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REINHART BOERNER VAN DEUREN P.C. 2215 PERRYGREEN WAY ROCKFORD, IL 61107			HICKS, ANGELISA	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FRANK HERMANN and LUCAS MIKESCH

Appeal 2019-002858
Application 14/523,288
Technology Center 3700

Before STEFAN STAICOVICI, CHARLES N. GREENHUT, and
BRETT C. MARTIN, *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 May 1, 2018) rejecting claims 1–11.² We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

SUMMARY OF DECISION

We REVERSE.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Bitzer Kuehlmaschinenbau GmbH is identified as the real party in interest in Appellant’s Appeal Brief (filed Nov. 30, 2018). Appeal Br. 2.

² Claims 12–16 are canceled. Appeal Br. 13 (Claims App.).

INVENTION

Appellant's invention relates to a shut-off valve that "has the smallest possible flow resistance in the open position of the valve element." Spec. 1 para. 6.

Claim 1, the sole independent claim, is representative of the claimed invention and reads as follows:

1. A shut-off valve including a valve housing, a valve seat which is held on the valve housing, and a valve element which is movable in the valve housing relative to the valve seat and is movable by means of an adjusting unit, wherein the valve element has a valve disc which is provided, on its side facing the valve seat, with a sealing element that abuts against the valve disc, the valve disc having, on a side facing the sealing element, an elevated region that is arranged to circulate in a closed manner and against which the sealing element abuts, the elevated region being formed such that, when the sealing element is urged in the direction of the valve disc, it digs into the sealing element, the valve seat having an intake wall and an outtake wall and a transitional surface rounded in cross-section creating a transition from the intake wall to the outtake wall, the sealing element having a conical outer surface by means of which the sealing element is abutable along a line of contact against the rounded transitional surface forming the valve seat;

and wherein a radius of the elevated region, that runs peripherally and in a closed manner around a spindle axis, is larger than the radius of the transitional surface.

REJECTIONS

I. The Examiner rejects claims 1–9 under 35 U.S.C. § 103(a) as being unpatentable over Thompson³ and Urquhart.⁴

³ Thompson, US 4,249,717, issued Feb. 10, 1981.

⁴ Urquhart, US 2,311,009, issued Feb. 16, 1943.

- II. The Examiner rejects claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Thompson, Urquhart, and Davis.⁵
- III. The Examiner rejects claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Thompson, Urquhart, Davis, and Kollegen.^{6,7}

ANALYSIS

Rejection I

The Examiner finds that the combined teachings of Thompson and Urquhart disclose “a radius of the elevated region (Urquhart, 10) that runs peripherally and in a closed manner around a spindle axis, is larger than the radius of the transitional surface (See Urquhart Annotated Fig. 5).” Non-Final Act. 5.

Appellant argues that “neither Thompson nor Urquhart, taken alone or in combination, shows an elevated region having a radius such that the elevated region runs peripherally and in a closed manner around the spindle

⁵ Davis, US 2,643,849, issued June 30, 1953.

⁶ The Examiner’s citation to “Kollegen (DE 2019332)” is not clear because Kollegen refers to DE 299 19 332 U1 (published Mar. 2, 2000), not DE 2 019 332 (published Nov. 4, 1971). Non-Final Act. 6. However, we note that the Examiner relies on “locking element (27)” (*see id.* at 7), which is taught by DE 2 019 332 as “klemmutter 27,” i.e., locknut 27. *See* DE 2 019 332, page 6. In contrast, DE 299 19 332 refers to element 27 as a recess (*see* English language Abstract in the image file wrapper of the instant application). As such, we consider that in the context of this rejection the Examiner relied on DE 2 019 332. For consistency purposes, like the Examiner, we refer to DE 2 019 332 as “Kollegen.”

⁷ As claims 10 and 11 depend indirectly from independent claim 1, the Examiner’s omission of Urquhart in the heading of Rejections II and III is considered a typographical error. *See* Non-Final Act. 3, 6.

axis, which radius is greater than the radius of the transitional surface.”

Appeal Br. 6. Appellant asserts that the Examiner is employing the separate and distinct embodiments of Urquhart’s Figures 5 and 7, but “[does not] clearly show[] how the two embodiments . . . are being combined with Thom[pson].” *Id.* at 6–7.

The Examiner responds that “only figures 7 and 8 of Urquhart are relied upon.” Ans. 8.⁸ The Examiner notes that “Thompson discloses the elevated region as being element 40 and the transitional surface is element 5 of Urquhart.” *Id.* The Examiner further notes that “elements 16 and 18 were utilized as a manner to point out the location of the transitional surface.” *Id.*

We appreciate the Examiner’s reliance on Thompson to disclose, *inter alia*, a valve disc 26 having an annular rib 48 that corresponds to the claimed “elevated region.” *See* Non-Final Act. 4; *see also* Thompson, Fig. 3. We further appreciate the Examiner’s finding that Urquhart’s valve seat 5 is provided with a curved surface, i.e., rounded surface, which corresponds to the claimed “transitional surface.” *See* Non-Final Act. 4; *see also* Urquhart, p. 2, ll. 10–13 (“[t]he valve seat 5 is provided with a rounded inner face 17.”), Fig. 7.

However, we agree with Appellant that the Examiner has not adequately shown “how the elevated region in Thompson satisfies the limitation requiring the radius of the elevated region to be larger than the radius of the transitional surface [in Urquhart].” Reply Br. 7.⁹ In other words, the Examiner’s determination that in the combined teachings of

⁸ Examiner’s Answer, dated Dec. 31, 2018.

⁹ Appellant’s Reply Brief, filed Feb. 27, 2019.

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Thompson and Urquhart, elevated region 48 of Thompson has a radius that is larger than the radius of Urquhart's transitional surface 17 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). Here, the Examiner does not articulate sufficient facts or technical reasoning such that a person of ordinary skill in the art can determine by a preponderance of the evidence that in the combined teachings of Thompson and Urquhart elevated region 48 of Thompson would have a radius that is larger than the radius of Urquhart's transitional surface 17, as called for by independent claim 1. Moreover, the Examiner does not articulate an adequate reasoning why a skilled artisan would provide a radius to elevated region 48 of Thompson that is larger than the radius of Urquhart's transitional surface 17. Hence, we find that 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) (holding that "[t]he legal conclusion of obviousness must be supported by facts. Where the legal conclusion is not supported by facts it cannot stand.").

Accordingly, for the foregoing reason, we do not sustain the rejection under 35 U.S.C. § 103(a) of independent claim 1, and its dependent claims 2–9, as unpatentable over Thompson and Urquhart.

Rejections II and III

The Examiner's use of the Davis and Kollegen disclosures does not remedy the deficiency of the Thompson and Urquhart combination discussed above. *See Non-Final Act. 6–7.*

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Accordingly, for the same reasons discussed *supra*, we also do not sustain the rejections under 35 U.S.C. § 103(a) of claim 10 as unpatentable over Thompson, Urquhart, and Davis and of claim 11 as unpatentable over Thompson, Urquhart, Davis, and Kollegen.

CONCLUSION

Claim(s) rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-9	103(a)	Thompson, Urquhart		1-9
10	103(a)	Thompson, Urquhart, Davis		10
11	103(a)	Thompson, Urquhart, Davis, Kollegen		11
Overall outcome				1-11

REVERSED