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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SCOTT E. SILLS

Appeal 2015-005435
Application 12/855,492
Technology Center 2800

Before MICHAEL P. COLAIANNI, CHRISTOPHER L. OGDEN, and
JULIA HEANEY, *Administrative Patent Judges*.

HEANEY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ requests review pursuant to 35 U.S.C. § 134(a) of a decision of the Examiner to reject claims 1–23 of Application 12/855,492. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

BACKGROUND

The subject matter on appeal relates to cooling of a solid state lighting (SSL) device that includes one or more solid state emitters (SSEs) such as

¹ Appellant identifies the real party in interest as Micron Technology, Inc. App. Br. 1.

light emitting diodes. Specification (“Spec.”) 1. A housing for the device defines an air channel having an inlet and an outlet at the ends of the housing such that heat generated by SSEs causes air in the channel to rise and draw cool air into the channel, to passively cool the device. App. Br. 2.

Representative claims 1, 11, and 17 are reproduced from the Claims Appendix of the Appeal Brief as follows:

1. A solid state lighting device (SSL), comprising:

a housing having a front, a back, a chamber from which light projects toward the front along a primary light direction, a side portion outward of the chamber, and a channel along a portion of the sidewall and outward of the chamber, wherein at least a portion of the channel is inclined at an angle relative to horizontal and has an inlet, and an outlet above the inlet; and

a solid state emitter (SSE) carried by the housing at the sidewall, the SSE having an active portion and a back portion, the active portion facing inwardly toward the chamber at an acute angle relative to the primary light direction, and one of the active portion and the back portion being exposed to the channel.

11. A solid state lighting device (SSL), comprising:

a housing having a front, a back, a chamber, a side portion between the front and the back, and a channel outward of the central chamber and passing along the side portion from the front to the back, wherein light exits the chamber along a primary light direction of the SSL device; and

a solid state emitter (SSE) having a light-emitting active portion facing inwardly toward the chamber at an angle with respect to the primary light direction such that the SSE emits light toward the back of the housing and a back portion facing toward the sidewall portion, the SSE being carried by the housing at a sufficient angle relative to horizontal such that air in the channel is heated by the SSE, rises, and draws air into a lower portion of the channel at the front of the housing to produce a cooling flow of air across at least one of the active portion side or the back portion of the SSE.

17. A solid state lighting (SSL) device, comprising:
 - a housing having a front, a back and side section defining a chamber, wherein light exits the chamber along a primary light direction of the SSL device;
 - a plurality of solid state emitters (SSEs) at the side section and having an active portion facing inwardly toward the chamber and away from the front;
 - a channel in the housing passing along the side section from the front of the housing to the back of the housing, the channel being positioned outwardly of the chamber, wherein a portion of individual SSEs is exposed to the channel, and wherein the channel is oriented such that air in the channel heated by the SSEs flows through the channel.

THE REJECTIONS

1. Claims 1–16 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.
2. Claims 1, 2, 4, 6–14, 16, 17, and 22² stand rejected under 35 U.S.C. § 102(e) as anticipated by He.³
3. Claim 3 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of He and Bishop.⁴
4. Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of He and Helbing.⁵

² The Examiner withdrew this ground of rejection as applied to claims 15, 18, 19, and 21. Ans. 2.

³ US 2010/0020537 A1, published Jan. 28, 2010.

⁴ US 6,161,946, issued Dec. 19, 2000.

⁵ US 2010/0195306 A1, published Aug. 5, 2010.

5. Claim 23⁶ stands rejected under 35 U.S.C. § 103(a) as unpatentable over He.

DISCUSSION

Rejection 1

Appellant does not argue Rejection 1.⁷ Accordingly, we summarily affirm the rejection of claims 1–16 on the grounds of indefiniteness under 35 U.S.C. § 112, second paragraph. *See Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (“If an appellant fails to present arguments on a particular issue—or more broadly, on a particular rejection—the Board will not, as a general matter, unilaterally review those uncontested aspects of the rejection.”).

Rejection 2

He discloses an LED lamp including a cooling module inside the lamp housing and an airflow guidance passage for heat extraction which exhausts hot air from the light projection end of the lamp housing. He, Abstract. He further includes an LED lighting set **40** configured on the LED joint surface **332** of cooling base **33**. He ¶ 32. The Examiner finds that the LEDs have an active portion emitting light into the chamber of the lamp housing. Final Act. 4. We discuss below the specific claim language at issue in the rejection.

⁶ The Examiner withdrew this ground of rejection as applied to claim 20. Ans. 2.

⁷ Appellant’s omission of Rejection 1 from the listing of grounds to be reviewed on Appeal (App. Br. 5), does not negate the presumption that this appeal is taken from the rejection of all pending claims. *See* 37 C.F.R. 41.31(c).

“an inlet, and an outlet above the inlet” (claim 1)

Appellant argues that He does not anticipate claim 1 because it does not disclose an airflow channel having “an inlet, and an outlet above the inlet.” App. Br. 8–9. Appellant notes that He’s device as shown in Figure 6 has airflow W2 directed downwardly with outlet **220** positioned under inlet **24** (App. Br. 9, citing He Fig. 6), unlike Appellant’s Figure 3A, which shows “inlet **122** at the front **112** (i.e., bottom) and the outlet **124** at the back **114** (i.e., top) of the housing **110**” so that heat from the SSEs **140** causes air in the channel **120** to rise and draw cool air upward. App. Br. 8, citing Spec. ¶ 20.

The Examiner responds that claim 1 does not contain language “correlating front and back to above and below or further defining their features.” Ans. 3. The Examiner annotates He’s Figure 6, as reproduced below, to show how He’s device has “an inlet, and an outlet above the inlet” as recited in claim 1.

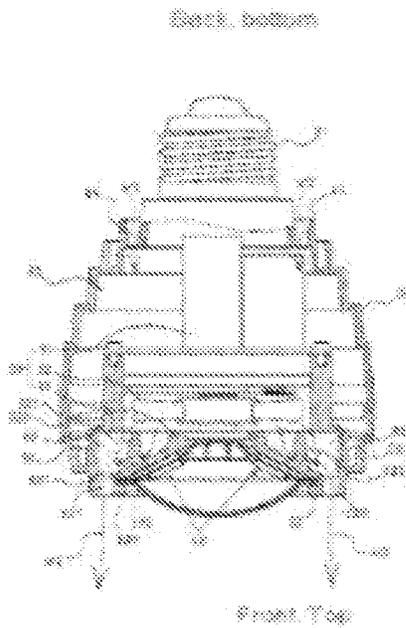


Fig. A³

Having considered Appellant's arguments and the Examiner's position concerning interpretation of the claim language "an inlet, and an outlet above the inlet," we find that a preponderance of the evidence supports the Examiner's finding that He discloses an airflow channel that meets this limitation of claim 1. Further, we note that Appellant does not respond to this aspect of the Examiner's claim interpretation in the Reply Brief. Reply Br. 1–4.

"[an] SSE having an active portion and a back portion ... and one of the active portion and the back portion being exposed to the channel" (claim 1)

The Examiner finds that He's cooling base **33** along with projections **333** form a back portion of He's LED lighting set, and therefore a portion of the LED lighting set is exposed to airflow in the passage **60**. Ans. 5–6.

Appellant argues that He does not anticipate claim 1 because He's LED lighting set **40** does not have a back portion exposed to airflow in guidance passage **60**. App. Br. 11–12, citing He Fig. 6. Specifically, Appellant argues that He's cooling base **33** does not form a back portion of the LED lighting set **40** but rather is part of the separate cooling module **30**. Reply Br. 2. Thus, Appellant disputes the Examiner's interpretation of the term "back portion" and its application to the He disclosure.

In determining an issue of claim construction, "the PTO must give claims their broadest reasonable construction consistent with the specification. . . . Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation." *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). Under that standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the

context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

With respect to the claim language at issue, we note that the Specification does not provide a special definition for the term “back portion.” Although Appellant argues that Figures 3A, 4A, 4B, 5, and 6 show back portions **144** of SSEs exposed in channel **120** (Reply Br. 2–3, citing Figures and Spec. ¶¶ 22 and 24), those parts of the Specification do not provide a special definition for “back portion.” Further, we note that other embodiments show different configurations of Appellant’s back portion **144** including projections **146** “that increase the thermally conductive surface area of the back portion **144**.” Spec. ¶ 24, *see also* ¶¶ 25–26, describing Figs. 3B–3D. The Specification further describes that the projections are positioned in the airflow channel **120** according to known heat transfer technologies. Spec. ¶ 24. Accordingly, we determine that the Examiner did not reversibly err in finding that the “back portion” limitation of claim 1, italicized above, encompasses the structure of He’s LED lighting set and cooling base.

Appellant does not separately argue the claims which depend from claim 1, except for claims 2, 4, and 9. App. Br. 12. Appellant’s argument for patentability of claims 2 and 4 rests on the same construction of “back portion” as discussed above, i.e., “He fins **333** cannot be part of an SSE as proposed by the Examiner because the He fins **333** are part of the cooling base **33** that defines the cited airflow guidance passage **60**.” *Id.* For the reasons discussed above, Appellant’s arguments as to claims 2 and 4 are not persuasive of reversible error.

With respect to claim 9, Appellant argues that He does not disclose an “inlet and an outlet that are configured to provide an airflow through the chamber that passes over the active portion of the SSE” because air does not flow across an active portion of He’s lighting set **40**. *Id.* The Examiner does not respond to Appellant’s argument for patentability of claim 9 (*see* Ans., generally). Indeed, He’s Figure 6 shows the dashed arrows W2 as flowing along the backside of the LED light set **40**, not over the LED light set **40** (i.e., the active portion). The Specification describes “active portion” as the portion **142** that emits light toward reflector **119** with a back portion **144** mounted to the side section **116**. Spec. ¶ 20. Therefore, claim 9 requires that the air be directed over the portion emitting LED light. The Examiner has not identified where He teaches such an arrangement. Accordingly, Appellant’s argument is persuasive of reversible error with respect to the rejection of claim 9.

“a portion of individual SSEs is exposed to the channel” (claim 17)

Appellant argues that this limitation of claim 17 is analogous to the “back portion” limitation of claim 1 discussed above, and that claim 17 is patentable over He for analogous reasons. App. Br. 17. As we determined above, the Examiner did not reversibly err in finding that claim limitation encompasses the structure of He’s LED lighting set and cooling base. We determine likewise for claim 17.

“a solid state emitter (SSE) having a light-emitting active portion facing inwardly toward the chamber at an angle with respect to the primary light direction such that the SSE emits light toward the back of the housing” (claim 11)

“a plurality of solid state emitters (SSEs) at the side section and having an active portion facing inwardly toward the chamber and away from the front” (claim 17)

Appellant argues that He does not anticipate claim 11 or 17 because He’s LEDs face toward the front of the device such that light from the LEDs is directed toward the front. App. Br. 13–15. The Examiner responds that claims 11 and 17 do not require a fixed orientation of “back” and “front” (Ans. 3) and annotates He’s Figure 6, as reproduced below, to show how He’s device reads on the italicized limitations of claims 11 and 17 (Ans. 4):

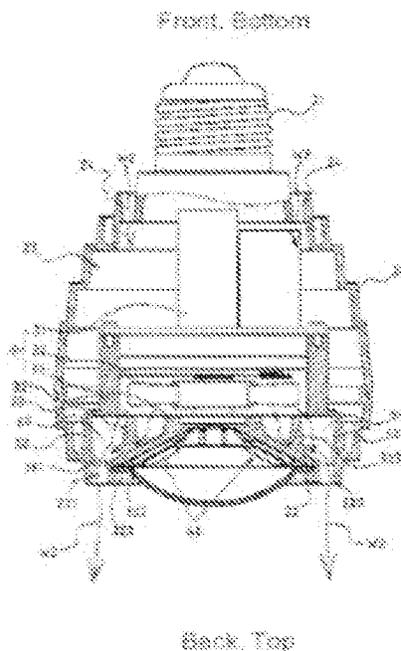


Fig. 6'

Appellant argues in response that the terms “front” and “back” must be interpreted consistently throughout the claim, and notes that claim 11 further recites that the SSE has “a back portion facing toward the sidewall portion.” Reply Br. 5. Appellant further argues that labeling of the socket

end of He's lamp as the "front" is contrary to how a person of ordinary skill in the art would understand that term relative to He's lamp. *Id.* at 7.

Appellant's arguments are persuasive of reversible error. The finding of anticipation of claims 11 and 17 rests on a claim interpretation that does not interpret the term "back" consistently throughout the claims themselves.

Further, absent a special definition for the claim terms "front" and "back," the terms are given their ordinary meaning as would be understood by a person of skill in the art. *In re Translogic Tech.*, 504 F.3d at 1257.

Accordingly, we reverse the anticipation rejection with respect to claims 11 and 17.

Because we find reversible error in the Examiner's finding of anticipation as to independent claims 11 and 17, we need not address the claims that depend respectively from claims 11 and 17 and are subject to the anticipation rejection.

Rejections 3–5

The obviousness rejections are directed only to dependent claims 3, 5, and 23. Claims 3 and 5 depend from claim 1; Appellant relies on the arguments it presents against anticipation of claim 1. App. Br. 16.

Accordingly, we affirm the rejection of claims 3 and 5 as unpatentable under 35 U.S.C. § 103(a).

Claim 23 depends from claim 17. Appellant relies on the arguments it presents against anticipation of claim 17, which we find persuasive for the reasons discussed above. The Examiner does not address claim 23 in the Answer. Accordingly, we reverse the rejection of claim 23 as unpatentable under 35 U.S.C. § 103(a).

SUMMARY

We affirm the rejection of claims 1–16 under 35 U.S.C. § 112, second paragraph, as indefinite.

We affirm the rejection of claims 1, 2, 4, 6–8, and 10 under 35 U.S.C. § 102(e) as anticipated.

We reverse the rejection of claims 9, 11–14, 16, 17, and 22 under 35 U.S.C. § 102(e) as anticipated.

We affirm the rejection of claims 3 and 5 under 35 U.S.C. § 103(a) as unpatentable.

We reverse the rejection of claim 23 under 35 U.S.C. § 103(a) as unpatentable.

AFFIRMED-IN-PART