphases added).

Thus, the examiner allowed the claims based on the positioning of the claimed stop. The claims originally recited a stop and lateral connection, the examiner found both disclosed by the '761 patent, the applicants amended the claims to recite that the lateral connection forms a union point by the stop, and the examiner allowed the claims, specifically referencing a stop “spaced from the corners” as the basis for allowance.

Andersen disagrees, referring to a Written Opinion of the International Searching Authority filed during prosecution of the '027 application and indicating novelty over a different GED patent for original dependent claim 2 reciting the lateral connection spaced from the corners. Reply 8 (citing Ex. 2028, 97–103). The examiner’s analysis during prosecution of the '027 application, however, was based on the '761 patent, not the patent cited by the International Searching Authority. The examiner found that the '761 patent disclosed the originally recited stop and lateral connection, then allowed the claims after they were amended to recite that the lateral connection forms a union point “by” the stop. Also, the applicants

submitted prior art dated May 2008 that had a seam located away from the corner, which supports GED's view that it was the stop—not an offset seam—that was the basis for allowance. *See* Resp. 12; Sur-Reply 5; Ex. 2028, 84–87, 148 (notation indicating the examiner considered the reference). We agree with GED that the stop spaced away from the corners was the novel feature of the claims that was the basis for their allowance.

2. *What Mr. Oquendo Allegedly Conceived*

Andersen asserts in its Petition that Mr. Oquendo conceived four types of stops for his spacer frame invention:

In the first example, opposite ends of the spacer frame naturally form a stop when the stiffening flanges meet at the offset seam.

In the second example, the insert portion naturally stops at the fourth corner, placing the opposite frame end in the proper position.

The third example includes a locking tab (Detail B) on one end of the connecting structure so that the opposite ends form an interlocking structure.

The fourth exemplary stop is a bump or notch formed at the transition point between the spacer frame side and the insert portion of the connecting structure.

Pet. 24–25 (citations omitted). In its analysis of the “stop” limitation of claim 1, Andersen relies only on the second example where, “[w]hen assembled, the insert tab naturally stops at the corner on the opposite frame end, placing the insert tab in its proper position,” referring specifically to Mr. Oquendo's prototype. *Id.* at 35.

As GED points out, however, this structure would not constitute a “stop” as recited in claim 1. *See* Resp. 21. Claim 1 recites “a stop extending from [a] connecting structure” that is inserted into the inner channel of an opposite frame end. The parties agree that a “stop” is a physical abutment that prohibits movement of the adjoining structure beyond a predetermined location and that, as claimed, the “stop” must be spaced away from the corners. *See supra* Section III.B. In Andersen’s second example, the insert tab being inserted into the opposite frame end and naturally stopping at the fourth corner would mean that the stop (the end of the insert tab) is located at the corner, not spaced away from the corner. *See* Resp. 21.

Andersen in its Reply does not rely on the second example above. Instead, Andersen relies *only* on the first example, asserting that Mr. Oquendo’s “idea include[d] a stop in the form of stiffening flanges that abut at the butt-joint seam” and that the idea was communicated to GED. Reply 1, 12–16. Andersen confirmed at the hearing that it is now only relying on the first example—the alleged “contact of the stiffening flanges away from the corner”—for purposes of proving conception and communication. Tr. 14:16–15:20. Accordingly, we proceed on that basis.

We agree with Andersen that such a structure (if conceived and communicated) would amount to a “stop” as claimed because the stiffening flange of the insert segment would constitute a physical abutment prohibiting movement of the segment beyond a predetermined location and would be located away from the corner. Indeed, the ’953 patent discloses embodiments in which stiffening flanges on an insert segment contact an opposite frame end and thereby act as a stop away from the corner. *See,*

e.g., Ex. 1001, col. 9, ll. 18–22, col. 10, ll. 46–50, Figs. 7, 8, 10A–D, dependent claim 2 (“said stop comprises first and second stiffening flanges that abuttingly engage said opposite frame end to form the union point”), dependent claim 5 (“said stiffening flange in said connecting structure acting as said stop to engage said stiffening flange in said opposite frame end”). We are not persuaded, however, that Mr. Oquendo communicated such a concept, which is a requirement to prove derivation.

3. Whether Mr. Oquendo Communicated His Alleged Conception

Turning to the issue of what was communicated to the named inventors of the ’953 patent (Mr. Briese and Mr. Weber), Andersen relies on various communications that Mr. Oquendo testifies he made to Mr. Briese and Mr. McGlinchy.¹² Pet. 26–29. We assess whether Mr. Oquendo communicated his alleged conception of a spacer frame with an offset seam and abutting stiffening flanges forming a stop. *See id.* at 13–14, 19–25; Ex. 1001 ¶¶ 22–24. We take into account all of the evidence of record in doing so, and determine, using a rule of reason, whether Andersen has provided sufficient corroboration for Mr. Oquendo’s testimony. *See Price*, 988 F.2d at 1196 (“[A]ll of the evidence of record must be collectively evaluated in determining whether [an individual] communicated his conception to [another party],” as “no one piece of evidence in and of itself” may establish conception or communication.); *Davis*, 620 F.2d at 889; *Hedgewick*, 497 F.2d at 908 (“All the circumstances in the record must be considered in evaluating the sufficiency of the communication.”); Derivation

¹² Andersen does not assert any communication to Mr. Weber.

Final Rules, 77 Fed. Reg. at 56,075 (“The Board expects to consider each situation on a case-by-case basis and to use a ‘rule of reason’ in determining whether corroboration is sufficient.”).

Importantly, Mr. Oquendo admits that *he never discussed a stop as part of his conceived design with Mr. Briese and Mr. McGlinchy*:

Q. Did you ever discuss the types of stops that your spacer frame concept would have with Mr. Briese?

A. No.

Q. Did you ever discuss it with Mr. McGlinchy?

A. No. It’s part of the original design. They’re experts in the design of the Intercept system. All these things that existed are there and they know them.

...

Q. Okay. And you didn’t verbalize that – you didn’t say that to Mr. McGlinchy or Mr. Briese. You didn’t describe for them how the piece – the pieces would be stopped from insertion. That wasn’t part of what you told them. Right?

A. I didn’t have to because that’s part of what the Intercept spacer is. It has to be stopped at a certain point so those two holes align. That’s part of the design.

Q. Fair enough. But just to get a clear answer to my question, you didn’t tell them that. Right?

A. I didn’t describe the stops.

Ex. 2025, 53:6–15, 65:8–20. Mr. Briese confirms this, testifying:

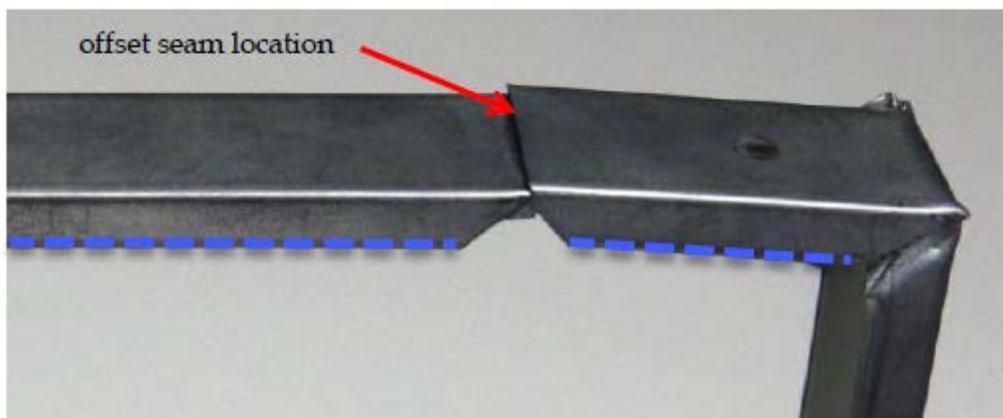
“Mr. Oquendo never disclosed to me any particular method of stopping or limiting the insertion of one spacer frame part into another.” Ex. 2035 ¶ 32.

Andersen’s contention is not that Mr. Oquendo expressly discussed a stop with GED, but rather that Mr. Oquendo “proposed to modify a traditional Intercept® spacer by moving from a corner to a butt-joint seam,

a modification which creates a stop away from the corner due to the stiffening flanges which were already part of the Intercept® spacer.” Reply 1–2, 11–12. In other words, creating abutting stiffening flanges away from the corner is simply a “consequence” or “natural outcome” of Mr. Oquendo’s idea to move the seam away from the corner. Tr. 5:12–14, 14:11–15. We assess the evidence with that premise in mind.

Mr. Oquendo’s Prototype: Andersen argues that “GED first learned of the Oquendo invention at the March 2009 Glass Symposium.” Pet. 26–27. Mr. Oquendo testifies that he showed his prototype to Mr. Briese and Mr. McGlinchy at a “side-meeting” during the symposium and discussed with them his idea for “moving the fourth corner seam to an offset location.” Ex. 1001 ¶ 52. Mr. Briese and Mr. McGlinchy deny that they ever saw the prototype or discussed it with Mr. Oquendo. Ex. 2032 ¶¶ 9, 23–25, 27, 35; Ex. 2033 ¶¶ 7, 15–16, 19.

It is undisputed that the prototype does *not* have abutting stiffening flanges, as shown in the following photograph, which we have modified from Exhibit 1011:



The blue dotted lines in the photograph above show the location of stiffening flanges on the side facing the viewer. They do not touch due to the V-shaped notches. The only structure prohibiting further movement is the corner itself—when the swaged tail segment on the left is inserted into the tab segment on the right, it will continue to move until it hits the corner. *See* Ex. 2032 ¶ 35. Mr. Oquendo confirmed this. Ex. 2025, 18:9–17. The prototype itself, therefore, does not communicate anything about a stop away from the corner.

Andersen argues, however, that “stiffening flanges are already present along all sides of a traditional Intercept® spacer and abut at the corner seam, creating a stop,” such that “[w]hen the seam is moved from the corner as [Mr. Oquendo] proposed, the stiffening flanges remain and abut at the butt-joint seam when the tab is inserted, creating a stop spaced from the corner.” Reply 1–3, 7. Andersen contends that Intercept spacers are “formed from a single strip of metal, with ‘V’-shaped notches cut using a punch and die system to facilitate folding at the corners,” and had stiffening flanges on all segments that “abut at the corner seam.” *Id.* at 1, 3–6. Andersen argues that Mr. Oquendo’s idea for an offset seam would mean that “all four corners are formed identically using identical cuts” and it would be understood that, with no corner seam, the existing notches in the Intercept design also would be removed. *Id.* at 3–6. Then, “[w]hen the seam is moved from the corner and notches are no longer cut from the tab and tail, the stiffening flanges will remain and abut at the butt-joint seam when the tab is inserted into the tail.” *Id.* at 7; *see also* Pet. 37–38 (arguing that Mr. Briese would have understood that “moving the fourth corner seam

to the offset location would necessarily mean eliminating the notch, . . . thus forming a stiffening flanges stop at the offset seam location”). According to Andersen, Mr. Briese confirmed these points during cross-examination. *See, e.g.*, Reply 5–8, 17–20 (citing, *inter alia*, Ex. 1057, 46:19–50:23, 56:12–58:4, 58:22–23, 59:4–17, 59:20–23, 62:2–65:16, 117:14–119:4, 129:23–130:24, 133:21–134:2, 160:3–12, 161:10–15, 178:18–21, 192:2–194:9).

After reviewing the parties’ arguments and cited evidence, including the full testimony of Mr. Briese, we do not find Andersen’s contentions persuasive. First, there is no allegation that Mr. Oquendo ever told Mr. Briese or Mr. McGlinchy that his design would not have V-shaped notches like in the prototype, or that his design was meant to have abutting stiffening flanges. Indeed, Mr. Oquendo admits that he never mentioned a stop specifically. *See* Ex. 2025, 53:6–15, 65:8–20; *see also id.* at 52:11–22 (Mr. Oquendo agreeing that “the type of stop is not part of what [he] consider[s] to be [his] invention” because “[t]hat existed already as part of the Intercept system”). Thus, Andersen’s assertion of communication is based only on what would have been understood based on the prototype and Mr. Oquendo’s alleged discussion about it with Mr. Briese and Mr. McGlinchy.¹³

Second, the prototype itself is evidence that a stop spaced away from the corners is not the necessary or inevitable result of an offset seam. *See*

¹³ Because we find Andersen’s arguments regarding the prototype deficient for the reasons explained herein, we need not resolve the credibility question of whether Mr. Oquendo actually ever showed it to Mr. Briese and Mr. McGlinchy, which they both deny.

Sur-Reply 14–16. In the prototype, the tail is inserted into the tab and only stops when it hits the corner. Andersen’s analysis is premised on removing the V-shaped notches, but that is not the prototype (or the January 2011 drawing discussed below), and both Mr. Briese and Mr. McGlinchy testify that they did not understand it to be what Mr. Oquendo was proposing. *See* Ex. 2032 ¶¶ 48–49, 52 (Mr. Briese also testifying that it did not occur to him to eliminate the V-shaped notches from the January 2011 drawing, even though he considers himself a person of ordinary skill in the art); Ex. 2033 ¶¶ 25–26, 30; Ex. 1057, 149:7–20 (Mr. Briese testifying that “[t]here’s a lot of ways to remove the gap”).

Third, we agree with GED that Andersen’s position is based on an incorrect understanding regarding the existing Intercept design. *See* Sur-Reply 3, 8–10. In particular, Mr. Briese testifies, citing a 2010 Intercept specification, that the existing design was intended to have “a ‘gap’ between the mitered ends (including the abutment flanges) of the segments” because over-insertion of the insert segment would cause undesirable distortion of the metal. *See id.* at 8–9; Ex. 1057, 39:13–24 (testifying that “[w]hen you fold a regular corner,” it was not the “goal to get the metal to basically line up and touch along that V notch,” but rather to “[g]et it very close to touching,” and citing Ex. 1009, 11, which shows a “small gap” to avoid metal distortion that could result from “over bending the corners”), 46:8–18 (stating that the existing design has “a little bit of float built into it” to account for possible over-insertion), 47:15–50:23 (describing the distortion problem, stating that “by design, there is supposed to be a gap between the abutting corners,” which “holds true for the fourth corner as well,” and

stating “that’s been the design of Intercept since the beginning of Intercept”), 51:9–54:9 (addressing Ex. 1009, 9, 11, and stating that “the fourth corner is designed to represent and ultimately look just like the other three corners when assembled” and that operators would insert the tab until there was a 0.023" gap, which was “how Intercept has been since the beginning of Intercept”); Ex. 1009, 11 (depicting a 0.023" “corner gap”); Ex. 2026, Fig. 5 (the ’761 patent showing the original design with segments that do not abut at the corner).

Andersen does not point to, and we do not find, sufficient support in the record indicating that Mr. Briese’s description of the existing Intercept design at the time is incorrect. The stiffening flanges in the adjoining segments were not intended to act as a stop for the Intercept frame. Instead, the stiffening flanges were intentionally spaced apart, and insertion of the tab into the tail could only stop when the tail hits the corner (potentially causing undesirable distortion of the metal). *See* Sur-Reply 9; Ex. 2032 ¶ 21; Ex. 1057, 47:15–48:10, 50:12–23. Andersen’s arguments regarding how Mr. Oquendo’s design would have been understood based on the prototype are premised on the existing Intercept spacer frame having abutting stiffening flanges (i.e., a stop) at the corner, and changing the frame by simply moving that feature away from the corner to create an offset seam. Because GED presents persuasive evidence showing that the corner in the Intercept frame was *not* intended to have abutting stiffening flanges and

instead designed to have a small gap between the two segments, we do not find Andersen's arguments persuasive.¹⁴

Andersen's arguments that Mr. Oquendo communicated a conception of a spacer frame with a stop away from the corners to Mr. Briese and Mr. McGlinchy in connection with his prototype at the March 12, 2009 symposium are not persuasive. Further, for the reasons explained above, the existence of Mr. Oquendo's prototype itself does not corroborate his testimony that he told Mr. Briese and Mr. McGlinchy about such an idea in 2009. Nor is there any other documentation or corroboration of the alleged side-meeting in 2009.¹⁵

The 2009 Emails: Andersen argues that "GED received additional details of the invention in around June 2009," citing Mr. Oquendo's testimony and two email threads. Pet. 27–28. First, a series of emails were exchanged between Mr. Oquendo, Mr. Briese, and others in

¹⁴ Andersen also asserts that Mr. Briese would have known that Mr. Oquendo's idea would have stiffening flanges abutting at the offset seam, but "[e]ven if this is deemed insufficient to communicate the stop, . . . the claims are still derived from [Mr. Oquendo] because they are patentably indistinct from [Mr. Oquendo's] idea to move the seam." Reply 23. We disagree. The claimed stop spaced away from the corners was the novel feature of the claims that was the basis for their allowance. *See supra* Section III.D.1. Moreover, Andersen did not make this argument in its Petition, instead asserting that Mr. Oquendo conceived of and communicated the full subject matter of each of the claims. *See supra* Section III.D; Pet. 31–77.

¹⁵ Mr. Parker and Ms. Graham have no knowledge of Mr. Oquendo ever communicating his alleged idea to GED. *See* Ex. 2023, 53:12–16, 58:2–24; Ex. 2024, 32:4–33:16.

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May–July 2009. *See* Exs. 1021, 2018. The thread begins with Mr. Oquendo sending an email with the Subject “Conveyor Hanger Guard” asking Mr. Briese whether he “had a chance to make the prototype conveyor hanger guard to keep the spacer folders from hanging the spacers too early on the hangers.” Ex. 2018, 5. The two individuals then exchanged a series of emails about GED’s conveyor hanger guard from May to July 2009. *Id.* at 1–5. During the course of those conversations, on May 29, 2009, in addition to asking about the conveyor hanger guard, Mr. Oquendo asked: “Have you had[] a chance to look at the reversal of the swedge and splay?” *Id.* at 2–3. Mr. Briese responded as follows:

Changing the tab insertion to a butt-joint instead of a corner joint does not seem feasible. We tested this and it was near impossible to make a continuous sealant path after the IG was pressed out. It was not possible to get the right amount of sealant in the joint area. We would definitely improve the corner integrity but it would create a new issue along the spacer wall. Also, I believe it would be near impossible to properly fold the spacer at the extruder. It is not difficult to make some test spacers; you can also experiment with this at your facility. I like the idea, and I’d like to continue this discussion to see if can find a solution. Call me anytime next week.

Id. at 2.

The emails exchanged between Mr. Oquendo and Mr. Briese do not mention any stop as part of Mr. Oquendo’s design and do not mention stiffening flanges in particular. Thus, they do not themselves amount to communication of the idea of a spacer frame with abutting stiffening flanges away from the corners, or corroborate Mr. Oquendo’s testimony that he communicated such a concept to GED.

The emails also are consistent with Mr. Briese's testimony about what his understanding of Mr. Oquendo's idea was at the time. Mr. Oquendo originally asked about "reversal of the swedge and splay," i.e., inserting the tail into the tab, rather than inserting the tab into the tail, resulting in a different location for the exterior seam. *See* Ex. 2032 ¶¶ 31, 35, 37; Ex. 2035 ¶ 9. Mr. Briese also states in his email that the change "would definitely improve the corner integrity but it would create a new issue along the spacer wall," which is consistent with Mr. Briese's view that moving the seam off the corner merely changes the location of the problem but does not solve it. *See* Ex. 2018, 2; Ex. 2032 ¶¶ 14, 33.

Mr. Oquendo and Mr. Briese appear to agree that Mr. Briese's reference to "[c]hanging the tab insertion to a butt-joint instead of a corner joint" was simply a reference to moving the seam away from the corner. *See* Ex. 2018, 2; Ex. 1001 ¶ 53 (Mr. Oquendo stating that he believes Mr. Briese was referring to "a change from the fourth corner seam location to an offset seam location"); Ex. 2032 ¶ 33 (Mr. Briese testifying: "When I used the phrase 'butt-joint,' I meant a folded spacer frame configuration where the seam resulting from assembly of the frame was located along a wall rather than at a corner . . ."). As explained above, we are not persuaded that moving the seam off the corner necessarily results in a stop spaced away from the corners. Indeed, even if the email were referring to the prototype that Mr. Briese allegedly saw earlier in 2009 (with a reversed tail and tab), the prototype does not have a stop away from the corners. Nor do we find support in the cited testimony or other evidence in the record that Mr. Briese's email should be read to mean abutment of stiffening flanges of

the tab and tail away from the corner. The email does not specify anything about what structures would abut or where that would occur, or even mention stops at all.

Second, a series of emails were exchanged between Mr. Oquendo and Mr. Bredemus of Andersen in June 2009. Ex. 1016. The Subject of the emails was “Relocation of the spacer seam off the corner and adding locking tab,” and the original email attached a file named “Spacer fold concept.pdf.” *Id.* at 3. In response to Mr. Bredemus asking what GED thought, Mr. Oquendo wrote:

I asked GED to try it and send me a sample. Bill Briese said it could be done and that I could experiment on my own here and let them [k]now if I can work out the issue of the interrupted seal. He thinks that the idea has merit but used the original punch that creates a notch th[at] interrupts the bead. He never saw this drawing that shows the notches removed from the male end. Since the male end will no longer be bended the notch is not needed there. Bill thought it was a great idea that they had never thought of trying before.

Id. at 2. The email was not sent to anyone at GED and thus cannot constitute communication itself. We also are not persuaded that it corroborates Mr. Oquendo’s assertion that he communicated the concept of a spacer frame with abutting stiffening flanges away from the corner to GED. Like the emails discussed above, the email does not mention stops at all. It also states that Mr. Briese “never saw this drawing that shows the notches removed from the male end,” to which Mr. Bredemus responded by telling Mr. Oquendo to “[b]e careful not to tell GED too much.” *Id.* at 1–2. Thus, even assuming that Mr. Briese saw the prototype with V-shaped notches, the email acknowledges that he was never shown a design without them.

Mr. Oquendo's CAD Drawings: Andersen argues that “GED obtained detailed drawings of the Oquendo invention” in 2009. Pet. 28–29. Mr. Oquendo testifies that he met with Mr. McGlinchy in late 2009, discussed his “invention of an offset spacer frame,” and showed Mr. McGlinchy the June 5, 2009 CAD drawing (Ex. 1013). Ex. 1001 ¶ 57. Mr. McGlinchy has no recollection of any meeting. Ex. 2033 ¶ 21. Mr. Briese testifies that he never discussed any such drawing with Mr. McGlinchy. Ex. 2032 ¶¶ 41, 51. Both individuals deny ever seeing the CAD drawings submitted by Andersen (Exhibits 1012 and 1013) prior to this proceeding. Ex. 2032 ¶¶ 9, 29; Ex. 2033 ¶¶ 7, 21.

We do not find Mr. Oquendo’s testimony to be persuasive evidence that he communicated the concept of a spacer frame with a stop away from the corners to Mr. Briese, for a number of reasons. First, the alleged communication was to Mr. McGlinchy, not Mr. Briese, a named inventor of the ’953 patent.¹⁶ Andersen speculates that the “close working relationship” between the two individuals “suggests that . . . Mr. McGlinchy would have discussed with Mr. Briese what he saw from [the June 5, 2009 CAD drawing].” Pet. 39–40. There is no support for this statement, and both individuals deny it. We recognize that communication of an allegedly derived invention need not be direct, *see, e.g.*, Derivation Final Rules, 77 Fed. Reg. at 56,072, but Andersen’s assertion here that Mr. McGlinchy must have passed along unspecified information about what he allegedly saw in a CAD drawing is mere speculation.

¹⁶ Mr. Oquendo admits that he never showed his CAD drawings to Mr. Briese and that he has no evidence “that Mr. Briese ever saw any of [his] mechanical drawings.” Ex. 2025, 47:8–21, 49:23–50:1.

Second, Mr. Oquendo testifies: “Ex. 1013 is the June 5, 2009 CAD drawing I showed Tim McGlinchy in the Fall of 2009.” Ex. 1001 ¶ 57. That statement is not accurate. Exhibit 1013 includes two photographs that each have a notation of “12/02/2010.” Mr. Oquendo admitted during cross-examination that the document submitted in this proceeding as Exhibit 1013 did not exist in that form at the time he allegedly showed it to Mr. McGlinchy in 2009:

Q. This drawing, Exhibit 1013, this is not the way the drawing looked in June of 2009, is it?

A. No.

Q. Okay. It looked this way in—at least in December of 2010. Right?

A. Correct.

...

Q. When did Exhibit 1013 first look precisely as we see it?

A. According to the dates and the images, it would have been December 2nd, 2010.

...

Q. Okay. And Exhibit 1013, as we see it here, this was never shown to anyone at GED, was it?

A. As you see it there with the addition of the photos?

Q. Well, yeah.

A. No.

...

Q. So what’s the answer to my question, though? When you told the Board that Mr. McGlinchy saw Exhibit 1013, that wasn’t correct, was it?

[COUNSEL]: Object to form. Mischaracterizes his testimony.

A. He did not see the ones with the pictures.

Ex. 2025, 40:12–17, 41:5–8, 42:19–24, 43:7–13; *see* Tr. 20:3–11, 21:1–9.

Thus, contrary to his testimony, Mr. Oquendo did not show Exhibit 1013 to Mr. McGlinchy in 2009.

It is unclear then exactly what Mr. Oquendo alleges he showed to Mr. McGlinchy. Mr. Oquendo also mentions a “May 14, 2009 CAD drawing” (Ex. 1012), but never testifies that he showed that particular document to Mr. McGlinchy. *See* Ex. 1001 ¶¶ 29, 57. Adding to the ambiguity is the computer directory screenshot submitted by Andersen, which shows a “Date created” of June 5, 2009, for the file named “IGU Spacer Concept.pdf.” *See* Ex. 1029. Presumably, Mr. Oquendo made modifications to his electronic CAD file during 2009 because, in addition to the photographs, there are numerous differences between Exhibits 1012 and 1013. For example, Exhibit 1013 adds dimensions for the swaged tail and two notations that are not present in Exhibit 1012: “The se[a]m is now here. No need to extend the patch around the corner.” and “No ext[er]nal se[a]m at corner.” Conversely, Exhibit 1012 shows in the top-most figure a locking tab (Detail A) that is not shown in the top-most figure of Exhibit 1013 (Detail C). At most, the evidence submitted by Andersen indicates that *some* version of a CAD drawing existed when Mr. Oquendo allegedly met with Mr. McGlinchy in 2009. *See, e.g.*, Exs. 1012, 1013, 1029. However, because we cannot establish with any accuracy the exact content of what Mr. Oquendo alleges he showed to Mr. McGlinchy, we do not credit Mr. Oquendo’s testimony on that point. *See* Ex. 1001 ¶ 57.

Third, even assuming that Mr. Oquendo showed Mr. McGlinchy a version of CAD drawings, we do not find it to be persuasive evidence of

communication of the recited spacer frame assembly. Mr. Oquendo only testifies that he discussed his “invention of an offset spacer frame” with Mr. McGlinchy and “showed” him the June 5, 2009 CAD drawing. *Id.* Mr. Oquendo does not provide any further detail about exactly what was discussed but, importantly, admits that he never discussed a stop with Mr. McGlinchy. *See* Ex. 2025, 53:6–15, 65:8–20. Further, the fact that the CAD drawings are in two dimensions and do not actually depict stiffening flanges makes it even less likely that Mr. Oquendo communicated the concept of abutting stiffening flanges spaced away from the corners.

Andersen’s arguments that Mr. Oquendo communicated a conception of a spacer frame with a stop spaced away from the corners in connection with the submitted CAD drawings in 2009 are not persuasive. Further, for the reasons explained above, the June 5, 2009 CAD drawing (Ex. 1013) does not corroborate Mr. Oquendo’s testimony regarding alleged communication.

Mr. Briese’s January 2011 Drawing: Andersen also argues that “GED obtained detailed drawings of the Oquendo invention” in 2011. Pet. 28–29. Mr. Oquendo testifies that at the January 11, 2011 meeting, he requested a quote for software changes that would be needed to manufacture his “spacer frame design with an offset seam.” Ex. 1001 ¶ 58. He states that Mr. Briese and Mr. McGlinchy showed him a drawing and then sent the drawing to him by email on January 12, 2011. *Id.*

Based on the testimony regarding the January 2011 drawing, all parties appear to have understood that what was shown in the drawing was Mr. Oquendo’s intended design at the time. Mr. Oquendo testifies:

Q. Okay. And he did this drawing and he said to you, is this what you want, essentially. Right?

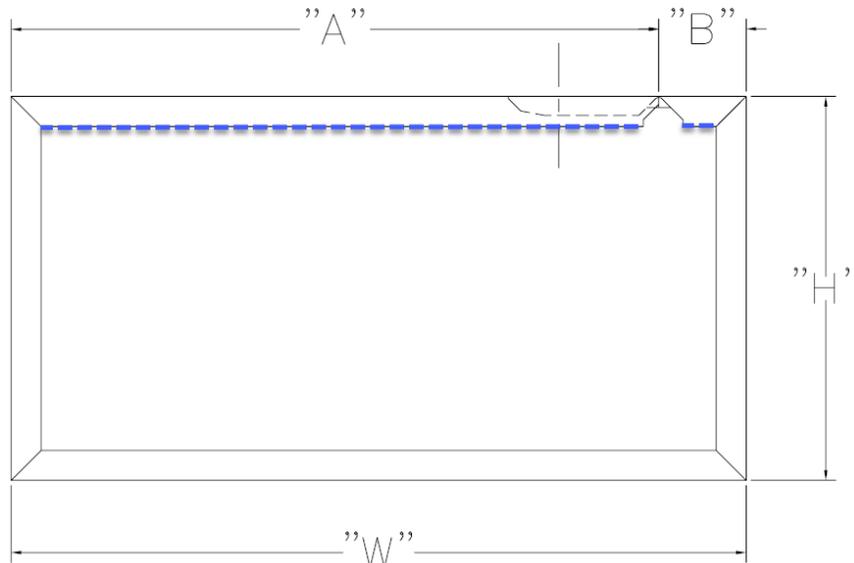
A. Does this depict what I want. That's correct.

Q. Okay.

A. And I said yes.

Ex. 2025, 20:23–21:11, 21:24–22:5; *see also* Ex. 1001 ¶ 58 (“Mr. Briese’s sketch shows a spacer frame with its seam offset from the corner, *as I had requested.*” (emphasis added)). Mr. Briese testifies: “Mr. Oquendo never advised me in response that I had misunderstood his idea, nor did he request a revised drawing or point out any errors in my drawing.” Ex. 2032 ¶ 47 (emphasis omitted). Mr. Briese and Mr. McGlinchy “presumed that if there was something inaccurate about [the drawing], Mr. Oquendo would have brought it to [their] attention immediately.” Ex. 2032 ¶ 48; Ex. 2033 ¶ 25; Ex. 2035 ¶ 31. But they never heard back from Mr. Oquendo about the drawing. *See* Ex. 1001 ¶ 59; Ex. 2032 ¶¶ 47, 52; Ex. 2033 ¶¶ 29–30; Ex. 2025, 94:5–9.

It is undisputed that the January 2011 drawing does *not* have abutting stiffening flanges, as shown in the drawing below, which we have modified from Exhibit 1024:



Because the drawing is in two dimensions, it does not depict stiffening flanges on the spacer frame segments at all. Andersen asserts, however, that the design would be a modification of the existing Intercept frame that had stiffening flanges, such as at the blue dotted lines for the segments at the top of the drawing. *See* Reply 21–22. Like Mr. Oquendo’s prototype, the stiffening flanges in the top two segments would not touch due to the V-shaped notches.¹⁷ *See id.* at 21 (acknowledging that the drawing “does not show an abutment stop where the stiffening flanges meet at the seam”); Ex. 2025, 93:24–94:4. Indeed, as Mr. Briese explains, there is no mechanism at all in the spacer frame shown in the drawing that would stop insertion of the tab into the tail:

[N]othing is provided to give a fixed stop to the insertion of the tab. Where the end of the tail is positioned along the tab, both tab and tail are notched so as to remove the side walls, so no stopping mechanism is possible. An operator would be at a loss as to how far the tab should be inserted into the tail, unless he were to make careful observation of the alignment of the fill holes. Even after careful alignment, nothing would hold the frame at that location while further assembly was completed.

Ex. 2032 ¶ 45; *see* Ex. 2033 ¶ 24 (similar testimony of Mr. McGlinchy).

Mr. Oquendo acknowledges that when the swaged tab is inserted into the tail in the drawing, “[t]here isn’t much there that will stop the insertion.”

Ex. 2025, 87:17–23. We agree. The drawing itself, therefore, does not communicate anything about a stop away from the corner.

¹⁷ Unlike the prototype, which was constructed such that the tail inserts into the tab, the January 2011 drawing shows the swaged tab inserted into the tail. *See* Ex. 2032 ¶¶ 44–45; Ex. 2035 ¶¶ 28–29.

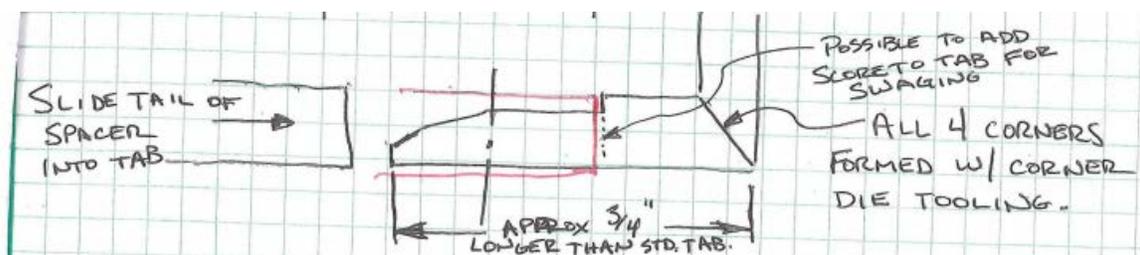
Andersen argues that the January 2011 drawing was only intended to show the software changes necessary to move the seam away from the corner, not “the modified spacer design as it would be manufactured and assembled.” Reply 21. Pointing to Mr. Briese’s cross-examination testimony addressed above, Andersen contends that Mr. Briese “must have known” in 2011 that a spacer frame manufactured according to Mr. Oquendo’s design would not have the V-shaped notches. *Id.* at 22.

We are not persuaded that the evidence of record supports such an inference. The drawing itself does not show abutting stiffening flanges (or stiffening flanges at all) and, again, Mr. Oquendo admits that he never discussed a stop as part of his design with Mr. Briese and Mr. McGlinchy. We also are not persuaded that abutting stiffening flanges would have been a necessary result of moving the seam off the corner, as explained above in connection with the prototype. Further, the evidence shows that: (1) the parties understood the drawing to be a complete and accurate representation of Mr. Oquendo’s intended design, (2) Mr. Oquendo never corrected it or followed up with further changes afterwards, and (3) Mr. Oquendo never mentioned the matter again after receiving the drawing. Given those facts, Mr. Briese and Mr. McGlinchy’s understanding that Mr. Oquendo’s design included the V-shaped notches was reasonable. *See* Ex. 2032 ¶¶ 48–49, 52; Ex. 2033 ¶¶ 25–26, 30. We also note that, although Andersen relies on the January 2011 drawing in support of its arguments that Mr. Oquendo communicated his conception to Mr. Briese, the drawing actually was created by Mr. Briese. In other words, it is not a communication *to* the alleged deriver, but rather the reverse. In such circumstances, because

Mr. Briese is the one who created the drawing, we are persuaded that it only reflects Mr. Briese receiving a communication of what it actually shows (i.e., a spacer frame without a stop spaced away from the corners).

Andersen's arguments that Mr. Oquendo communicated a conception of a spacer frame with a stop spaced away from the corners to Mr. Briese and Mr. McGlinchy in 2011 are not persuasive. Further, for the reasons explained above, the January 2011 drawing itself does not corroborate Mr. Oquendo's testimony that he told Mr. Briese and Mr. McGlinchy about such an idea.

Other Evidence: Other evidence submitted in this proceeding supports GED's position that, rather than deriving the invention of claim 1 from Mr. Oquendo, Mr. Briese conceived of the stop feature for the claimed spacer frame assembly in 2014. Mr. Briese's inventor's notebook, dated April 17, 2014, and witnessed by Mr. McGlinchy, clearly depicts a stop extending from the tab and preventing further movement when the tab and tail are pushed together, as shown below.



Shown above is a portion of the inventor's notebook depicting the tab and tail under the heading "New Design." Ex. 2031, 1. Under the heading "Advantages," Mr. Briese wrote "positive stop for tab, ensures gas-hole alignment." *Id.* This is consistent with Mr. Briese's testimony that (1) problems occurred when the two segments and their respective holes

were not precisely aligned, and (2) merely moving the location of the seam off the fourth corner does not do anything to improve alignment, but incorporating a stop at a predetermined location away from the corner does. *See* Ex. 2032 ¶¶ 13–14, 22, 36, 54–61. It also is consistent with the later disclosure of the ’253 provisional application and ’953 patent, which similarly describe stops 64 as advantageous because they improve the necessary alignment of apertures 70 and 72 and proper orientation of the spacer frame (e.g., as a rectangle). *See* Ex. 2027 ¶¶ 44–45, Fig. 7 (depicting stops 64); Ex. 1005, col. 9, ll. 40–63, col. 11, ll. 8–16, Fig. 7.

Andersen takes a different view of the inventor’s notebook, arguing that it instead shows that the novel aspect really was the offset seam, not the stop, because Mr. Briese wrote “New Design is Butt-Joint vs. Corner Joint (Existing)” and the “positive stop” is only listed as the fifth advantage. Reply 3 (citing Ex. 2031, 1). The fact that Mr. Briese recorded notes about *both* features—the offset seam and the stop—does not show that he viewed the stop as a trivial aspect or merely the necessary result of moving the seam away from the corner. Indeed, he clearly recognized a benefit to the stop as a distinct feature in that it “ensures gas-hole alignment.” *See* Ex. 2031, 1. Andersen also points to Mr. Briese’s notation in the notebook that “preliminary work was done on this project in Jan. 2011” and the fact that he attached a copy of the January 2011 drawing. Reply 16–17 (citing Ex. 2031, 1, 3). As explained above, however, the January 2011 drawing has no stop, and thus does not support Andersen’s arguments regarding communication. The drawings and written notes on the first page of the inventor’s notebook

show Mr. Briese's full idea, including both the offset seam and the stop spaced away from the corners. *See* Ex. 2031, 1.

Finally, we note that the timing of events described by the parties supports GED's position that the claimed invention was not derived. Andersen's position is that Mr. Oquendo communicated details of his spacer frame idea to GED in 2009 and 2011. Pet. 26–29. If that were true, though, rather than immediately beginning work to manufacture a device as allegedly conveyed by Mr. Oquendo, or immediately filing a patent application on the concept, Mr. Briese did not document any details of the idea or file a patent application until more than three years later in 2014. Mr. Oquendo also never spoke with GED about his alleged design after receiving the January 2011 drawing, and Andersen does not appear to have done anything with it until filing the '603 provisional application on March 3, 2015. *See* Ex. 1001 ¶¶ 59, 63. We view the timing of events as supporting GED's position that the '253 provisional application filed on June 12, 2014 was the result of Mr. Briese's conception two months earlier, rather than being derived from what Mr. Oquendo allegedly told him in 2009 and 2011.

Also, as GED points out, Andersen's '603 provisional application did not describe abutting stiffening flanges or use the term "stop." *See* Ex. 2022; Resp. 22–23. The description of abutting flanges and references to a "stop" for "proper positioning" of the two adjoining segments of the spacer frame was not added until later in the nonprovisional '862 application, filed on March 2, 2016—after GED's '027 application became public on December 17, 2015. *See* Ex. 2010, p. 10, ll. 19–24, p. 21,

ll. 7–16; Pet. 31. These facts provide some support for GED’s position that Mr. Oquendo did not communicate, or recognize the importance of, a stop spaced away from the corners as disclosed in the ’953 patent.

4. Conclusion

We have reviewed the parties’ arguments and collectively evaluated all of the evidence of alleged communication. Taking into account the parties’ arguments and the full record in this proceeding, we conclude that Andersen has not demonstrated that Mr. Oquendo communicated to a named inventor of the ’953 patent a conception of the complete invention recited in claim 1. Specifically, Andersen has not shown that Mr. Oquendo communicated, as part of his spacer frame design, a stop spaced away from the corners. Mr. Oquendo’s testimony regarding such an alleged communication is not corroborated by evidence in the record for all of the reasons explained above. Andersen has not proven derivation of the invention recited in claim 1 by a preponderance of the evidence.

E. Alleged Derivation of the Inventions Recited in Claims 2–22

Andersen asserts that Mr. Oquendo conceived of the subject matter of each of claims 1–22 and communicated each conception to GED. *See* Section III.D. We conclude that Andersen has not proven that Mr. Oquendo communicated the idea of a spacer frame assembly with a stop spaced away from the corners as recited in claim 1. *Id.* The remaining independent claims of the ’953 patent recite similar limitations pertaining to a stop. Claim 14 recites a spacer frame assembly comprising (emphasis added):

a trailing portion of said frame element behind and spaced from a second corner location wherein at least one of the lead and trailing portions of said frame element include *an abutment stop defined by a notch which extends into a side wall of said frame element, the abutment stop for limiting movement of the leading and trailing ends as said leading and trailing ends are telescoped one within the other and said abutment stop defining a lateral connection spaced from said corners* and an amount of overlap of the leading and trailing ends of the assembled spacer frame.

Claim 20 recites a spacer frame assembly comprising (emphases added):

a stop extending from said connecting structure for contacting the opposite frame end at a lateral connection spaced from said corresponding corners along one of said three sides when in the assembled position, *said stop located at said lateral connection* preventing further advancement of the nose portion along said inner channel.

With respect to the stop limitations of claims 14 and 20, Andersen refers to the same evidence and makes substantially the same arguments as it does for claim 1 in support of its contention that Mr. Oquendo conceived of the claimed spacer frame assemblies and communicated such conception. *See* Pet. 34–36, 58–61, 69–71 (citing Exs. 1001, 1011, 1013, 1021). GED in its Response also refers to its arguments regarding claim 1 when addressing the similar “stop” limitations of claims 14 and 20. *See* Resp. 38–42, 52–54, 57–58. The parties argue all of the claims together in their Reply and Sur-Reply.

For the same reasons set forth above for claim 1, we conclude that Andersen has not demonstrated that Mr. Oquendo communicated to a named inventor of the ’953 patent a conception of the complete invention recited in each of independent claims 14 and 20, or in each of dependent claims 2–13,

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15–19, 21, and 22, all of which include the stop feature addressed above.¹⁸ Andersen has not met its burden to prove derivation by a preponderance of the evidence for any allegedly derived invention.

IV. ORDER

Andersen has not demonstrated, by a preponderance of the evidence, that an inventor named in the '953 patent derived any of the inventions recited in claims 1–22 from an inventor named in Andersen's '862 application, pursuant to 35 U.S.C. § 135(b). Andersen's evidence of derivation, which, unrebutted at the time, we found sufficient for purposes of institution, has been rebutted by GED for all of the reasons set forth herein.

In consideration of the foregoing, it is hereby:

ORDERED that Andersen has not proven derivation under 35 U.S.C. § 135(b);

FURTHER ORDERED that jurisdiction over the '862 application and the '953 patent is herein returned to the appropriate officials under the Commissioner for Patents; and

FURTHER ORDERED that a copy of this Decision be placed in the files of the '862 application and the '953 patent.

This is a final decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

¹⁸ Accordingly, we need not address GED's arguments regarding other limitations of the independent claims and certain of the dependent claims. *See Resp.* 40–51, 54–56, 58–59; *Sur-Reply* 22–23.

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