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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LESLIE A. LYONS

Appeal 2020-001097
Application 14/194,099
Technology Center 3700

Before DANIEL S. SONG, BRETT C. MARTIN, and
MICHELLE R. OSINSKI, *Administrative Patent Judges*.

SONG, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), the Appellant¹ appeals from the Examiner's decision to reject claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b). A telephonic oral hearing was held on September 15, 2020 with the Appellant's representative, a transcript of which will be entered into the record in due course.

We AFFIRM.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). The Appellant identifies the real party in interest as Regal Beloit America, Inc. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed to a blower housing having an integral exhaust blower discharge drain section. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A blower housing comprising a first blower housing piece and a second blower housing piece, the first and second blower housing pieces being adapted and configured to be connected to one another in a manner to collectively surround a blower fan, the first blower housing piece comprising a blower discharge section adapted to be coupled to an exhaust pipe, the blower discharge section comprising:

an inner tubular portion and an outer tubular portion, the inner tubular portion having an inner surface and an outer surface, the inner surface of the inner tubular portion defining a blower discharge passage, the outer tubular portion surrounding the inner tubular portion, the outer tubular portion having an inner surface and an outer surface, the inner surface of the outer tubular portion and the outer surface of the inner tubular portion being spaced sufficiently apart to define an exhaust pipe cavity, the exhaust pipe cavity being adapted to receive an end margin of the exhaust pipe to enable the end margin of the exhaust pipe to be positioned between the inner tubular portion and the outer tubular portion, the inner tubular portion and the outer tubular portion being adapted and configured to enable condensate water that forms on the inner surface of the exhaust pipe to flow into the exhaust pipe cavity;

at least one drain hole extending through the outer tubular portion and in fluid communication with the exhaust pipe cavity, the at least one drain hole being adapted and configured to enable condensate water flowing into the exhaust pipe cavity to drain from the blower housing via the at least one drain hole; and

the first blower housing piece being a molded one-piece member.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Gatley, Jr.	US 6,511,290 B1	Jan. 28, 2003
Lyons	US 6,536,378 B2	Mar. 25, 2003
Lyons	US 7,182,574 B2	Feb. 27, 2007

REJECTIONS

1. Claims 1, 2, and 16–19 are rejected under 35 U.S.C. § 103 as unpatentable over Lyons '574 in view of Lyons '378. Final Act. 3.
2. Claims 3–15 and 20 are rejected under 35 U.S.C. § 103 as unpatentable over Lyons '574 in view of Lyons '378 and Gatley. Final Act. 6.

OPINION

Rejection 1: Claims 1, 2, and 16–19

The Examiner rejects claims 1, 2, and 16–19 as unpatentable over Lyons '574 in view of Lyons '378. Final Act. 3. As to claim 1, the Examiner finds that Lyons '574 discloses a blower housing including an outer tubular portion, but fails to disclose an inner tubular portion, which is surrounded by the outer tubular portion to define an exhaust pipe cavity, and fails to disclose a drain hole connected thereto. Final Act. 3–4. The Examiner finds that Lyons '378 discloses inner and outer tubular portions that define an exhaust pipe cavity, as well as a drain hole connected thereto. Final Act. 4. Based on these findings, the Examiner concludes that:

it would have been obvious to one of ordinary skill in the art to make the blower discharge section of the first blower housing piece of Lyons ['574] with an inner tubular portion, an exhaust pipe cavity, and drain holes, as taught by Lyons '378, for the purpose of providing the discharge section a means of draining

water from the exhaust pipe walls away from the blower and thus preventing or significantly reducing the flow of water into the blower and providing a drainage outlet for water condensation that does not interfere with the blower operation.

Final Act. 5 (citing Lyons '378, col. 2, ll. 1–8). We agree with the Examiner's conclusion, and address the Appellant's arguments below.

The Appellant argues that the combination of these two Lyons patents fails to disclose or suggests a molded one piece first blower housing piece, the inner and outer tubular portions, and the drain hole as recited in claim 1, because Lyons '378 does not disclose inner and outer tubular portions “as part of a molded one-piece member including a first blower housing piece,” and instead, “discloses a sleeve 10 adapted to bridge a blower exhaust end to an exhaust pipe.” Appeal Br. 5–6. Thus, according to the Appellant, “[a]t most, combining these references would result in the sleeve of Lyons '378 being connected to the housing exhaust outlet 75 of Lyons '574 via a clamp.” Appeal Br. 5.

However, as the Examiner explains, the rejection “is that the blower housing of Lyons '574 is modified to have the geometry/structural features of the blower discharge section of Lyons '378, in particular the inner tubular portion, exhaust pipe cavity, and drain holes.” Ans. 4. Although connecting the sleeve of Lyons '378 to the housing exhaust outlet of Lyons '574 would have been obvious to one of ordinary skill because that is what Lyons '378 explicitly discloses, it would also have been obvious to one of ordinary skill in the art to have modified the geometry/structural features of the blower discharge section with its exhaust outlet 75 of Lyons '574 to be like that of Lyons '378 in order to provide the draining function and feature as the Examiner concludes. In that regard, we agree with the Examiner that in applying the teachings of Lyons '378, a person of ordinary skill in the art

would recognize that a choice exists as to “whether to do so in a manner that results in an integral (i.e. monolithic) or separable part(s),” and we further agree that “selection of either approach would be well within the level of ordinary skill in this art.” Ans. 5.

As the Examiner points out, “[a] person of ordinary skill in the art is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007); Ans. 5. “Common sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *KSR*, 550 U.S. at 420.

Lyons ’574 discloses “[a] draft inducer blower for high efficiency furnaces, including a blower housing,” which includes a circular exhaust outlet 75 having a cylindrical pipe shape that is connected to “an exhaust pipe or other duct structure.” Lyons ’574, Abstract, col. 4, ll. 53–56; Figs. 1–3. The apparatus of Lyons ’378 is designed to “form[] a junction sleeve between two pipes and has drainage channels which prevent condensate liquid from flowing from one pipe into the other pipe.” Lyons ’378, Abstract. Moreover, Lyons ’378 establishes that water condensing on the exhaust pipe walls of such furnaces is a known and existing problem, and discloses that its invention provides a solution to this problem. Lyons ’378, col. 1, ll. 20–36 (“Drainage of water condensation from furnace exhaust pipes in typical heating systems accumulates in undesirable areas and causes deterioration or damage to heating system components. . . . Water condensation typically drains along the exhaust pipe walls and accumulates in pools on any horizontal surface.”); Abstract (“An apparatus for evacuating liquid condensation from pipe systems which is particularly applicable to exhaust pipe systems in high efficiency furnaces . . . [with] drainage

channels which prevent condensate liquid from flowing from one pipe into the other pipe.”).

Accordingly, in addition to using such sleeve of Lyons ’378 on the draft inducer blower of Lyons ’574, a person of ordinary skill in the art, upon desiring to provide such drainage features to the blower of Lyons ’574, would have found it obvious to modify the structure of the exhaust outlet of Lyons ’574 “to have the geometry/structural features of the blower discharge section of Lyons ’378, in particular the inner tubular portion, exhaust pipe cavity, and drain holes” as the Examiner explains. Ans. 4.

The Appellant argues that the Examiner does not explain why a person would have been motivated to apply Lyons ’378 to Lyons ’574 “such that the blower housing member and cylinders constitute a one-piece molded member.” Appeal Br. 6. However, the Examiner set forth the motivation in the Final Action, which as reproduced above, states that the motivation stems from the desire to provide “a means of draining water from the exhaust pipe walls away from the blower and thus preventing or significantly reducing the flow of water into the blower and providing a drainage outlet for water condensation that does not interfere with the blower operation.” Final Act. 5 (citing Lyons ’378, col. 2, ll. 1–8); *see also* Ans. 4.

The Appellant responds that “[t]he stated motivation has nothing to do with the forming the first blower housing piece and the discharge section as a molded one-piece member.” Reply Br. 2. This argument is unpersuasive because as already discussed, the Examiner’s rejection is concluding that it would have been obvious to a person of ordinary skill to modify the geometry/structural features of the blower discharge section of Lyons ’574 to be like that of Lyons ’378 in order to provide the desired draining

function attained by Lyons '378. The blower discharge section of Lyons '574, that is, the circular exhaust outlet 75, is *already an integrally molded part* of the blower housing piece, and formed as a one-piece member. See Lyons '574, Figs. 1–3; col. 4, ll. 53–57 (“As shown in FIGS. 1–3, housing body 24 includes an *integral* exhaust transition 74 extending tangentially therefrom, which terminates in a circular exhaust outlet 75 to which an exhaust pipe or other duct structure”) (emphasis added).

In addition, the Appellant argues that although “the sleeve of Lyons '378 is made from a flexible thermoplastic rubber . . . while the blower housing members 24, 26 of Lyons '574 are made from a stamped metal or injection molded plastic,” the Examiner has not provided reasoning as to “how or why it would have been obvious to combine these diverse members as a one-piece molded member.” Appeal Br. 7. The Appellant also argues that the rejection does not consider the Lyons references “as a whole and their intended uses,” and “[i]n order to function as intended, the sleeve of Lyons '378 must be a separate, flexible member that is removably attachable and selectively positionable at the junction of two pipes” at different orientations, and dampen vibration, whereas the suggested combination, “would prevent the sleeve of Lyons '378 from working as intended.” Appeal Br. 7, 9; Reply Br. 2, 5. The Appellant further argues that the suggested combination renders superfluous structural features such as the blower receiving end of the sleeve of Lyons '378 and its associated structure. Appeal Br. 10.

However, these arguments are essentially based on an incorrect understanding of the rejection, and/or the Appellant’s view that the combination of the Lyons references is limited to attachment of the sleeve of Lyons '378 to the housing exhaust outlet 75 of Lyons '574. As discussed

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above and as the Examiner explains, “[t]he structure of the discharge section of Lyons ’574 is being modified, not added to, and . . . the rigid material [is] already used for the blower discharger section of Lyons ’574.” Ans. 4.

The Appellant further asserts that the rejection engages in impermissible hindsight and is based on the Appellant’s disclosure. Appeal Br. 8; Reply Br. 3. We disagree. As noted above, Lyons ’574 discloses a draft inducer blower for a furnace, and Lyons ’378 establishes that water condensing on the exhaust pipe walls of furnaces (such as that of Lyons ’574) is a known and existing problem, and Lyons ’378 provides a solution to this problem. Lyons ’378, col. 1, ll. 20–36. Accordingly, the Examiner applied the teachings of the art as would have been understood by one of ordinary *skill* in the art, with ordinary *creativity*, and we disagree that the rejection is based on impermissible hindsight. *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971) (“Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill [in the art] at the time the claimed invention was made and does not include knowledge gleaned only from applicant’s disclosure, such a reconstruction is proper.”); *In re Cree, Inc.*, 818 F.3d 694, 702 n.3 (Fed. Cir. 2016) (hindsight argument is of no moment where the Examiner provides a sufficient, non-hindsight reason to combine the references).

In summary, the Appellant’s perspective and belief that a person of ordinary skill would only simply attach the sleeve of Lyons ’378 to the housing exhaust outlet of Lyons ’574 is flawed. As discussed above, such a view relegates such a person to an automation with little knowledge, skill, or creativity, who cannot evaluate and apply the technology of the relevant art, but simply uses them by bodily incorporating the art together, i.e., attach the

sleeve of Lyons '378 to the outlet of Lyons '574. While such simple attachment would have been obvious to one of ordinary skill as it merely uses the sleeve of Lyons '378, we agree with the Examiner that it also would have been obvious to modify the geometry/structural features of the blower discharge section of Lyons '574 to be like that of Lyons '378 for the same reason of providing a draining function to the device of Lyons '574 as articulated by the Examiner. *KSR*, 550 U.S. at 417 (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

Therefore, in view of the above, we affirm the Examiner’s rejection of claim 1. The Appellant does not submit specific arguments directed to dependent claims 2, and 16–19. Thus, these dependent claims fall with claim 1.

Rejection 2: Claims 3–15 and 20

The Examiner rejects claims 3–15 and 20 as unpatentable over Lyons '574 in view of Lyons '378 and Gatley. Final Act. 6.

Claim 3

The Examiner finds that the combination of the Lyons references fails to disclose a plurality of slits as required by claim 3, but finds that Gatley discloses a blower discharge section with a plurality of slits as required. Final Act. 6 (citing Gatley, col. 4, ll. 49–51); *see also* Gatley, Figs. 3–5. The Examiner concludes that it would have been obvious “to make the end margin of the outer tubular portion of Lyons ['574], as modified by Lyons '378, with a plurality of slits, as taught by Gatley, for the purpose of

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securing the exhaust pipe in the blower discharge section.” Final Act. 6 (citing Gatley, col. 6, ll. 3–6, 20–23).

The Appellant argues that the Examiner “provides no explanation why a person of ordinary skill in the art would have further modified the blower by adding slots as disclosed by Gatley, to the flexible compressible outer tubular portion,” and “does not explain why slots are needed or even desirable in the flexible, compressible tubular portion.” Appeal Br. 11. The Appellant further argues that “[t]he stated motivation - to help secure the exhaust pipe in the blower discharge section (Answer at p. 6) - has nothing to do with forming the blower housing and the discharge section as a molded one-piece member, and does not address whether one skilled in the art would have a reasonable chance of success in forming the combination.” Reply Br. 5. According to the Appellant, “the slots of Gatley would not be needed on such a compressible sleeve” as disclosed in Lyons ’378. Reply Br. 6.

These arguments are unpersuasive because they again appear to be based on a misunderstanding of the rejection, which is not based on modifying the blower of Lyons ’574 to have a flexible and compressible outer tubular portion, but instead, to have the structure disclosed in Lyons ’378. Ans. 6. Thus, as the Examiner explains, “motivation for why the slots and flexible exhaust fitting are needed and desirable [has been] provided,” which is “that they help secure the exhaust pipe in the blower discharge section.” Ans. 6 (citing Final Act. 6, Gatley, col. 6, ll. 3–6, 20–23).

Claim 20

The Examiner rejects dependent claim 20, further finding that Gatley discloses a cup “positioned to extend within the exhaust pipe cavity” and is “configured to form a seal between the inner surface of the outer tubular portion and the exhaust pipe” as required. Final Act. 7, citing Gatley, col. 5,

ll. 20–24; Fig. 3. The Appellant argues that the rejection “states no reason as to how or why the flexible exhaust fitting 128 of Gatley would be combined with the flexible, compressible sleeve of Lyons ’378,” and that the Examiner provided “no explanation why or how the flexible exhaust fitting 128 of Gatley would be needed when the sleeve of Lyons ’378 is already a compressible thermoplastic rubber interface.” Appeal Br. 12. However, this argument is again unpersuasive because it is based on a misunderstanding of the rejection. Ans. 6.

Therefore, in view of the above, the Examiner’s rejection of dependent claims 3 and 20 is affirmed. The Appellant does not submit specific arguments directed to dependent claims 4–15. Thus, we affirm the Examiner’s rejection of these claims as well.

CONCLUSION

The Examiner’s rejections are affirmed. More specifically,

1. The rejection of claims 1, 2, and 16–19 under 35 U.S.C. § 103 as unpatentable over Lyons ’574 in view of Lyons ’378 is affirmed.
2. The rejection of claims 3–15 and 20 under 35 U.S.C. § 103 as unpatentable over Lyons ’574 in view of Lyons ’378 and Gatley is affirmed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 16–19	103	Lyons ’574, Lyons ’378	1, 2, 16–19	
3–15, 20	103	Lyons ’574, Lyons ’378, Gatley	3–15, 20	
Overall Outcome			1–20	

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TIME PERIOD FOR RESPONSE

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

AFFIRMED