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Paper No. 9
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CASCADES CANADA ULC and
TARZANA ENTERPRISES, LLC
Petitioner,

v.

SCA HYGIENE PRODUCTS AB,
Patent Owner.

Case IPR2017-01921
Patent 9,320,372 B2

Before JO-ANNE M. KOKOSKI, KRISTINA M. KALAN, and JON B. TORNQUIST, *Administrative Patent Judges.*

KOKOSKI, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Cascades Canada ULC and Tarzana Enterprises, LLC (collectively, "Petitioner") filed a Petition ("Pet.") to institute an *inter partes* review of claims 1–20 of U.S. Patent No. 9,320,372 B2 ("the '372 patent," Ex. 1028). Paper 1. SCA Hygiene Products AB ("Patent Owner") filed a Preliminary Response ("Prelim. Resp."). Paper 7.

Institution of an *inter partes* review is authorized by statute when "the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314; *see* 37 C.F.R. §§ 42.4, 42.108. Upon consideration of the Petition, the Preliminary Response, and the evidence of record, we determine that Petitioner has established a reasonable likelihood of prevailing with respect to the unpatentability of claims 1–20 of the '372 patent. Accordingly, we institute an *inter partes* review of those claims.

A. Related Proceedings

The parties indicate that the '372 patent is being asserted in *SCA Hygiene Products AB v. Tarzana Enterprises, LLC*, Case No. 2:17-cv-4395-AB-JPR (C.D. Cal.) and *SCA Hygiene Products AB v. Cascades, Inc.*, Case No. 3:17-cv-00282-wmc (W.D. Wis.). Pet. 1–2; Prelim. Resp. 3. Petitioner further states that the '372 patent is being asserted in *SCA Hygiene Products AB v. Novex Products, Inc.*, Case No. 1:17-cv-02236-DCN (N.D. Ohio). Paper 8, 2.

The parties also identify IPR2017-01902, filed by Petitioner, as a related proceeding. IPR2017-01902 relates to U.S. Patent No. 8,859,761, to which the '372 patent claims priority. Pet. 2; Paper 5, 3.

B. The '372 Patent

The '372 patent, titled "Stack of Interfolded Absorbent Sheet Products," is directed to a plurality of absorbent sheets, each of which is folded at least twice about axes that are perpendicular to each other. Ex. 1028, at [54], [57]. In particular, the absorbent sheets "comprise a first fold that is deliberately offset from a parallel line bisecting the sheet, and a second fold that preferably bisects the sheet in the perpendicular direction." *Id.* at 2:8–11.

Figures 1a, 1b, and 1c of the '372 patent are reproduced below.

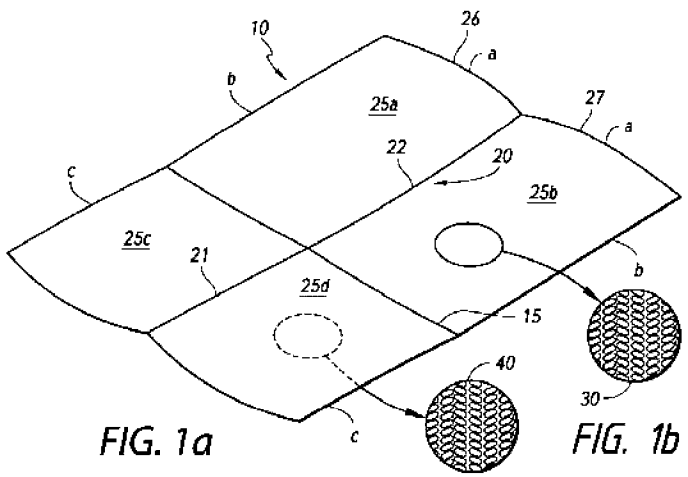


FIG. 1a FIG. 1b

FIG. 1c

Figure 1a is a perspective view of an individual unfolded napkin according to an embodiment of the invention, and Figures 1b and 1c are details depicting embossing patterns applied to the obverse side and the reverse side of the napkin shown in Figure 1a, respectively. *Id.* at 2:42–48. In Figure 1a, sheet of absorbent material 10 "has been folded according to the invention and then unfolded." *Id.* at 2:64–66. Prior to folding, sheet 10 "preferably has dimensions of approximately 8.5"x11"" that may "be varied to suit the

particular desired application of the product." *Id.* at 2:66–3:3. Sheet 10 is first folded along fold 15 (which is parallel to the short side of sheet 10 and thus has a length of 8.5"), then folded a second time along fold 20 that is perpendicular to fold 15. *Id.* at 3:4–7. First fold 15 is deliberately offset from the line parallel to it that would bisect sheet 10, in this case by approximately 2", so that length *b* from fold 15 to the far short side of sheet 10 is approximately 6.5" and length *c* from fold 15 to the near short side of sheet 10 is approximately 4.5". *Id.* at 3:11–17.

Second fold 20 substantially bisects sheet 10, defining length *a* to be 4.25" in the embodiment of Figure 1a. *Id.* at 3:31–33. Panel edges 26 and 27 of length *a* are on the far short side of sheet 10. *Id.* at 3:33–34. Folds 15 and 20 define panels 25a, 25b, 25c, and 25d, "wherein panels 25a and 25b in this embodiment each have dimensions of approximately 6.5"x4.25", whereas panels 25c and 25d each have dimensions of approximately 4.5"x4.25"." *Id.* at 3:43–47. First fold 15 is unidirectionally peaked, such that panels 25a and 25b of unfolded sheet 10 are slightly inclined upward from fold 15, as are panels 25c and 25d. *Id.* at 3:51–55. Second fold 20 is oppositely peaked, such that panels 25a and 25b of unfolded sheet 10 are slightly inclined upward from portion 22 of fold 20, and panels 25c and 25b are slightly inclined downward from portion 21 of fold 20. *Id.* at 3:56–64. When the napkin is fully folded, only the reverse sides of panels 25a and 25b are substantially visible, and the unequal sizes of panels 25a and 25b relative to panels 25c and 25d are concealed. *Id.* at 5:38–41, 50–54. The fully-folded napkin has dimensions of approximately 6.5"x4.25". *Id.* at 6:3–4.

Figures 4a and 4b are reproduced below.

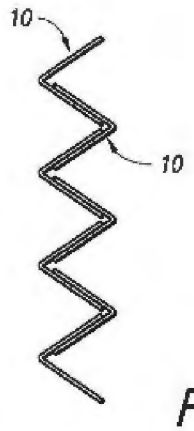


FIG. 4a

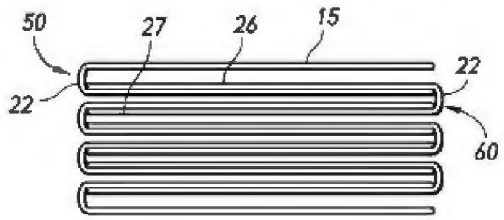


FIG. 4b

Figure 4a is a schematic representation of the interfold configuration of a stack of folded napkins according to the embodiment shown in Figure 1a, and Figure 4b is a schematic cross-sectional view of the napkin stack shown in Figure 4a. *Id.* at 2:55–59. As shown in Figure 4a, "the interfolding of adjacent sheets is such that any given napkin within the stack receives, between a pair of adjacent panels of the given napkin, a pair of adjacent panels of each of an upper and a lower napkin within the stack." *Id.* at 6:21–25. In Figure 4b, the interfolded napkins alternate between napkins 50 oriented with fold 15 being visible in the plane of the page, and napkins 60 that are oriented such that edges 26 and 27 are visible in the plane of the page. *Id.* at 6:33–39.

C. Challenged Claims

Petitioner challenges claims 1–20 of the '372 patent. Claim 1 is the only independent claim, and is reproduced below.

> 1. A stack of interfolded absorbent sheet products, comprising a plurality of absorbent sheets, wherein each sheet comprises a first fold that is offset from a line bisecting said sheet substantially parallel to said first fold, and an interfolding fold intersecting said first fold, wherein said first fold, said

> interfolding fold, and outer edges of each of the absorbent sheets define boundaries for four panels, with the panels on opposing sides of the first fold having different lengths and contacting each other within the stack, and wherein each of said absorbent sheets within said stack comprises at least one pair of panels sandwiched between a pair of adjacent panels of another of said absorbent sheets within said stack.

Ex. 1001, 7:58–8:2.

D. The Prior Art

Petitioner relies on the following prior art references:

Reference	Description	Date	Exhibit No.
Grosriez	U.S. 6,602,575 B2	Aug. 5, 2003	1021
Hochtritt	U.S. Patent App. Pub. No. 2005/0058807 A1	March 17, 2005	1015
Pigneul[1]	European Patent App. Pub. No. 0 286 538 B1	Oct. 12, 1988	1013, 1023 (English translation)

E. The Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–20 on the following grounds:

Reference(s)	Basis	Challenged Claims
Hochtritt	§ 102(b)	1–3, 6, 10–18
Grosriez	§ 102(b)	1–3, 8, 9, 12, 13
Pigneul	§ 102(b)	1–3, 8, 9, 12–14
Hochtritt	§ 103(a)	1–20
Hochtritt and Grosriez	§ 103(a)	1–20

[1] Pigneul is a French-language European Patent Application that also includes German- and English-language claims. *See* Ex. 1013, 5. Petitioner relies on the English-language claims and figures of Pigneul only, but also provided an English-language translation "[f]or the Board's convenience." Pet. 26 n.2. The cited page numbers in Ex. 1013 and Ex. 1023 refer to the page numbers added by Petitioner on the bottom of each page.

Petitioner relies on the Declaration of Mate Mrvica ("Mrvica Declaration," Ex. 1002) in support of its contentions.

II. ANALYSIS

A. Claim Interpretation

We interpret claims of an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [the claims] appear[]." 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Consistent with the broadest reasonable construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Only those terms in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner proposes a construction for the term "offset from a line bisecting said sheet," and Patent Owner proposes a construction for the term "offset." Pet. 30–33; Prelim. Resp. 9–10. For purposes of this Decision, based on the record before us, we determine that no claim term requires explicit construction.

B. 35 U.S.C. § 325(d)

Patent Owner argues that "the Board should refuse to institute IPR of the challenged claims with respect to Petitioner's unpatentability assertions based upon Hochtritt and Grosriez" because "[t]he Examiner considered both Hochtritt and Grosriez during prosecution of the '372 Patent, as shown on an IDS signed by the Examiner, thus evidencing the Examiner's qualified

opinion that the claims of the '372 Patent are patentable over both Hochtritt and Grosriez," either alone or in combination with each other. Prelim. Resp. 12 (citing Ex. 2001). Petitioner acknowledges that Hochtritt "was considered by the Examiner during prosecution of the '372 patent," but contends that the Examiner did not "appreciate[] the full scope of the Hochtritt disclosure." Pet. 17–18. Petitioner also recognizes that "Grosriez is cited on the face of the '372 patent," but states that "it was not used during prosecution to substantively reject the claims," and that "Hochtritt in combination with Grosriez was never considered during prosecution." *Id.*

We note that 35 U.S.C. § 325(d) includes permissive language regarding the Board's discretion with respect to institution of *inter partes* review. Specifically, the statute states that "the Director *may take into account* whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office." 35 U.S.C. § 325(d) (emphasis added). The statute, however, does not require the Board to decline institution. While we are mindful of the burden on Patent Owner and the Office to rehear the same or substantially the same prior art or arguments previously presented to the Office, we are persuaded, for the reasons that follow, that Petitioner's arguments and the art upon which they are based differ sufficiently from what was presented during prosecution, and have merit. Therefore, considering the totality of the circumstances, we are not persuaded that it is appropriate to exercise our discretion to deny the Petition under 35 U.S.C. § 325(d).

C. Anticipation by Hochtritt

Petitioner contends that claims 1–3, 6, and 10–18 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Hochtritt. Pet. 33–43.

1. Overview of Hochtritt

Hochtritt relates to a stack of interfolded sheet products that "comprises a plurality of absorbent sheets each of which is itself folded at least twice about axes that are perpendicular to one another," wherein "[e]ach of the absorbent sheets within the stack comprises at least one pair of panels sandwiched between a pair of adjacent panels of another of the absorbent sheets in the stack." Ex. 1015, at [57]. Hochtritt describes an embodiment where the absorbent sheets are napkins that have two folds, each fold bisecting the napkin and being perpendicular to one another. *Id.* ¶ 11. This "quarter-fold" napkin is also considered a "four-panel" napkin because the perpendicular folds delineate four regions in the original napkin sheet. *Id.* Hochtritt also describes six-panel and eight-panel napkins, which comprise six equally-sized and eight equally-sized panels, respectively. *Id.* ¶ 12.

Hochtritt Figures 1(a) and 1(b) are reproduced below.

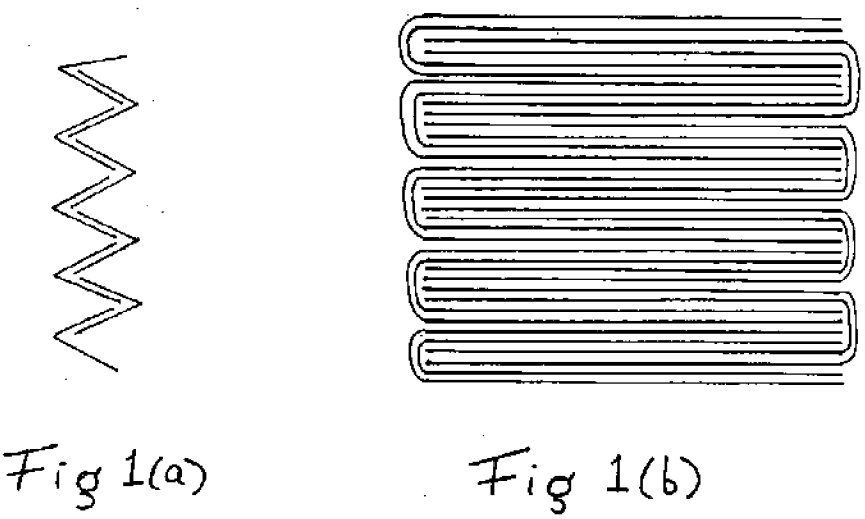


Figure 1(a) is a schematic representation of the interfold configuration of a stack of folded absorbent sheets according to an embodiment described in Hochtritt, and Figure 1(b) is a schematic cross-sectional view of the napkin stack shown in Figure 1(a). *Id.* ¶¶ 17–18. Figures 1(a) and 1(b) depict quarter-folded napkins, and show that "the interfolding of the adjacent sheets is such that any given napkin within the stack receives between a pair of adjacent panels of the given napkin, a pair of adjacent panels of each of an upper and a lower napkin within the stack." *Id.* ¶ 16. In particular, Figure 1(b) demonstrates that "each napkin within the stack receives between its two inwardly facing adjacent panels a pair of adjacent panels from each of two napkins disposed respectively above and below it in the stack." *Id.* ¶ 35.

Hochtritt teaches that the quarter-fold napkin in Figures 1(a) and 1(b) "is formed from a single ply whose dimensions are preferably 8½"x13", such that the folded napkin will have dimensions of about 4¼"x6½"," and that "these dimensions can be varied to suit the particular application in

question." *Id.* ¶ 34. According to Hochtritt, the folds visible in Figures 1(a) and 1(b) "are those extending across the long dimension of the napkins, whereas the folds not visible are those extending across the short dimension of the napkin." *Id.*

2. Analysis

Petitioner contends that Hochtritt discloses all of the elements of claim 1. Pet. 34–38. For example, Petitioner contends that Hochtritt discloses a "sheet that comprises a first fold that is offset from a line bisecting said sheet substantially parallel to said first fold" because "Hochtritt broadly discloses napkins with at least two perpendicular folds, and one of ordinary skill in the art would recognize that the folds could either be bisecting or offset (the only two options)." *Id.* at 36 (citing Ex. 1002 ¶¶ 74, 117). Petitioner also contends that Hochtritt "expressly recognizes that single-fold napkins can be either bisecting or offset folded, and a single fold is simply the first fold in a quarter-folded napkin." *Id.* (internal citation omitted). Petitioner further contends that Hochtritt claim 1, which recites that each absorbent sheet "is itself folded at least twice about axes that are perpendicular to one another," encompasses both bisecting and offset folds "based on principles of claim differentiation," because dependent claim 6 limits the two folds of claim 1 to "bisecting the napkin and being perpendicular to one another." *Id.*

Patent Owner argues that "Hochtritt's invention and its teachings are directed solely to a nested two-fold napkin in which the first fold bisects the napkin—i.e., the first fold of Hochtritt is an equal fold, not an offset fold, and does not create panels of different lengths." Prelim. Resp. 13. Patent Owner also argues that dependent claim 6 narrows claim 1 "(i) by requiring

that each absorbent sheet is a paper napkin, (ii) by requiring that each napkin has two folds that each bisect the napkin perpendicular to one another, and (iii) by requiring that each napkin has four equal-sized panels." *Id.* at 16. Therefore, according to Patent Owner, claim 6 is "considerably narrower than claim 1," even if claim 1 does not encompass offset folds "due to the presence of the other limitations." *Id.* at 16–17. Patent Owner further argues that Petitioner's contention that bisecting and offset folds are the only possible fold types is based on testimony in the Mrvica Declaration that is conclusory and unsupported by facts. *Id.* at 13–15.

As an initial matter, we are not persuaded that Hochtritt's recitation of "two folds each bisecting the napkin and being perpendicular to each other" in claim 6 necessarily means that Hochtritt's claim 1 encompasses both offset and bisecting folds. Claim differentiation "create[s] a presumption that each claim in a patent has a different scope." *Comark Comm's, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998). However, "that the claims are presumed to differ in scope does not mean that every limitation must be distinguished from its counterpart in another claim, but only that at least one limitation must differ." *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1368 (Fed. Cir. 2000). Hochtritt's claim 1 and claim 6 are not otherwise identical but for the reference to bisecting folds. As Patent Owner notes, claim 6 is limited to a four-panel paper napkin, whereas claim 1 broadly recites absorbent sheet products that are folded "at least" twice, such that the six-panel and eight-panel sheets described by Hochtritt are also encompassed by the scope of the claim 1. Thus, claim 6 is narrower than claim 1 regardless of whether claim 1 also encompasses offset folds.

Based on the current record, however, we find persuasive Mr. Mrvica's testimony that a person having ordinary skill in the art would recognize that "[a] fold line can bisect the napkin into two equal parts, or a fold line can be offset from the bisecting line to create two unequal panels of any size," and that these are the only two options when folding around axes that are perpendicular to each other (as described in Hochtritt). Ex. 1002 ¶ 61; *see id.* ¶¶ 71–73. At this stage of the proceeding, we also credit Mr. Mrvica's testimony that "Hochtritt recognizes that it was known for single fold napkins to be either equal or offset folded (Ex. 1015, ¶ 0007), and a single fold is the first fold in a quarter-fold napkin or six-panel napkin" as further support for Petitioner's contention that Hochtritt teaches that folds around perpendicular axes can be either bisecting or offset. Ex. 1002 ¶ 117. We note that Patent Owner argues that Hochtritt's recitation in claim 1 of sheets that are folded at least twice about axes perpendicular to one another "could include more than two folds and a litany of other fold types." Prelim. Resp. 14. Many of the fold types identified by Patent Owner, however, do not appear to include at least two folds about axes perpendicular to one another (e.g., bisecting half fold, trisecting roll fold, trisecting Z-fold, accordion fold, double parallel fold). *Id.* Moreover, that Hochtritt's claim 1 encompasses sheets having more than two folds does not necessarily mean that a person having ordinary skill in the art would not understand Hochtritt to teach offset folds, as Patent Owner appears to contend.

Accordingly, we are persuaded, based on the current record, that Petitioner's discussion of the teachings in Hochtritt and the explanations in the Mrvica Declaration are sufficient to establish a reasonable likelihood that

Petitioner would prevail in demonstrating that independent claim 1 is unpatentable as anticipated by Hochtritt. We also have considered the arguments and evidence with respect to claims 2, 3, 6, and 10–18 (which depend, directly or indirectly, from claim 1) and are persuaded, based on the current record, that Petitioner has demonstrated a reasonable likelihood that it would prevail as to those claims as well. *See* Pet. 38–43.

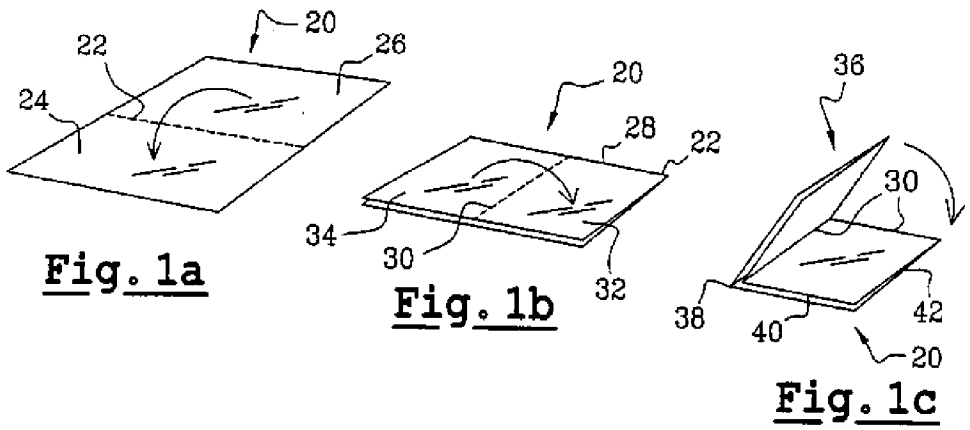
D. Anticipation by Grosriez

Petitioner contends that claims 1–3, 8, 9, 12, and 13 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Grosriez. Pet. 44–52.

1. Overview of Grosriez

Grosriez is directed to a stack of folded, supple, and absorbent sheets that have "a longitudinal fold line forming a longitudinal border and at least one transverse fold line perpendicular to the longitudinal fold line." Ex. 1021, 1:7–11. Grosriez teaches that the stack of supple sheets "is characterized in that the longitudinal and transverse fold lines of an upper sheet in the stack are not adjacent to the respective longitudinal and transverse fold lines of the previous lower sheet," such that "the stack has geometric symmetry and a distribution of the weight of the folded supple sheets which allow the stack to remain balanced with respect to the axis of stacking, regardless of the number of folded supple sheets." *Id.* at 2:17–26.

Figures 1a, 1b, and 1c of Grosriez are reproduced below.



Figures 1a, 1b, and 1c depict the two successive foldings of a supple sheet. *Id.* at 3:29–30. In Figure 1a, square supple sheet 20 shows longitudinal first fold line 22 that separates symmetrical sections 24 and 26. *Id.* at 4:33–36. In Figure 1b, supple sheet 20 is folded in two along longitudinal fold line 22, forming longitudinal border 28. *Id.* at 4:37–39. Transverse fold line 30 delimits symmetrical panels 32 and 34. *Id.* at 4:39–41. In Figure 1c, supple sheet 20 is folded into four equal parts by folding along transverse fold line 30 to form supple sheet 36 with transverse border 38, longitudinal edge 40, and transverse edge 42. *Id.* at 4:42–47. Each of longitudinal edge 40 and transverse edge 42 consists of the superposition of the four superposed free edges of supple sheet 20. *Id.* at 4:47–49. Grosriez also teaches an alternate form of folding, where "the longitudinal fold line delimits two sections, the transverse dimension of one of which differs from the transverse dimension of the other." *Id.* at 4:50–53.

Grosriez Figure 6 is reproduced below.

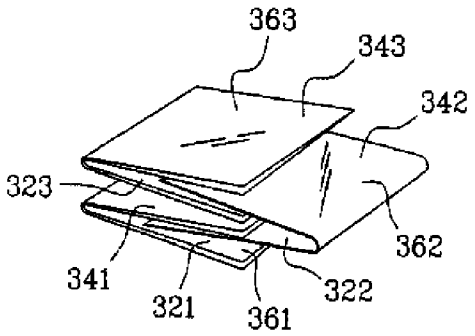


Fig. 6

Figure 6 is a perspective view of a stack of three folded supple sheets according to a preferred embodiment described in Grosriez. *Id.* at 2:43–45. Lower folded sheet 361 and upper folded sheet 363 are intertwined with intermediate folded sheet 362, wherein upper panel 341 of lower folded sheet 361 and lower panel 323 of upper folded sheet 363 are placed between lower panel 322 and upper panel 342 of intermediate folded sheet 363. *Id.* at 5:54–59. According to Grosriez, intertwining the folded sheets in this way makes it possible, particularly when the stack is placed in a dispenser, "for the lower panel 323 of the upper sheet 363 to carry (by virtue of friction forces) the upper panel 342 of the intermediate folded sheet 363 out of the opening that allows the folded sheets 36 to be grasped." *Id.* at 5:60–65.

2. Analysis

Petitioner contends that Grosriez discloses all of the elements of claim 1. Pet. 44–48. For example, Petitioner contends that Grosriez discloses "a first fold that is offset from a line bisecting said sheet substantially parallel to said first fold, and an interfolding fold intersecting said first fold" because it describes "a four-panel napkin wherein the

longitudinal and transverse folds delineate four panels in the napkin," such that "the boundaries of the four panels are defined by the longitudinal (first) fold, the transverse (interfolding) fold, and the edges of each sheet." *Id.* at 47 (citing Ex. 1021, 1:12–15, Figs. 1a–1c; Ex. 1002 ¶ 119). Petitioner further contends that "Grosriez expressly describes 'the longitudinal fold line delimits two sections, the transverse dimension one of which differs from the transverse dimension of another.'" *Id.* (quoting Ex. 1021, 4:50–53). We are persuaded, based on the current record, that Petitioner's discussion of the teachings in Grosriez and the explanations in the Mrvica Declaration are sufficient to establish a reasonable likelihood that Petitioner would prevail in demonstrating that independent claim 1 is unpatentable as anticipated by Grosriez.

We have considered Patent Owner's arguments and do not find them to be persuasive on this record. For example, Patent Owner argues that, "[a]ccording to Petitioner, one *could* employ the alternate form of folding to Grosriez's sheet to arrive at the claims of the '372 Patent," but that "[s]uch conclusory statements by Petitioner regarding what *could* be or is 'probably' disclosed by Grosriez, but not what Grosriez actually teaches, are insufficient to support anticipation." Prelim. Resp. 23. We understand Patent Owner to be arguing that Petitioner's argument is based on inherency, which requires that a missing element be necessarily present in the recited reference. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) ("Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." (quotation omitted)). As set forth above, however, Petitioner's argument that Grosriez discloses the claimed offset

fold is based on Grosriez's express description of the alternate folding method, not that the claimed offset fold is inherent in Grosriez. Pet. 44–45, 47; *see also* Ex. 1002 ¶ 119 (Mr. Mrvica's testimony that Grosriez "discloses that the longitudinal fold may be offset"). Thus, Petitioner's argument is based on what Grosriez teaches, not on what "could be or is 'probably' disclosed by Grosriez" as Patent Owner contends.

We also have considered the arguments and evidence with respect to claims 2, 3, 8, 9, 12, and 13 (which depend, directly or indirectly, from claim 1) and are persuaded, on the current record, that Petitioner has demonstrated a reasonable likelihood that it would prevail as to those claims as well. *See* Pet. 48–52.

E. Anticipation by Pigneul

Petitioner contends that claims 1–3, 8, 9, and 12–14 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Pigneul. Pet. 52–59.

1. Overview of Pigneul

Pigneul is directed to stacked arrangements of flexible and absorbent sheets "entangled in one another by alternate folding in directions arranged around entanglement fold lines," which are "characterized in that the sheets are also folded around fold lines perpendicular to the fold lines forming the entanglement." Ex. 1023, 3–4. Pigneul teaches that the sheets "can be simply folded in two along a single fold line," and "may also be folded around two fold lines parallel to one another, defining a central panel and two side panels." *Id.* at 4.

Pigneul Figure 1 is reproduced below.

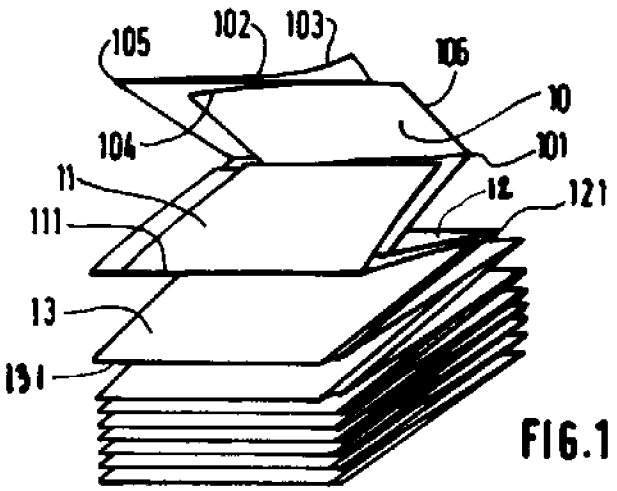


Figure 1 shows a stack of sheets according to the invention described in Pigneul. *Id.* at 4. Sheets 10 and 12 are entangled with sheets 11 and 13. *Id.* at 4–5. "Each sheet is folded in two in the manner of a wallet around a first fold line 101, 111, 121, 131," such that, "for example, between the two halves, delimited by line 121 of sheet 12, the posterior or respectively anterior halves of the two sheets 11 and 13 are placed, which have been folded in the opposite direction" and "half of sheets 10 and 12 are inserted between the fold of sheet 11." *Id.* at 5. First sheet 10 (and, similarly, sheets 11–13) includes central panel 102 and two side panels 103 and 104 folded around second fold lines 105 and 106, which are perpendicular to first lines 101 and 111. *Id.* According to Pigneul, the described folding method makes it "possible to reduce the transverse dimension of the sheet while not being subject to a minimum stack height." *Id.*

1. Analysis

Petitioner contends that the claims and figures of Pigneul disclose all of the elements of claim 1. Pet. 52–55. With respect to the "first fold that is offset from a line bisecting said sheet substantially parallel to said first fold"

limitation, Petitioner points to Pigneul's claim 1, which claims absorbent sheets "interleaved with each other by alternate folding in opposite directions about lines (101, 111, 121, 131, ...) of interleaved folding" that are "characterized in that the sheets (10, 11, 12, 13, ...) are also folded, each separately, about at least one line of folding (105, 106) perpendicular to the lines of folding (101, 111, 121, 131, ...) forming the interleaving." *Id.* at 53 (citing Ex. 1013, Claim 1). Petitioner argues that "the claims of Pigneul do not explicitly describe whether the first or second fold lines of the quarter-folded embodiment bisect the napkin or are offset from a line bisecting the napkin," but that Pigneul's Figure 1 "discloses at least a first offset fold and a bisecting interfolding fold in the six-panel, Z-folded embodiment of claim 4." *Id.* at 54–55 (citing Ex. 1013; Ex. 1002 ¶¶ 105, 120). According to Petitioner, "based on the broad language of [Pigneul's] claim 1 (which does not limit the folds)," a person having ordinary skill in the art "would understand Pigneul to disclose the first and second/interfolding folds as either bisecting or offset." *Id.* at 55.

We are not persuaded that Petitioner has established that Pigneul teaches "a first fold that is offset from a line bisecting said sheet substantially parallel to said first fold," as recited in claim 1. As Petitioner notes, Pigneul's claims do not explicitly describe whether the folds bisect the napkin or are offset from a line bisecting the napkin. Pet. 54. Petitioner relies on Mr. Mrvica's testimony that "because the first fold of Figure 1 clearly shows an offset first fold (in that fold lines 105 and 106 are offset so as to create unequal panels), [Pigneul's] claims 1 and 2 also encompass at least a stack of quarter-folded, interleaved napkins having a first offset fold and a second bisecting fold" to support its contention that Pigneul discloses

the claimed offset fold. Ex. 1002 ¶ 105. In that regard, Mr. Mrvica also testifies that

> [p]ersons in my field would understand claim 1 of Pigneul to disclose a box with a delivery opening (i.e., a dispenser opening) containing an interleaved stack of absorbent sheets having at least on [*sic*] line of folding (105, 106) (i.e., the first fold) perpendicular to the lines of folding (101, 111, 121, 131 …) that form the interleaving (i.e., the interfolding or second line of folding). In other words, claim 1 of Pigneul discloses a stack of interleaved napkins that could be quarter-folded (or could be C-folded and then folded in the perpendicular direction, or Z-folded and then folded in the perpendicular direction, etc.). A C-fold or Z-fold napkin that is then folded once in the perpendicular direction, for example, is a six-panel napkin.
>
> Claim 2 of Pigneul reads as follows: "A box according to the foregoing claim characterized in that the sheets (10, 11, 12, 13, …) are folded in two about a single line of folding perpendicular to the lines of folding (101, 111, 121, 131, …) forming the interleaving." This claims a stack of quarter-folded, interleaved napkins.

Id. ¶¶ 102–103 (internal citations omitted).

Neither Petitioner nor Mr. Mrvica, however, provides any objective evidence or explanation to support the contention that Pigneul's Figure 1 and claim 1 disclose, expressly or inherently, an offset first fold as required by claim 1 of the '372 patent. For example, Pigneul's Figure 1 is a schematic of a stack of sheets, from which it is difficult to discern how the individual sheets are folded, and whether there are bisecting or offset folds. Petitioner and Mr. Mrvica do not direct us to anything in the Pigneul specification that may provide details of what is depicted in Figure 1, let alone anything that supports their contentions regarding what Pigneul's Figure 1 discloses. Mr. Mrvica's unsupported and unexplained opinions are not persuasive.

Accordingly, we determine that the record before us does not establish a reasonable likelihood that Petitioner would prevail in showing that claim 1, and claims 2, 3, 8, 9, and 12–14 that depend directly or indirectly therefrom, are anticipated by Pigneul.

F. Obviousness over Hochtritt

Petitioner contends that the subject matter of claims 1–20 is unpatentable under 35 U.S.C. § 103(a) as obvious over the teachings of Hochtritt. Pet. 59–65.

1. Claims 1–3, 6, and 10–18

Petitioner argues "[t]o the extent that it could be determined that Hochtritt does not expressly teach offset first folds, it would have been obvious" for a person having ordinary skill in the art "to modify Hochtritt to have an offset first fold—the only other alternative to a bisecting fold." *Id.* at 60 (citing Ex. 1002 ¶¶ 73, 118). While we are mindful that, although "novelty under 35 U.S.C. § 102 and nonobviousness under 35 U.S.C. § 103 are separate conditions for patentability," "anticipation is the 'epitome of obviousness.'" *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1363 (Fed. Cir. 2008) (quoting *In re Kalm*, 378 F.2d 959, 962 (CCPA 1967)). Having already determined that Petitioner has established a reasonable likelihood of prevailing in showing that claim 1 is anticipated by Hochtritt, we determine that Petitioner has established a reasonable likelihood of success in showing the obviousness of claim 1 over Hochtritt.

Petitioner also provides reasons why a person having ordinary skill in the art would have been motivated to modify Hochtritt, including (1) the known paper and costs savings from utilizing an offset first fold, and (2) that the only other option for making stack of quarter-folded napkins interleaved

as taught in Hochtritt would be to offset the first fold line. Pet. 61. On the present record, we also are persuaded that Petitioner has presented sufficient reasons to modify the teachings of Hochtritt, if necessary, to show that the subject matter of claim 1 would have been obvious over Hochtritt. We also have considered the arguments and evidence with respect to claims 2, 3, 6, and 10–18 (which depend, directly or indirectly, from claim 1) and are persuaded, based on the current record, that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that the subject matter of those claims would have been obvious over Hochtritt as well. *See id.* at 61–64.

2. Claims 4 and 5

Claims 4 and 5 depend from claim 2, and further recite that the first fold is located such that, in claim 4, the second length is at most about three times the first length and at least about 1.1 times the first length, and in claim 5, the second length is at most about twice the first length and at least about 1.3 times the first length. Petitioner argues that "[t]he claimed ratios of claims 4 and 5 of the '372 patent are simply factors of the size of the unfolded sheets and the amount of chosen offset," and "[b]ecause an offset is simply *any* distance from a bisecting line, it encompasses the claimed ranges of the '372 patent." Pet. 65. In support of these contentions, Mr. Mrvica testifies that Hochtritt does not "limit the offset single fold napkins it concedes were known in the prior art to particular ranges," and, "as to dimensions generally, Hochtritt states that 'dimensions may be varied to suit the particular application in question.'" Ex. 1002 ¶ 126.

On the present record, Petitioner has not explained sufficiently why one of ordinary skill in the art would have had reason to choose the specific

fold lengths set forth in claims 4 and 5. In particular, Petitioner has not identified any teaching in Hochtritt that discloses a specific fold length, let alone a length that overlaps with the limitations of claims 4 and 5. In cases involving overlapping ranges, it is well settled that "[s]electing a narrow range from within a somewhat broader range disclosed in a prior art reference is no less obvious than identifying a range that simply overlaps a disclosed range," and, therefore, "a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a *prima facie* case of obviousness." *In re Peterson*, 315 F.3d 1325, 1329–30 (Fed. Cir. 2003). Petitioner, however, is arguing that the specific claimed lengths are encompassed by a range that encompasses all possible lengths, which is not "selecting a narrow range from within a somewhat broader range." Instead, Petitioner's obviousness arguments comprise an improper invitation to explore a general approach to offset folding an absorbent sheet, "where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it." *In re O'Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988). Where, as here, a party "urges an obviousness finding by 'merely throw[ing] metaphorical darts at a board' in hopes of arriving at a successful result, but 'the prior art gave either no indication of what parameters were critical or no direction as to which of many possible choices is likely to be successful,' courts should reject 'hindsight claims of obviousness.'" *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1070–71 (Fed. Cir. 2012) (citing *In re Kubin*, 561 F.3d 1351, 1359 (Fed. Cir. 2009)). Accordingly, applying the guidance of our reviewing court, we determine that Petitioner has not

demonstrated a reasonable likelihood of showing that the subject matter of claims 4 and 5 would have been obvious over Hochtritt.

3. Claim 7

Claim 7 depends from claim 1 and further recites that "each of said absorbent sheets has unfolded dimensions of approximately 8.5" by 11"." Petitioner contends that Hochtritt teaches this limitation when it describes paper napkins "whose dimensions are preferably about 8.5"x13", such that the folded napkin will have dimensions of about 4¼"x6½"" and further states that "[o]bviously, these dimensions may be varied to suit the particular application." Pet. 61 (quoting Ex. 1015 ¶ 34). According to Petitioner, "8.5"x11" is a standard dimension for napkin products and does not cause the napkin to perform any differently than a napkin with 8.5"x13" dimensions, but is simply a matter of design choice." *Id.* at 62 (citing Ex. 1015; Ex. 1002 ¶ 127). Petitioner's explanation of how and where Hochtritt teaches or suggests each claim limitation is reasonable. *See id.* at 61–62. Based on the current record, we are persuaded that Petitioner's discussion of particular structures in Hochtritt, and the explanations in the Mrvica Declaration, are sufficient to establish a reasonable likelihood that the subject matter of claim 7 would have been obvious over Hochtritt.

4. Claims 8, 9, 19, and 20

Claims 8 and 9 depend from claim 1, and further recite that each sheet is folded such that the offset portions of the sheet are positioned, in claim 8, interiorly of said sheet, when folded, and, in claim 9, exteriorly of said sheet, when folded. Petitioner contends that "[t]here are only two possible options for the location of 'offset portions' in a folded sheet—interiorly or exteriorly." Pet. 62. Petitioner further contends that "it would have been

obvious to a [person having ordinary skill in the art] to select one of these two known options to the folded napkins of Hochtritt." *Id.* (citing Ex. 1002 ¶¶ 128–130). In support of these contentions, Mr. Mrvica testifies that "[w]hen making a quarter-folded napkin with an offset first fold the offset *must* be either on the inside or the outside." Ex. 1002 ¶ 129. Mr. Mrvica further testifies that

> it was not a novel concept at the time of the priority date that a "cheater" fold could be hidden interiorly. Additionally known at the time (2010) was the use of offset folds exteriorly. This has the advantage of allowing the user to more easily open the folded napkin. In either case, this was a design choice that was well-known.

Id. ¶ 130. Based on the current record, we are persuaded that Petitioner's discussion of particular structures in Hochtritt, and the explanations in the Mrvica Declaration, are sufficient to establish a reasonable likelihood that the subject matter of claims 8 and 9 would have been obvious over Hochtritt.

Claim 19 depends from claim 15 and further recites that

> said embossed surface relief pattern comprises relief elements that project from one side of each absorbent sheet and are recessed relative to an opposite side of each absorbent sheet, each absorbent sheet being folded such that exterior panels of each absorbent sheet when folded comprise said relief elements that are recessed relative to said opposite side of each absorbent sheet.

Petitioner contends that Hochtritt teaches absorbent sheets that are embossed, wherein "the term 'embossed' connotes a three-dimensional low relief pattern of a distinct pattern or image." Pet. 63 (citing Ex. 1015 ¶ 29). Petitioner further contends, with support from the Mrvica Declaration, that "all embossed sheets will have relief elements projecting from one side and recessed on the opposite side." *Id.* at 64 (citing Ex. 1002 ¶¶ 141–143).

According to Petitioner, "[w]hether the projecting or recessed side (the only two alternatives) is exposed on the exterior panel is simply a matter of design choice between the only two known options, and neither alternative provides an advantage over the other." *Id.* (citing Ex. 1002 ¶ 143).

Claim 20 depends from claim 16 and further requires that "each absorbent sheet is folded such that exterior panels of each absorbent sheet when folded comprise said fabric side of each absorbent sheet." Petitioner argues that Hochtritt teaches this limitation because it describes absorbent sheet products that are formed by the Through-Air Drying ("TAD") technique. Pet. 64 (citing Ex. 1015 ¶ 2). Petitioner argues that "the TAD technique, disclosed in Hochtritt, always results in a sheet having an air side and a fabric side," and "[w]hether the exterior panels comprise the fabric or air side is simply a matter of design choice between the only two known options." *Id.* (citing Ex. 1002 ¶¶ 144–146).

Based on the current record, we are persuaded that Petitioner's discussion of particular structures in Hochtritt, and the explanations in the Mrvica Declaration, are sufficient to establish a reasonable likelihood that the subject matter of claims 19 and 20 would have been obvious over Hochtritt.

G. Obviousness over Hochtritt and Grosriez

Petitioner contends that the subject matter of claims 1–20 is unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Hochtritt and Grosriez. Pet. 66–70.

1. Claims 1–3 and 6–20

Petitioner contends that "Hochtritt discloses all limitations of claim 1 and broadly claims first and second folds without specifying whether they

are bisecting or offset," and that Grosriez "explicitly teaches interleaved quarter-folded napkins having an offset first (longitudinal fold) and a perpendicular second (transverse) fold." Pet. 66–67 (citing Ex. 1002 ¶¶ 73–74, 97, 119). Petitioner further contends that

> it would have been obvious to a [person having ordinary skill in the art] to combine the explicitly described offset of Grosriez to the stack of interfolded, absorbent sheets of Hochtritt because (1) both references relate to quarter-folded absorbent sheet products interleaved for economical and efficient dispensing; (2) use of offset folds was known in the art at the time of the '372 patent as a way to save costs on paper and maintain the same folded dimensions as a napkin with larger unfolded dimensions; and (3) there are only two known options for [a] fold line—bisecting or offset.

Id. at 66 (citing Ex. 1015; Ex. 1021; Ex. 1002 ¶¶ 61–63, 73, 74, 96, 113, 117). According to Petitioner, "[t]he substitution of a first bisecting fold for a first offset fold is a simple substitution of one of only two known options to fold a napkin, and is therefore obvious." *Id.* at 67 (citing Ex. 1002 ¶¶ 63, 118).

Patent Owner argues that "Petitioner has ignored record evidence that a [person having ordinary skill in the art] would not have been motivated to make such a substitution based on disclosures" in Hochtritt that "teach[] away from modifying Hochtritt as proposed." Prelim. Resp. 50. In that regard, Patent Owner argues that "Petitioner ignores that Hochtritt itself expressly teaches that napkins having an 'off-folded' interfolding fold have specific 'disadvantages,' and that its quarter-fold sheets with bisecting folds 'address and alleviate' these 'disadvantages.'" *Id.* (quoting Ex. 1015 ¶¶ 7–8).

The disadvantages to which Patent Owner refers, however, are directed to "[p]aper napkins that are *single folded only* (sometimes also called 'half-folded' when the fold bisects the napkin, or 'off-folded' when it does not)." Ex. 1015 ¶ 7 (emphasis added). Hochtritt teaches that such single-folded napkins "have the disadvantage that, in order to achieve a given total absorbency, the basis weight of the unfolded napkin sheet must be relatively high," which "causes the napkin to have relatively low softness and drape properties, both of which properties are important to the user's perception of the total quality of the napkin." *Id.* Hochtritt also notes that "[t]he provision of plural parallel folds in a napkin has the obvious limitation that the napkin will have a relatively elongated shape in the direction parallel to the folds, unless the starting blank is cut to a relatively more elongated shape in the direction perpendicular to the folds." *Id.* It is these disadvantages that Hochtritt seeks to address "by providing a stack of interfolded absorbent sheet products, each of which is itself folded at least twice about axes that are perpendicular to one another." *Id.* ¶ 8. Based on these disclosures in Hochtritt, we do not find that Hochtritt expressly disparages offset folding as described in Grosriez. Thus, on the current record, we are not persuaded that Hochtritt teaches away from a modification that would include the offset fold described by Grosriez.

With respect to claims 2, 3, and 6–20, Petitioner relies on the same disclosures as it does in its arguments for its challenges based on Hochtritt alone and/or Grosriez alone, set forth above. *See* Pet. 67–68. Based on the current record, we are persuaded that Petitioner's discussion of particular structures in Hochtritt and Grosriez, and the explanations in the Mrvica Declaration, are sufficient to establish a reasonable likelihood that the

subject matter of claims 1–3 and 6–20 would have been obvious over the combined teachings of Hochtritt and Grosriez.

2. Claims 4 and 5

Petitioner argues that Grosriez "specifically discloses that the dimensions of the panels created by the offset first (longitudinal) fold may be 'at most twice the transverse dimension of the other,' which is within the ranges recited in claims 4 and 5." Pet. 69 (quoting Ex. 1021, 2:55–57; citing Ex. 1002 ¶ 126). Patent Owner responds that "Grosriez does not reach the claimed upper limits (i.e., a length difference of 'about three times')." Prelim. Resp. 56.

A second length of at most twice the first length falls within the "at most about three times the first length and at least about 1.1 times the first length" range of claim 4, and overlaps with the "at most twice the first length and at least about 1.3 times the first length" range of claim 5. In cases involving overlapping ranges, the Federal Circuit and its predecessor court have consistently determined that overlapping ranges establish a *prima facie* case of obviousness. *See In re Peterson*, 315 F.3d at 1330 (citing, for example, *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990) (concluding that a claimed invention was rendered obvious by a prior art reference whose disclosed range ("about 1–5% carbon monoxide") overlaps the claimed range (more than 5% to about 25% carbon monoxide")); *In re Geisler*, 116 F.3d 1465, 1469 (Fed. Cir. 1997) (acknowledging that a claimed invention was rendered *prima facie* obvious by a prior art reference whose disclosed range (50–100 Angstroms) "overlaps at its endpoint with" the claimed range (100–600 Angstroms)); *In re Malagari*, 499 F.2d 1297, 1303 (CCPA 1974) (concluding a claimed invention was rendered *prima facie* obvious by a prior

art reference whose disclosed range (0.020–0.035% carbon) overlapped the claimed range (0.030–0.070%)).

We are persuaded, based on the current record, that Petitioner has established a reasonable likelihood that it would prevail in showing that claims 4 and 5 would have been obvious over the combined teachings of Hochtritt and Grosriez.[2]

III. CONCLUSION

Based on the arguments in the Petition and the Preliminary Response, and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail on its challenge that claims 1–20 of the '372 patent are unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that *inter partes* review is *granted* as to claims 1–20 of the '372 patent with respect to the following grounds:

Whether claims 1–3, 6, and 10–18 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Hochtritt;

Whether claims 1–3, 8, 9, 12, and 13 are unpatentable under 35 U.S.C. § 102(b) as anticipated by Grosriez;

Whether claims 1–3 and 6–20 are unpatentable under 35 U.S.C. § 103(a) as obvious over Hochtritt; and

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[2] We note that Patent Owner also argues that the invention claimed in the '372 patent provides "new and unexpected results relative to the prior art." Prelim. Resp. 59. The issue of secondary considerations (such as unexpected results) is highly fact-specific. At this stage of the proceeding, the record regarding such secondary considerations is incomplete. Our final decision will consider the parties' full record of secondary considerations evidence developed during trial as part of our obviousness analysis.

Whether claims 1–20 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Hochtritt and Grosriez;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 315(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Decision; and

FURTHER ORDERED that no ground other than that specifically granted above is authorized for *inter partes* review as to the claims of the '372 patent.

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