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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DWIGHT P. WILLIAMS

Appeal 2016-007727
Application 12/451,687
Technology Center 3700

Before JOHN C. KERINS, KEVIN F. TURNER, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Dwight P. Williams (Appellant)¹ appeals under 35 U.S.C. § 134(a) from the Examiner's October 26, 2015, final decision ("Final Act.") rejecting claims 1–22. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

¹ The Appeal Brief identifies Tyco Fire & Security GMBH as the real party in interest. Appeal Br. 2.

SUMMARY OF THE DECISION

We REVERSE.

SUMMARY OF THE INVENTION

Appellant's disclosure is directed to fire fighting nozzles. Spec. 1:11. Claim 1, reproduced below from page 13 (Claims Appendix) of the Appeal Brief, is illustrative of the claimed subject matter:

1. An at least 95 gpm, at 100 psi, range and landing pattern optimized, fog nozzle for fire fighting, comprising:
 - the nozzle having elements defining
 - a nozzle inlet in fluid communication with a source of fire fighting liquid;
 - an annular conduit in fluid communication with the inlet, having an annular discharge port and outward swedge angle;
 - a sleeve surrounding the annular discharge port, adjustable to extend downstream from the elements defining the annular discharge port and outward swedge angle, the annular port and sleeve structured and adjustable in combination to discharge both a straight stream and a fog pattern from the annular port, including alternately;
 - a solid bore conduit in fluid communication with the nozzle inlet, having a solid bore discharge port forming a discharge port of the nozzle, located radially inward of the annular conduit and discharge port, the solid bore conduit and port sized and structured to discharge at least 50% of the nozzle discharge;
 - a stream straightener in the annular conduit, located approximately mid-nozzle;
 - a stream straightener for the bore conduit located proximate to or upstream of an inlet of the bore conduit; and
 - wherein the annular discharge port has an outward swedge angle of between 30 degrees to 50 degrees;
 - the solid bore conduit, annular conduit, adjustable sleeve, bore conduit stream straightener, annular conduit stream straightener and outward swedge angle structured in

combination to maximize nozzle discharge range and tightness of discharge landing pattern.

REJECTIONS

Claims 1 and 17 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 1–22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Crabtree (US 2004/0084192 A1, published May 6, 2004), Appellant’s admitted prior art, Williams (US 5,992,529, issued Nov. 30, 1999), and Steingass (US 6,102,308, issued Aug. 15, 2000).

ANALYSIS

Indefiniteness

The Examiner determines claim 1 to be indefinite because it is unclear if “an outward swedge angle” recited in line 19 of the claim refers to the same swedge angle recited in line 6 of the claim. Final Act. 2; *see also* Ans. 3. The Examiner makes a similar determination regarding independent claim 17. Final Act. 2; Ans. 3.

Appellant responds by stating “[c]laims 1 and 17 cover a single outward swedge angle but do not rule out two (or more) other outward swedge angles.” Reply Br. 2.

A claim is indefinite when it contains language that is “ambiguous, vague, incoherent, opaque, or otherwise unclear in describing and defining the claimed invention.” *In re Packard*, 751 F.3d 1307, 1311 (Fed. Cir. 2014); *see also Ex parte McAward*, No. 2015-006416, 2017 WL 3669566, at *2–6 (PTAB Aug. 25, 2017) (precedential). Here, the Specification sets forth that “swedge angle” refers to the “beveled angle [of the nozzle barrel]

that helps guide the stream discharging from the annular port in its outer circumference.” Spec. 2:10–11. Appellant’s drawing figures illustrate a single swedge angle. *See, e.g.*, Spec., Fig. 1A. One of ordinary skill in the art, upon reviewing Appellant’s Specification and considering Appellant’s statement quoted above, would understand that each of claims 1 and 17 requires the annular discharge port to have a single swedge angle of between 30 degrees and 50 degrees.

Accordingly, for the foregoing reasons, we do not sustain the rejection of claims 1 and 17 as being indefinite.

Obviousness

The Examiner finds that Crabtree discloses a nozzle substantially as recited in claim 1, including, *inter alia*, a nozzle inlet in fluid communication with a source of firefighting liquid, an annular conduit, and a solid bore conduit. Final Act. 3–4 (citing Crabtree, Figs. 1A–1C, 2B-1, 3A-1). The Examiner takes the position that the nozzles illustrated in Figures 1A–1C, 2B-1, and 3A-1 have the inlet shown in Figure 3A-R. Ans. 4–5. The Examiner finds that Crabtree’s solid bore conduit has a solid bore discharge port, and that such conduit and port are sized and structured to discharge at least 50% of the nozzle discharge. Final Act. 3–4. The Examiner finds that Appellant has admitted that solid bore stream straighteners are known in the art, and reasons that it would have been obvious to one of ordinary skill to add a stream straightener in Crabtree’s solid bore conduit proximate the inlet to straighten the stream of fluid in the solid bore conduit and increase the effective firefighting radius. *Id.* at 4 (citing Spec. 10:23–25; Williams 3:59–61).

Although the Examiner finds that Crabtree discloses an annular conduit stream straightener, the Examiner relies on Williams to teach an annular conduit stream straightener and reasons that it would have been obvious to one of ordinary skill to add a stream straightener to a mid-nozzle point in Crabtree's annular conduit to straighten the pressurized liquid flow and increase the effective firefighting radius. *Id.* at 4–5 (citing Williams 3:59–61, Fig. 3; Crabtree, Fig. 4A). The Examiner finds that Steingass teaches an outward swedge angle of 35°, and reasons that it would have been obvious to one of ordinary skill to form Crabtree's annular discharge port with such a swedge angle to produce the desired spray pattern and to direct the flow at a specified angle to create a specific landing pattern. *Id.* at 5. The Examiner further finds that “in its use, the device of Crabtree as modified above inherently performs the method steps of [claim 17].”

Appellant traverses, arguing, *inter alia*, that, in Crabtree, “[n]o percentage of discharge between an annular conduit and a self-educating bore conduit is taught.” Appeal Br. 11. Continuing, Appellant asserts:

The ordinary skilled artisan would know that when self-educating a foam concentrate into a fire fighting nozzle, a minimum amount of the motive water is used for the education and the discharge of the self-educted foam concentrate and water combined would not comprise at least 50% of the nozzle discharge.

Id.

The Examiner answers that the “the solid bore conduit and port sized and structured to discharge at least 50% of the nozzle discharge” language of claim 1 is a functional recitation. Ans. 6. Continuing, the Examiner states:

The examiner notes that if the [A]ppellant's device was not in use, then greater than 50% of the nozzle discharge would not

come from the solid bore conduit. Similarly, if the solid bore conduit was blocked, greater than 50% of the nozzle discharge would not come from the solid bore conduit. The [E]xaminer's position is that if the solid bore of Crabtree was connected to fluid flow and not [the] annular bore, then greater than 50% of the nozzle discharge would have to come from the solid bore conduit. Additionally, since the claim does not define the term nozzle discharge as the fluid discharged from both the solid bore and the annular bore, the [E]xaminer is interpreting the term "nozzle discharge" to be only the fluid leaving the solid bore discharge port.

Id. at 6–7. Similarly, regarding claim 17, the Examiner states:

[I]f the solid bore was connected to a source and the annular conduit connected to a different source (the claims do not require them to both be connected to the same source), the sources could easily be controlled so that 90% of the fluid went to the solid bore and 10% of the fluid went to the annular bore.

Id. at 7.

Appellant replies "[t]he issue is whether [Crabtree] discloses, teaches or suggests the . . . claimed limitation, including discharge ratios, not whether '[A]ppellant's device' could be 'not in use' or 'have its solid bore conduit blocked.'" Reply Br. 12. (emphases omitted). Appellant further argues that "[o]ther limitations in claims 1 and 17 contradict, or rule out, having only the [Crabtree] solid bore conduit, not the annular conduit, being 'connected to fluid flow.'" *Id.* (emphasis omitted).

We are persuaded by Appellant's arguments. Claim 1 recites, in relevant part, "the solid bore conduit and port *sized and structured to* discharge at least 50% of the nozzle discharge." Appeal Br. 13 (Claims App.) (emphasis added). This language describes physical attributes of the solid bore conduit and the solid bore discharge port, and, thus, is a structural recitation rather than merely indicating a function performed by the nozzle.

The Examiner has not set forth any supporting evidence or persuasive technical reasoning as to how or why one of ordinary skill would operate Crabtree's device such that input flow would be directed only through the solid bore conduit. Nor has the Examiner explained how or why one of ordinary skill would modify the annular conduit—which claim 1 requires to be in fluid communication with the same nozzle inlet with which the solid bore conduit is in fluid communication—such that no firefighting liquid would flow therethrough. The hypothetical modifications suggested by the Examiner fail to set forth any rational underpinning to support the legal conclusion of obviousness.

Similarly, the Examiner has not provided sufficient reasoning to support the determination that only the portion of the nozzle discharge passing through the solid bore conduit corresponds to the recited nozzle discharge. To the contrary, one of ordinary skill would understand the ordinary and customary meaning of the *nozzle* discharge to be the entire discharge of the nozzle, including discharge from both the annular and the solid bore conduits—which, as noted above, claim 1 requires to be in fluid communication with the same source of firefighting liquid.

Regarding claim 17, the claim requires “discharging at least 10% of the inlet fire fighting liquid through the annular discharge port.” Appeal Br. 15 (Claims App.). Thus, the Examiner's modifications to preclude flow through the annular conduit are incompatible with the requirements of claim 17. Furthermore, the Examiner's position that “the device of [Crabtree] can be used in such a way that the ratios and percentages of claim[] 17 can be met” (Ans. 7) is insufficient to establish unpatentability of the claim. *See, e.g., In re Chaganti*, 554 F. App'x 917, 922 (Fed. Cir. 2014)

(“It is not enough to say that . . . to do so would ‘have been obvious to one of ordinary skill.’ . . . Such circular reasoning is not sufficient—more is needed to sustain an obviousness rejection.”).

Finally, we note that claim 17 requires “discharging at least 50% of a nozzle inlet fire fighting liquid through the solid bore conduit and solid bore discharge port” and “discharging at least 10% of the inlet fire fighting liquid through the annular discharge port.” Appeal Br. 15–16 (Claims App.). Thus, contrary to the Examiner’s interpretation (*see* Ans. 7), the claim requires both ports to discharge the same liquid and, therefore, to be in fluid communication with the same source of such liquid. The Examiner’s suggestion to connect the conduits to separate sources, therefore, is incompatible with the requirements of the claim.

Accordingly, for the foregoing reasons, we do not sustain the rejection of claims 1 and 17, nor of their respective dependent claims 2–16 and 18–22, as being unpatentable over Crabtree, Appellant’s admitted prior art, Williams, and Steingass. *See In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) (“Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.”).

DECISION

The Examiner’s decision to reject claims 1–22 is reversed.

REVERSED