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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DEE JESSOP, JARED SHEETZ, and NEIL JESSOP

Appeal 2019-002098
Application 13/133,129
Technology Center 3700

Before STEFAN STAICOVICI, EDWARD A. BROWN, and
LEE L. STEPINA, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision in the Non-Final Office Action (dated Dec. 1, 2017) rejecting claims 75–129.² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

SUMMARY OF DECISION

We AFFIRM-IN-PART.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Ultradent Products, Inc. is identified as the real party in interest in Appellant's Appeal Brief (filed Aug. 24, 2018). Appeal Br. 2.

² Claims 1–74 are canceled. Appeal Br. 2.

INVENTION

Appellant's invention relates to a light curing device including light emitting diodes for curing a polymerizable composition. Spec. 1, ll. 11–13.

Claims 75, 115, 116, 124, and 127 are independent. Claim 75 is illustrative of the claimed invention and reads as follows:

75. A dental curing light device, comprising:
- an elongated unitary, one-piece body formed from a continuous seamless piece of thermally conductive material extending between a proximal end and a distal end along a longitudinal axis, the continuous seamless piece comprising:
 - a head portion extending to the distal end and having a recess in a first side of the continuous seamless piece;
 - a neck tapering outward from the head portion; and
 - a handle portion extending to the proximal end of the continuous seamless piece, the handle portion having a cavity formed along the longitudinal axis and opening through a second side of the continuous seamless piece opposite the first side;
 - an LED assembly disposed at least partially in the recess and thermally coupled to the head portion, the LED assembly including one or more LED dies and a thermally conductive LED assembly substrate;
 - a thermally conductive layer that thermally couples the LED assembly to the head portion;
 - an electronics assembly disposed at least partially within the cavity in the handle portion of the continuous seamless piece; and
 - a power cord extending from, or an electrical plug or connection disposed at, the proximal end of the continuous seamless piece.

REJECTIONS

- I. The Examiner rejects claim 125 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.
- II. The Examiner rejects claims 76–85, 92, 111, 112, and 125 under 35 U.S.C. § 112, second paragraph, as being indefinite.
- III. The Examiner rejects claims 75–77, 89, 113, 114, 117, and 118 under 35 U.S.C. § 102(b) as being anticipated by Lieb.³
- IV. The Examiner rejects claims 78, 112, and 116 under 35 U.S.C. § 103(a) as being unpatentable over Lieb.
- V. The Examiner rejects claims 79–81 under 35 U.S.C. § 103(a) as being unpatentable over Lieb, Marson,⁴ and Gemunder.⁵
- VI. The Examiner rejects claims 82 and 83 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Scott ‘797.⁶
- VII. The Examiner rejects claims 90, 108, and 109 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Maglica.⁷
- VIII. The Examiner rejects claims 91, 103, and 105 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Scott ‘514.⁸
- IX. The Examiner rejects claim 92 under 35 U.S.C. § 103(a) as being unpatentable over Lieb, Lee,⁹ and Cooper.¹⁰

³ Lieb et al., US 2003/0036031, published Feb. 20, 2003.

⁴ Marson et al., US 2007/0154823 A1, published July 5, 2007.

⁵ Gemunder et al., US 6,485,301 B1, issued Nov. 26, 2002.

⁶ Scott et al., US 2006/0088797 A1, published Apr. 27, 2006.

⁷ Maglica, US 2005/0207148 A1, published Sept. 22, 2005.

⁸ Scott, US 2005/0142514 A1, published June 30, 2005.

⁹ Lee, US 2008/0070188 A1, published Mar. 20, 2008.

¹⁰ Cooper, US 2004/0218039 A1, published Nov. 4, 2004.

- X. The Examiner rejects claim 93 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Scott ‘113.¹¹
- XI. The Examiner rejects claims 94, 96, and 97 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Cao.¹²
- XII. The Examiner rejects claim 95 under 35 U.S.C. § 103(a) as being unpatentable over Lieb, Cao, and Katsuda.¹³
- XIII. The Examiner rejects claims 98 and 99 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Liu.¹⁴
- XIV. The Examiner rejects claim 104 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Nortrup.¹⁵
- XV. The Examiner rejects claims 106 and 107 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Uttinger.¹⁶
- XVI. The Examiner rejects claims 110 and 111 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Gemunder.
- XVII. The Examiner rejects claims 75 and 82–89 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Scott ‘797.
- XVIII. The Examiner rejects claims 75 and 100–102 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Gill.¹⁷
- XIX. The Examiner rejects claims 115 and 120–123 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Liu.

¹¹ Scott et al., US 2007/0037113 A1, published Feb. 15, 2007.

¹² Cao, US 7,108,504 B2, issued Sept. 19, 2006.

¹³ Katsuda et al., US 2004/0248059 A1, published Dec. 9, 2004.

¹⁴ Liu, US 2007/0275344 A1, published Nov. 29, 2007.

¹⁵ Nortrup et al., US 2005/0276053 A1, published Dec. 15, 2005.

¹⁶ Uttinger et al., US 2002/0074153 A1, published June 20, 2002.

¹⁷ Gill et al., US 2004/0029069 A1, published Feb. 12, 2004.

- XX. The Examiner rejects claims 115 and 120–123 under 35 U.S.C. § 103(a) as being unpatentable over Lieb, Liu, and Kim.¹⁸
- XXI. The Examiner rejects claims 75–77, 113, 114, 117–119, 127, and 128 under 35 U.S.C. § 103(a) as being unpatentable over Lieb and Kim.
- XXII. The Examiner rejects claim 129 under 35 U.S.C. § 103(a) as being unpatentable over Lieb, Kim, and Sherman.¹⁹
- XXIII. The Examiner rejects claims 75, 113, 114, 117–119, and 124–126 under 35 U.S.C. § 103(a) as being unpatentable over Kennedy,²⁰ Lieb, and Cao.

ANALYSIS

Rejections I and II

Appellant does not substantively address Rejections I and II. *See* Appeal Br. 11. As such, Appellant has waived any argument of error, and we summarily sustain Rejections I and II. *See In re Berger*, 279 F.3d 975, 984, 985 (Fed. Cir. 2002) (holding that the Board did not err in sustaining a rejection under 35 U.S.C. § 112, second paragraph, when the applicant failed to contest the rejection on appeal).

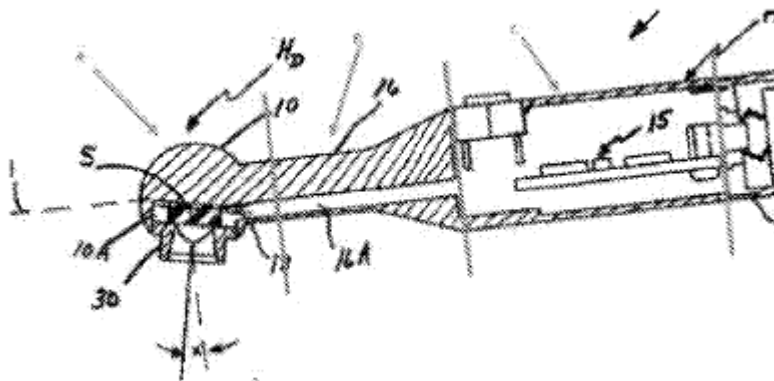
¹⁸ Kim, US 2008/0268401 A1, published Oct. 30, 2008.

¹⁹ Lilli Manolis Sherman, *Plastics That Conduct Heat*, PLASTICS TECHNOLOGY, June 2001 (<http://www.ptonline.com/articles/plastics-that-conduct-heat>).

²⁰ Kennedy, US 5,420,768, issued May 30, 1995.

Rejection III

The Examiner finds that Lieb discloses a continuous, seamless, unitary one-piece body 10, 16, and 12 distal of 12a including, *inter alia*, a head portion A, a neck portion B, and a handle portion C. Final Act. 5 (citing Lieb, Figs. 1–5). To better illustrate, the Examiner provides an annotated Figure 1 of Lieb, as shown below:



The Examiner’s annotated Figure 1 of Lieb shows a light-emitting handpiece for curing polymerizable compositions including a head portion A, a neck portion B, and a handle portion C.

Appellant argues that “Lieb does not describe the structure to the left of junction 12A as being a ‘handle portion 12 that is adapted to be held by a user.’” Appeal Br. 15 (citing Lieb para. 19). According to Appellant, Lieb’s handle portion 12 includes both right and left halves that are press fit together at junction 12A. *Id.* Thus, Appellant contends that the left side piece of Lieb’s handle portion 12 does not constitute “a handle portion,” as called for by claim 75, because “[i]t is not described in Lieb as a ‘handle portion,’ [and] is too short to be held by a user.” *Id.*

In response, the Examiner takes the position that “claim [75] does not limit the curing light device to ‘only’ the continuous seamless piece (e.g. comprising, not ‘consisting of’)[,]” and, thus, “the Examiner interprets the continuous seamless piece” as one piece body 10, 16, and 12 distal of 12a of Lieb, “and there is nothing in the claim that excludes additional components (e.g. the housing which holds batteries) from being connected thereto.” Ans. 3.²¹ For example, the Examiner notes that Appellant’s “own device shows the continuous seamless piece with a power cord or other electrical connector attached to the proximal end.” *Id.*

We appreciate that the use of the term “comprising” in the preamble of independent claim 75 allows for additional structural elements not recited in the claim. However, “claims under examination before the PTO are given their broadest reasonable interpretation *consistent with the specification.*” *In re Abbott Diabetes Care Inc.*, 696 F.3d 1142, 1148 (Fed. Cir. 2012) (emphasis added). The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the Specification is not whether the Specification proscribes or precludes some broad reading of the claim term adopted by the Examiner. Rather, it is an interpretation that corresponds with what and how the inventor describes his invention in the Specification, i.e., an interpretation that is “consistent with the [S]pecification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997) (citation and internal quotation marks omitted); *see also In re Suitco Surface*, 603 F.3d 1255, 1259–60 (Fed. Cir. 2010).

In this case, Appellant’s Specification describes device body 102 as including “a handle or gripping portion 106 that is sized and configured for a

²¹ Examiner’s Answer, dated Nov. 14, 2018.

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dental practitioner to hold and manipulate with the hand.” Spec. 11, ll. 22–23; *see also* Figs. 1, 4. In a similar manner, Lieb discloses “handle portion 12 that is adapted to be held by the user.” Lieb, para. 19 (emphasis omitted). As such, in light of Appellant’s Specification, the Examiner’s interpretation of the structure to the left of junction 12A as constituting a “handle portion,” as called for by claim 75, is unreasonable. We agree with Appellant that “the term ‘handle portion’ means the portion of the ‘body’ configured to function as a handle” and “[i]t does [not] mean a portion of a handle.” Appeal Br. 12; *see also* Ans. 4 (citing Lieb, para. 19).

Appellant is also correct that Lieb’s structure to the left of junction 12A in Figure 1 “is not described by Lieb as being or functioning as a ‘handle’ that is held in the hand of a user.” Appeal Br. 12. An ordinary and customary meaning of the term “handle” is “a part that is *designed especially* to be grasped by the hand.”²² Although we appreciate that Lieb’s structure to the left of junction 12A includes switch S and can be grasped by a user’s hand (*see* Ans. 4 (citing Lieb, para. 29)), nonetheless, the Examiner does not adequately explain how this portion of Lieb’s handle portion 12 is “designed especially” for grasping. In other words, the Examiner does not adequately explain how Lieb’s structure to the left of junction 12A is, by itself, “adapted to be held by the user,” as Lieb explicitly discloses that *both* right and left halves form handle portion 12 and *both* are needed for a user to hold light curing device 102. Lieb, para. 19.

Furthermore, “[p]rior art references may be ‘indicative of what all those skilled in the art generally believe a certain term means . . . [and] can

²² *See* <https://www.merriam-webster.com/dictionary/handle> (last visited December 27, 2019) (emphasis added).

often help to demonstrate how a disputed term is used by those skilled in the art.” *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996)). “Accordingly, the PTO’s interpretation of claim terms should not be so broad that it conflicts with the meaning given to *identical terms* in other patents from analogous art.” *Id.* (emphasis added). In this case, Lieb demonstrates how the term “handle portion” is used by a skilled artisan, namely, as a portion of housing H “that is adapted to be held by the user.” *See Lieb*, para. 19. As noted above, Lieb does not disclose the structure to the left of junction 12A, which the Examiner equates as the claimed “handle portion,” is “adapted to be held by the user.”

Lastly, the Examiner erred in relying on the transitional term “comprising,” to interpret Lieb’s head portion A, neck portion B, and handle portion C as the claimed “elongated unitary, one-piece body formed from a continuous seamless piece of thermally conductive material,” as being sufficiently broad to encompass an additional thermally conductive segment (Lieb’s structure to the right of junction 12A). *See Reply Br. 7.*²³ “The open-ended transition [term] ‘comprising’ does not free the claim from its own limitations.” *Kustom Signals, Inc. v. Applied Concepts, Inc.*, 264 F.3d 1326, 1332 (Fed. Cir. 2001). Moreover, to interpret Lieb’s head portion A, neck portion B, and handle portion C as the claimed “elongated unitary, one-piece body formed from a continuous seamless piece” is inconsistent with Appellant’s description of a “unibody construction” that “eliminates seams and joints through the body 102 itself” as Lieb discloses joint 12A (junction)

²³ Appellant’s Reply Brief, filed Jan. 14, 2019.

between right and left halves of handle portion 12. *See* Spec. 14, ll. 5, 25–26; Lieb, Fig. 1.

In conclusion, for the foregoing reasons, we do not sustain the rejection under 35 U.S.C. § 102(b) of claim 75, and its dependent claims 77, 89, 113, 114, 117, and 118, as anticipated by Lieb.

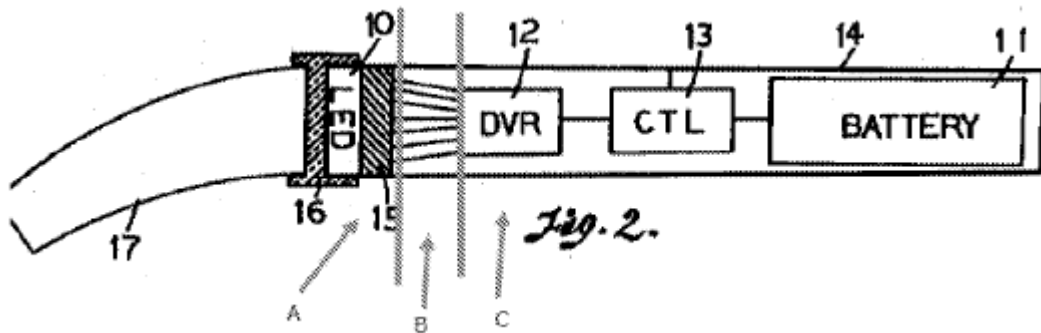
Rejections IV–XXII

The Examiner’s modification of Lieb and use of the multiple references noted above does not remedy the deficiency of the Examiner’s interpretation of Lieb discussed above. *See* Non-Final Act. 7–31.

Accordingly, for the same reasons discussed *supra*, we also do not sustain Rejections IV–XXII.

Rejection XXIII

The Examiner finds that Kennedy discloses a continuous, seamless, unitary one-piece body 14 including, *inter alia*, a light emitting head A, a neck B, and a handle C. Final Act. 31 (citing Kennedy, Fig. 2). To better illustrate, the Examiner provides an annotated Figure 2 of Kennedy, as shown below:



The Examiner’s annotated Figure 2 of Kennedy shows a portable LED photocuring device including a head portion A, a neck portion B, and a handle portion C.

Appellant argues that “[n]owhere does Kennedy . . . teach that ‘housing 14’ is a unitary, one-piece structure formed from a continuous seamless piece of material.” Appeal Br. 26. According to Appellant, “housing 14 [in Kennedy’s Figure 2] should not be understood as literally having a simple rectangular structure.” *Id.* at 27.

In response, “the Examiner finds th[ese] argument[s] unpersuasive since such interpretation . . . ignores what is disclosed by the prior art” and Figure 2 of Kennedy is not described as a “schematic,” but rather “as a ‘front elevation view’.” Ans. 5.

We do not agree with the Examiner’s position that because Kennedy’s Figure 2 depicts housing 14 as a rectangular block, this means that housing 14 constitutes a continuous, seamless, unitary one-piece body. *See* Final Act. 31. For example, although Kennedy’s Figure 2 depicts LED module 10 as a rectangular block, nonetheless, Kennedy discloses LED module 10 as “having a *plurality* of light emitting diodes.” Kennedy, col. 2, ll. 8–10 (emphasis added). Hence, we agree with Appellant “that Kennedy only *schematically* depicts housing 14 as a rectangular block in Figure 2 and provide[s] no description of the structure of housing 14.” Reply Br. 17 (emphasis added). Accordingly, the Examiner’s determination that Kennedy’s housing 14 constitutes a continuous, seamless, unitary one-piece body requires speculation on the Examiner’s part. Patentability determinations “should be based on evidence rather than on mere speculation or conjecture.” *Alza Corp. v. Mylan Laboratories, Inc.*, 464 F. 3d 1286, 1290 (Fed. Cir. 2006).

Hence, Appellant is correct that “[t]he failure of Kennedy to teach anything about the structure of housing 14 cannot reasonably be interpreted as somehow disclosing or suggesting ‘an elongated unitary, one-piece body.’” Reply Br. 17. Moreover, we note that as Kennedy’s Figure 2 is a “front elevation view,” the vertical line shown connecting CTL 13 (control circuit) and housing 14 would appear to suggest to a skilled artisan that housing 14 includes a junction (connection, joint) in that area, and, thus, housing 14 does not constitute a continuous, seamless, unitary one-piece body, as the Examiner determines.

The Examiner’s use of the disclosures of Lieb and Cao does not remedy the deficiency of Kennedy discussed *supra*. See Final Act. 32–33. Therefore, for the foregoing reasons, we do not sustain the rejection under 35 U.S.C. § 103(a) of claims 75, 113, 114, 117–119, and 124–126 as unpatentable over Kennedy, Lieb, and Cao.

CONCLUSION

Claim(s) rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
125	112, first paragraph	Written description	125	
76–85, 92, 111, 112, 125	112, second paragraph	Indefiniteness	76–85, 92, 111, 112, 125	
75–77, 89, 113, 114, 117, 118	102(b)	Lieb		75–77, 89, 113, 114, 117, 118
78, 112, 116	103(a)	Lieb		78, 112, 116

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79–81	103(a)	Lieb, Marson, Gemunder		79–81
82, 83	103(a)	Lieb, Scott ‘797		82, 83
90, 108, 109	103(a)	Lieb, Maglica		90, 108, 109
91, 103, 105	103(a)	Lied, Scott ‘514		91, 103, 105
92	103(a)	Lieb, Lee, Cooper		92
93	103(a)	Lieb, Scott ‘113		93
94, 96, 97	103(a)	Lieb, Cao		94, 96, 97
95	103(a)	Lieb, Cao, Katsuda		95
98, 99	103(a)	Lieb, Liu		98, 99
104	103(a)	Lieb, Nortrup		104
106, 107	103(a)	Lieb, Uttinger		106, 107
110, 111	103(a)	Lieb, Gemunder		110, 111
75, 82–89	103(a)	Lieb, Scott ‘797		75, 82–89
75, 100–102	103(a)	Lieb, Gill		75, 100– 102
115, 120– 123	103(a)	Lieb, Liu		115, 120– 123
115, 120– 123	103(a)	Lieb, Liu, Kim		115, 120– 123
75–77, 113, 114, 117–	103(a)	Lieb, Kim		75–77, 113, 114,

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119, 127, 128				117–119, 127, 128
129	103(a)	Lieb, Kim, Sherman		129
75, 113, 114, 117– 119, 124– 126	103(a)	Kennedy, Lieb, Cao		75, 113, 114, 117– 119, 124– 126
Overall outcome			76–85, 92, 111, 112, 125	75, 86– 91, 93– 110, 113– 124, 126– 129

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