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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* WILLIAM A. DIEDWARDO

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Appeal 2014-008143  
Application 13/278,336  
Technology Center 3700

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Before LYNNE H. BROWNE, LISA M. GUIJT, and ERIC C. JESCHKE,  
*Administrative Patent Judges.*

JESCHKE, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

William DiEdwardo (“Appellant”) seeks review under 35 U.S.C. § 134(a) of the Examiner’s decision, as set forth in the Final Office Action dated August 30, 2013 (“Final Act.”), rejecting claims 1–22.<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

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<sup>1</sup> Appellant identifies Comfort Brace, LLC as the real party in interest. Appeal Br. 1.

## BACKGROUND

The disclosed subject matter “relates generally to a dental protective device.” Spec. ¶ 2. Claims 1, 11, 14, and 21 are independent. Claim 1 is reproduced below:

1. A dental protective device for protecting a user from discomfort and injury resulting from a dental appliance mounted on a user’s teeth, the dental protective device comprising: a protective strip for adhering to the installed dental appliance mounted to a user’s teeth, the protective strip configured as a base material coated with a water soluble adhesive coating on a dental appliance contacting side of the protective strip, a backing strip loosely adhered to the dental appliance contacting side of the protective strip, wherein the protective strip adheres to the installed dental appliance by the water soluble adhesive being exposed to moisture.

## REJECTIONS

1. Claims 14 and 20–22 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.
2. Claims 21 and 22 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter regarded as the invention.
3. Claims 1, 9, 10, 21, and 22 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lee (US 2011/0209713 A1, published Sept. 1, 2011) and Lapidus (US 4,503,116, issued Mar. 5, 1985).
4. Claim 2 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Lee, Lapidus, and Williams (US 6,447,290 B1, issued Sept. 10, 2002).

5. Claims 3, 4, and 6 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lee, Lapidus, and Maier (US 2009/0175928 A1, published July 9, 2009).

6. Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Lee, Lapidus, and Besse (US 2005/0042173 A1, published Feb. 24, 2005).

7. Claim 7 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Lee, Lapidus, Maier, and Besse.

8. Claim 8 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Lee, Lapidus, and Johns (US 4,781,293, issued Nov. 1, 1988).

9. Claims 11–13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lee, Maier, Lapidus, and Williams.

10. Claims 14–18 and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Lee, Williams, and Lapidus.

11. Claim 19 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Lee, Williams, Lapidus, and Maier.

## DISCUSSION

*Rejections 1 and 2 – The rejection of claims 14 and 20–22 under 35 U.S.C. § 112, first paragraph and the rejection of claims 21 and 22 under 35 U.S.C. § 112, second paragraph*

The Examiner rejected claims 14 and 20–22 as failing to comply with the written description requirement, finding that certain language in each claim “is not disclosed in the originally filed specification and is therefore new matter.” Final Act. 3. The Examiner also rejected claims 21 and 22, determining that “the installed dental appliance” recited in claim 21 lacks

sufficient antecedent basis. *Id.* at 4. Claim 22 was rejected based on its dependence from claim 21. *Id.*

We first address the status of claims 21 and 22. Appellant added claims 21 and 22 in a Response to Office Action dated July 14, 2013 (“Resp.”). *See* Resp. 5–6. In a subsequent Final Office Action, dated August 30, 2013 (at issue in this Appeal), the Examiner stated that “new claims 21 and 22 have been added” and that “claims 1–22 are presently pending in the application.” Final Act. 2. Further, as of the Notice of Panel Decision from Pre-Appeal Brief Review, dated January 2, 2014, the Examiner identified claims 1–22 as rejected. We find no evidence of an amendment canceling claims 21 and 22. As such, claims 21 and 22 remain pending at the time of this Decision and are on appeal. *See* 37 C.F.R. § 41.31(c) (2013) (“An appeal, when taken, is presumed to be taken from the rejection of all claims under rejection unless cancelled by an amendment filed by the applicant and entered by the Office.”)

We turn now to Rejections 1 and 2. Appellant does not address or acknowledge Rejections 1 or 2 in the Appeal Brief. *See* Appeal Br. 6–17. In the Answer, the Examiner acknowledges Rejection 1 as to claims 14 and 20 but does not acknowledge Rejection 2. *See* Ans. 2. In the Reply Brief, Appellant argues for the patentability of claims 14 and 20 as to Rejection 1. *See* Reply Br. 7–8. Because Appellant does not present any arguments contesting the rejection of claims 21 and 22 under 35 U.S.C. §§ 112, second paragraph, we summarily affirm Rejection 2. Moreover, because Appellant does not present any arguments contesting the rejection of claims 21 and 22 under 35 U.S.C. §§ 112, first paragraph, we summarily affirm Rejection 1 as to claims 21 and 22.

For procedural reasons, we will not address the discussion in the Reply Brief in which Appellant presents new arguments as to the rejection of claims 14 and 20 under 35 U.S.C. §§ 112, first paragraph (part of Rejection 1). *See* Reply Br. 7–8; *see also* 37 C.F.R. § 41.41(b)(2) (“Any argument raised in the reply brief which was not raised in the appeal brief, or is not responsive to an argument raised in the examiner’s answer . . . will not be considered by the Board . . . unless good cause is shown.”). These arguments address the rejection as originally set forth in the Final Office Action, rather than positions raised in the Answer. *Compare* Final Act. 3–4, *with* Ans. 2–11. In addition, Appellant has not shown good cause for failing to provide these arguments in the Appeal Brief. Thus, we sustain the rejection of claims 14 and 20 under Rejection 1.

*Rejection 3 – The rejection of claims 1, 9,  
10, 21, and 22 under 35 U.S.C. § 103(a)*

A. Independent Claim 1 and Dependent Claims 9 and 10

Appellant argues the patentability of independent claim 1 and dependent claim 10 and does not provide separate arguments for dependent claim 9. *See* Appeal Br. 6–12 (addressing claims 1 and 10); Reply Br. 2–3 (addressing claim 1), 4–7 (addressing claim 10).

As to claim 1, the Examiner found that Lee disclosed various limitations but stated that “Lee is silent as to the adhesive coating being a water soluble adhesive coating wherein the protective strip is capable of adhering to an installed dental appliance by the water soluble adhesive being exposed to moisture.” Final Act. 5. The Examiner found, however, that

Lapidus discloses a similar device (laminated adhesive device 10, Col. 3, lns. 42–49) comprising a base material (fiber faced webs 12 and 14, Col. 3, lns. 52–59) coated with a water soluble

adhesive coating (bonding agent 16 includes ethylene oxide polymer which is readily soluble in water as is obvious to one of skill in the art[] . . . .

*Id.* at 5–6. The Examiner determined that it would have been obvious to have modified the dental protective device of Lee to include a water soluble adhesive coating wherein the protective strip is capable of adhering to an installed dental appliance by the water soluble adhesive being exposed to moisture in order to maintain an advantageous position of the dental appliance in the mouth of a user, as taught by Lapidus.

*Id.* at 6. As to claim 10, the Examiner found that “the flexible tooth cover 3 [of Lee] is capable of remaining adhered to a dental appliance while eating, drinking and sleeping and preventing most foods from being lodged under the appliance.” *Id.* (citing Lee ¶ 16).

First, Appellant argues that the “claim limitation of a water soluble adhesive is not met by the Lapidus reference.” Appeal Br. 12.<sup>2</sup> Appellant contends that “[t]he Examiner incorrectly assumes that because one of the ingredients in the bonding agent of Lapidus is an ethylene oxide polymer, that the resultant bonding agent is water soluble.” *See id.* at 11. According to Appellant, “[a]lthough ethylene oxide is water soluble, the adhesive that is the subject of the Lapidus patent is not, since the dental adhesive is produced by applying thermoplastic ethylene oxide polymer between moving webs of **cellulose acetate fibers**” and “[c]ellulose acetate is not water soluble as is apparent to one of ordinary skill in the art.” *Id.* Appellant also contends that “Lapidus explicitly teaches a fixative agent that is water soluble is not

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<sup>2</sup> Because claim 1 recites a “water soluble adhesive coating” and because claim 10 depends from claim 1, we consider this first argument to address both claims 1 and 10.

advantageous and therefore teaches away from the use of a water soluble adhesive.” *Id.* (citing Lapidus, col. 1, ll. 21–30).

We are not apprised of error here. As to the presence of cellulose acetate fibers in the laminated adhesive device (element 10) of Lapidus, as noted by the Examiner (Ans. 5), “only the ethylene oxide polymer powder of Lapidus is utilized as teaching the water soluble adhesive” such that the “cellulose acetate fibers of Lapidus are not utilized to modify the adhesive of Lee and are not part of the water soluble adhesive utilized in the rejection” of claim 1. Ans. 5 (referencing a discussion citing Lapidus, col. 3, ll. 54–60, col. 4, ll. 48–68, col. 5, ll. 1–23). Thus, with this argument, Appellant does not address the rejection as articulated.

Further, we disagree with Appellant that the identified passage in Lapidus teaches away from the use of water soluble adhesives. As noted by the Examiner (Ans. 5), “[a] known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). As acknowledged by Appellant, the identified passage teaches that polymers of ethylene oxide have excellent fixative properties. Appeal Br. 11 (citing Lapidus, col. 1, ll. 21–23). That the same materials may also have certain “inherent disadvantages,” based on solubility in water, does not teach away from the use of such polymers. *See* Lapidus, col. 1, ll. 24–30. Indeed, in passages relied on by the Examiner, Lapidus teaches the use of ethylene oxide polymer *despite* the “inherent disadvantages” identified. *See* Final Act. 5–6 (relying on Lapidus, col. 3, ll. 54–60); *see also Gurley*, 27 F.3d at 553 (holding that, to demonstrate teaching away, one must show that “a person of ordinary skill, upon reading the reference, would be

discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant”).

Moreover, even assuming that Lapidus does, as asserted by Appellant, “specifically teach[] that ethylene oxide is being used for its thermoplastic and water activated adhesive characteristics” (Appeal Br. 11 (citing Lapidus, col. 4, ll. 53–58)), the prior art need not explicitly disclose or rely on the same reasoning as the rejection as the reason for providing a claimed aspect. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–19 (2007) (holding that when the teaching-suggestion-motivation test is applied as a rigid and mandatory formula, it is incompatible with Supreme Court precedent); *id.* at 420 (“Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”); *see also* Reply Br. 2 (“The Examiner impermissibly focuses on a characteristic of ethylene oxide, that is neither disclosed nor relied upon by Lapidus (i.e. water solubility).”).

As to Appellant’s argument that “converting Lapidus to a water soluble adhesive . . . would render each reference unsatisfactory for its intended purpose” (Appeal Br. 12), for the reasons discussed above, Appellant has not shown that such a conversion is necessary. Further, Appellant’s argument that “Lapidus does not teach a water soluble adhesive applied to a protective strip as claimed” (Appeal Br. 12) does not apprise us of error because, as stated by the Examiner, “Lapidus is not utilized to teach a protective strip, and is only utilized to modify the protective strip taught by Lee to include the adhesive coating of Lee being water soluble” (Ans. 5 (citing Final Act. 5–6)).

Second, Appellant argues that “[t]he tooth cover of Lee inhibits the normal function of eating and prevents the teeth from coming into occlusion, since the bottom and top sets of teeth are separated by at least 4 mm of fabric.” Appeal Br. 7.<sup>3</sup> According to Appellant,

to modify the structure of the Lee device to meet [the] claimed invention, one would have to, (a) change the configuration of Lee, so that it no longer enveloped a user’s teeth, (b) reduce the thickness to allow the teeth to function normally while eating, and (c) remove the nodules from the Lee device.

*Id.* at 8. According to Appellant, “[t]he Examiner has construed the claim term ‘eating’ in an exceedingly narrow fashion.” *Id.* at 9 (discussing Final Act. 27 ¶ 21). Appellant contends that “[a] common sense interpretation of the ordinary meaning of the term ‘eating’ involves cutting and chewing solid food” and that “[t]he Examiner impermissibly gives [the] claim term ‘eating’ an exceedingly narrow interpretation by excluding the ingestion and consumption of solid food in the usual manner.” *Id.* at 10.

We are not apprised of error based on Appellant’s second argument. As an initial matter, we note that the term “eating” is recited in claim 10 but not recited in claim 1. *See supra* note 3. We turn now to the construction of “eating.” Here, Appellant’s argument relies on a limitation not recited in claim 10—cutting and chewing solid food. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (rejecting arguments “not based on limitations appearing in the claims”). As stated by the Examiner, “eating requires that food be

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<sup>3</sup> Claim 10 recites: “The dental protective device of claim 1, wherein the protective strip is capable of remaining adhered to the installed dental appliance *while eating*, drinking and sleeping and preventing most foods from being lodged under the installed dental appliance.” Appeal Br. 19 (Claims App.) (emphasis added).

taken into the body for absorption or digestion [but] does not require that a user cut and chew solid food, i.e. the food can be soft.” Ans. 3. Although Appellant is correct that “eating,” in the context of claim 10, *includes* cutting and chewing solid foods, Appellant has not shown error in the Examiner’s position that the broadest reasonable construction of “eating” *also includes* ingesting soft foods. *See* Ans. 4 (stating that “the broadest reasonable interpretation of the term eating includes the consumption of foods that are not solid including soft foods, that do not require cutting or chewing such as yogurt, ice cream, baby food, soft fruit etc.”). Appellant has also not shown error in the Examiner’s finding that the device of Lee is capable of being worn while a user is “eating” such soft foods. *See id.*

Because the device of Lee satisfies the limitation at issue from claim 10, we are not apprised of error by Appellant’s argument (set forth above) that further modifications to the device of Lee would have been necessary. *See* Appeal Br. 8. And, because Appellant has not shown that any of the proposed further modifications would have been necessary, we are also not apprised of error by the additional arguments that one or more of such modifications would (1) render the device in Lee incapable of “performing its intended use,” (2) “fundamentally change the principle operation of Lee,” or (3) undermine the “reasonable expectation of success in the use thereof.” *Id.* For these reasons, we sustain the rejection of claims 1, 9, and 10.

#### B. Independent Claim 21 and Dependent Claim 22

Appellant does not present arguments contesting the rejection of claims 21 and 22 under 35 U.S.C. §§ 103(a). Thus, we summarily affirm Rejection 3 as to claims 21 and 22. *See* 37 C.F.R. § 41.31(c).

*Rejection 4 through 8 – The rejection of claims  
2–8 under 35 U.S.C. § 103(a)*

Appellant do not separately argue claims 2–8, which depend from claim 1. *See* Appeal Br. 12. Thus, for the reasons discussed above (*see supra* Rejection 3 § A), we sustain the rejection of claims 2–8.

*Rejection 9 – The rejection of claims 11–13  
under 35 U.S.C. § 103(a)*

For claims 11 and 13, Appellant relies on the arguments provided for claim 1. *See* Appeal Br. 12–13. For the reasons discussed above (*see supra* Rejection 3 § A), we sustain the rejection of claims 11 and 13. Appellant does not separately argue claim 12, which depends from claim 11. *See id.* at 17. Thus, we sustain the rejection of claim 12.

*Rejection 10 – The rejection of claims 14–18  
and 20 under 35 U.S.C. § 103(a)*

A. Independent Claim 14 and Dependent Claims 15 and 16

Claims 15–18 and 20 depend from independent claim 14. Appeal Br. 20–22 (Claims App.). Claim 14 recites, *inter alia*, the step of “d) installing the protective strip in the desired area to an installed position, such that the a [sic] user can cut and chew food, thereby allowing the user to eat.” *Id.* at 20.<sup>4</sup> The Examiner found that Lee teaches

installing the protective strip in the desired area to an installed position (tooth cover 3 is applied to the desired area, Paragraphs 19–21), such that the user can cut and chew food, thereby allowing the user to eat (as best understood, the user can cut and

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<sup>4</sup> We note that the Examiner identified a portion of this limitation—specifically “such that the a [sic] user **can cut and chew food, thereby allowing the user to eat**”—as the basis for Rejection 1 as to claim 14. Final Act. 3.

chew food with the tooth cover 3 installed therefore allowing the user to eat, Paragraph 16).

Final Act. 19.

Appellant argues that certain “extensive modifications . . . would be required to Lee, to meet [the] claim limitations, to allow a user to eat while wearing the device.” Appeal Br. 14–15; *see also id.* at 14 (setting forth certain further modifications, including “changing the thickness of the tooth cover [of Lee] to enable eating”). Appellant contends that “claim 14 overcomes the cited references for at least the reasons discussed above with regard to claims 1 and 11.” *Id.* at 15.

As noted above, we agree with the Examiner’s proposed broadest reasonable construction of “eating,” as recited in claim 10, as “includ[ing] the consumption of foods that are not solid including soft foods, *that do not require cutting or chewing* such as yogurt, ice cream, baby food, soft fruit etc.” Ans. 4 (emphasis added). In the limitation at issue set forth above, however, claim 14 requires that, after installing the protective strip to the installed position, a user “can cut and chew food.” Appeal Br. 20 (Claims App.). Here, the Examiner has not shown that Lee, as modified, teaches installing the protective strip in a manner to satisfy this requirement. For example, paragraph 16 in Lee, relied upon by the Examiner, does not disclose eating or the cutting and chewing of food while the device is worn and does not clarify the Examiner’s reasoning as to how this limitation is addressed. *See Lee* ¶ 16 (cited at Final Act. 19).

In the Answer, the Examiner makes clear that the modified device used to address the method of claim 14 covers the bottom, back, and front of the user’s teeth. *See* Ans. 7 (stating that “[A]ppellant’s claim [14] does not require that the bottom, back or front of the user’s teeth to not be covered”).

This, however, is the same configuration relied on to address claim 10, in which the Examiner indicated that, with such a configuration, a user could *not* cut and chew food. *See* Ans. 10 (stating that “eating requires that food be taken into the body for absorption or digestion [but] does not require that a user cut and chew solid food, i.e. the food can be soft”). Further, in response to the argument that, to satisfy claim 14, the device of Lee would have to be modified by, *inter alia*, “changing the thickness of the tooth cover to enable eating” (Appeal Br. 14 (emphasis omitted)), the Examiner states that claim 14 “does not recite . . . a specific thickness of the device.” Ans. 7. Although the Examiner is correct, the limitation at issue does include certain requirements as to the configuration of the installed device that the Examiner has not shown to be satisfied by the relied-upon teachings.

For these reasons, we do not sustain the rejection of independent claim 14, or dependent claims 15–18 and 20.

*Rejection 11 – The rejection of claim 19  
under 35 U.S.C. § 103(a)*

Claim 19 depends from claim 14. Appeal Br. 20–22 (Claims App.). The Examiner’s added reliance on Maier does not remedy the deficiencies discussed above (*see supra* Rejection 10). Thus, for the same reasons discussed above, we do not sustain the rejection of claim 19.

DECISION

We (1) AFFIRM the decision to reject claims 14 and 20–22 under 35 U.S.C. § 112, first paragraph, (2) AFFIRM the decision to reject claims 21 and 22 under 35 U.S.C. § 112, second paragraph, (3) AFFIRM the decision to reject claims 1–13, 21, and 22 under 35 U.S.C. § 103(a), and (4) REVERSE the decision to reject claims 14–20 under 35 U.S.C. § 103(a).<sup>5</sup>

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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<sup>5</sup> See 37 C.F.R. § 41.50(a)(1) (“The affirmance of the rejection of a claim on any of the grounds specified constitutes a general affirmance of the decision of the examiner on that claim, except as to any ground specifically reversed.”).