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EXAMINER

MENGESHA, WEBESHET

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LAURENT BROUQUEYRE

Appeal 2016-004483
Application 13/498,383¹
Technology Center 3700

Before STEFAN STAICOVICI, JAMES P. CALVE, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

LANEY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Laurent Brouqueyre (Appellant) appeals under 35 U.S.C. § 134(a) from the Examiner's decision (entered Feb. 13, 2015, hereinafter "Final Act.") rejecting claims 1, 4, 6, 9, 11, and 14 under 35 U.S.C. § 103(a) as unpatentable in view of Willen (US 2009/0019886 A1, pub. Jan. 22, 2009) and Dickerson (US 2008/0120982 A1, pub. May 29, 2008); and claims 2, 3, 7, 8, 12, and 13 further in view of Shapiro (US 2009/0145140 A1, pub. June 11, 2009).² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We REVERSE.

INVENTION

¹ According to Appellant, the real party in interest is Koninklijke Philips Electronics N.V. Appeal Br. 2 (entered June 9, 2015).

² Claims 5, 10, and 15 have been canceled. Appeal Br. 2.

The invention Appellant describes in the Specification “relates to the liquefaction of a fluid from a gaseous state to a liquid state, and storage of the fluid in the liquid state.” Spec. ¶ 2.

Claims 1, 6, and 11 are independent. Claim 1 is illustrative of the claimed invention and it is reproduced below with emphasis added to the limitation at the center of this dispute.

1. A system configured to liquefy a fluid from a gaseous state to a liquid state and to store the liquefied fluid, the system comprising:

a flow generator configured to supply a flow of oxygen enriched gas;

a liquefaction assembly configured to liquefy the flow of oxygen enriched gas generated by the flow generator from a gaseous state to a liquid state;

a storage assembly in fluid communication with the liquefaction assembly, the storage assembly being configured to store oxygen enriched gas that has been liquefied by the liquefaction assembly;

a conduit configured to have a fluid input and being configured to receive a gaseous flow of the fluid from the flow generator at the fluid input, and to convey the gaseous flow of the fluid to the liquefaction assembly for liquefaction;

a fluid dryer disposed between the fluid generator and the liquefaction assembly and in fluid communication with the flow of oxygen enriched gas within the conduit, the fluid dryer being configured to remove moisture from the flow of oxygen enriched gas prior to the flow of oxygen enriched gas reaching the liquefaction assembly, and

a fluid direction assembly configured to selectively exhaust gas boiled off from the liquefied oxygen stored within the storage assembly, wherein the fluid direction assembly is configured such that at least a portion of the selectively exhausted gas boiled off from the liquefied oxygen is directed through the fluid dryer and out to ambient atmosphere to remove moisture that has accumulated within the fluid dryer.

Appeal Br. 38 (Claims App.).

ANALYSIS

Rejecting independent claims 1, 6, and 11, the Examiner finds Willen discloses each limitation, except “passing the boil-off through the fluid dryer (18) prior to exiting it out to ambient atmosphere.” Final Act. 4–5.

Nevertheless, the Examiner finds, “Dickerson . . . teaches a production and storage of liquid oxygen in an oxygen patient’s residence wherein . . . a gas passes through a desiccant cartridge (550, 650), a filter 552, a relief valve 654 and a boil-off tube 660, . . . [and] exits the system to the atmosphere.” *Id.* at 5 (citing Dickerson ¶¶ 73, 89, Figs. 5, 6). In view of Dickerson, the Examiner determines a skilled artisan would have known to modify the system of Willen and pass the boil-off through the fluid dryer and exit it out to the atmosphere “in order to reduce a very high pressure build up and reduce moisture content (in case the moisture is not totally removed by the dryer) and to overall increase the efficiency of the liquefaction system.” *Id.*

Although the Appeal Brief argues claims 1, 6, and 11 under separate headings, we note the arguments are the same. *See* Appeal Br. 6–26. For each independent claim, Appellant argues the Examiner’s rejection is deficient because neither Willen nor Dickerson, alone or collectively, “teaches or suggests that gas boiled off from the liquefied oxygen is exhausted through a fluid dryer and out to ambient atmosphere such that moisture that has accumulated within the fluid dryer is removed.” *Id.* at 12, 19, and 26. Appellant is correct for the following reasons.

There is no dispute, and we agree, Willen does not disclose passing gas boiled off from the liquefied oxygen through a fluid dryer. Ans. 3. And, in the Examiner’s words, “Dickerson is only introduced for its teaching of sending a gaseous stream (in this case, gas coming from the concentrator

630) and passing it through a desiccant cartridge (550,650), a filter 552, a relief valve 654 and a boil-off tube 660, and out to the atmosphere.” *Id.* at 5. Even accepting Dickerson teaches a gaseous stream may be selectively passed through a desiccant cartridge, a boil-off tube, and out to the atmosphere, the Examiner notably fails to identify any support from Dickerson showing an *exhaust gas* that passes *through the fluid dryer and out to the atmosphere*, as recited for the systems of claims 1, 6, and 11. As Appellant notes correctly, Dickerson is configured to pass boil-off gas directly to the atmosphere without any suggestion of passing it back through a dryer. *See* Appeal Br. 11 (citing Dickerson ¶ 75 (“From the boiloff tube 560, the gas exits the system to the atmosphere.”)). As such, neither Willen nor Dickerson demonstrates a skilled artisan knew to pass the *exhausted* gas boiled off from the liquefied oxygen through a dryer before passing it out to the atmosphere.

The Examiner’s rejection, thus, has not established each and every limitation of claims 1, 6, and 11 was known. Accordingly, the Examiner’s legal conclusion of obviousness is not supported by sufficient factual evidence, and thus, cannot stand. *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). Therefore, we do not sustain the rejection under 35 U.S.C. § 103(a) of claims 1, 4, 6, 9, 11, and 14 as unpatentable over Willen and Dickerson.

As to Rejection II, the Examiner’s use of the Shapiro disclosure does not remedy the deficiency of the Examiner’s combination of Willen and Dickerson discussed *supra*. *See* Final Act. 6–7. Accordingly, for the same reasons discussed above, we also do not sustain the rejection of claims 2, 3, 7, 8, 12, and 13 over the combined teachings of Willen, Dickerson, and Shapiro.

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Application 13/498,383

DECISION

The Examiner's rejection of claims 1-4, 6-9, and 11-14 is reversed.

REVERSED