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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte EELCO HAN DE MAN and STEFAN KOSTER

Appeal 2017-000968
Application 12/912,241
Technology Center 3700

Before CYNTHIA L. MURPHY, BRUCE T. WIEDER, and
AMEE A. SHAH, *Administrative Patent Judges*.

MURPHY, *Administrative Patent Judge*.

DECISION ON APPEAL

The Appellants¹ appeal under 35 U.S.C. § 134 from the Examiner's rejections of claims 1–4, 15, and 17–25. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We AFFIRM.

¹ The Appellants identify the real party in interest as “MeadWestvaco Calmar Netherlands B.V.” (Appeal Br. 3.)

STATEMENT OF THE CASE

“Embodiments” of the Appellants’ invention “relate to pump devices and more particularly, to pump devices utilizing a bellow mechanism for operating a pump device.” (Spec. ¶ 2.)

Illustrative Claim

1. A valve for a pump, comprising:
a valve stem;
an outlet valve at a first end of the valve stem;
a flexible valve disc on the valve stem end opposite the outlet valve;
at least one valve rim positioned on the valve disc on a side opposite the outlet valve; and wherein the valve stem, outlet valve, valve disc, and at least one valve rim are a single, molded component.

References

Glegg	US 2,888,034	May 26, 1959
Struth	US 4,798,226	Jan. 17, 1989
Lee	US 5,524,795	June 11, 1996
Stern	US 5,730,327	Mar. 24, 1998
Weber	US 2002/0074359 A1	June 20, 2002
Hatton	US 2005/0087555 A1	Apr. 28, 2005
Han de Man	US 8,998,591 B2	Apr. 7, 2015

Rejections

- I. The Examiner rejects claims 1 and 2 under 35 U.S.C. § 103(a) as unpatentable over Lee and Struth. (Final Action 3.)
- II. The Examiner rejects claim 3 under 35 U.S.C. § 103(a) as unpatentable over Lee, Struth, and Hatton. (Final Action 4.)
- III. The Examiner rejects claim 4 under 35 U.S.C. § 103(a) as unpatentable over Lee, Struth, and Weber. (Final Action 4.)

IV. The Examiner rejects claims 15, 17, 18, and 20 under 35 U.S.C. § 103(a) as unpatentable over Lee, Glegg, and Weber. (Final Action 5.)

V. The Examiner rejects claim 19 under 35 U.S.C. § 103(a) as unpatentable over Lee, Glegg, Weber, and Struth. (Final Action 7.)

VI. The Examiner rejects claims 21 and 22 under 35 U.S.C. § 102(b) as anticipated by Lee. (Final Action 2.)

VII. The Examiner rejects claim 23 under 35 U.S.C. § 103(a) as unpatentable over Lee and Weber. (Final Action 6.)

VIII. The Examiner rejects claims 24 and 25 under 35 U.S.C. § 103(a) as unpatentable over Lee and Stern. (Final Action 6.)

IX. The Examiner rejects claim 1 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 1 of Han de Man. (Final Action 9.)

X. The Examiner rejects claim 2 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 3 of Han de Man. (Final Action 9.)

XI. The Examiner rejects claim 3 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 3 of Han de Man. (Final Action 9.)

XII. The Examiner rejects claim 15 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 10 of Han de Man. (Final Action 9.)

XIII. The Examiner rejects claim 18 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 8 of Han de Man. (Final Action 10.)

XIV. The Examiner rejects claim 19 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 3 of Han de Man. (Final Action 10.)

XV. The Examiner rejects claim 20 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 2 of Han de Man. (Final Action 10.)

XVI. The Examiner rejects claim 21 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 10 of Han de Man. (Final Action 10.)

XVII. The Examiner rejects claims 24 and 25 on the ground of nonstatutory obviousness-type double patenting as unpatentable over claim 6 of Han de Man. (Final Action 11.)

ANALYSIS

Claims 1, 15, and 21 are the independent claims on appeal, with the rest of the claims on appeal (i.e., claims 2–4, 17–20, and 22–25) depending therefrom. (*See* Appeal Br., Claims App.) Independent claim 1 recites a “valve for a pump” comprising elements (i.e., a “valve stem,” an “outlet valve,” a “valve disc,” and a “valve rim”) that are “a single molded component.” (*Id.*) Independent claims 15 and 21 recite a “pump device” comprising a “molded valve,” a “base,” and a “bellow.” (*Id.*)

Independent Claim 1

The Examiner’s obviousness rejection of independent claim 1 (Rejection I) relies upon Lee to disclose a valve comprising a stem, an outlet valve, a disc, and a rim. (*See* Final Action 3.) Lee discloses a doubled headed valve 16 having a stem 22, a cone-shaped valve 18 on the stem’s upper end, and a ball valve 20 at the stem’s lower end. (*See* Lee, col. 3,

ll. 26–42, Figs. 2, 4, 6.) The Examiner considers the “planar surface” of Lee’s valve 18 to be the claimed “valve disc.” (Final Action 3.)

Independent claim 1 further requires the valve disc to be “a flexible valve disc.” (Appeal Br., Claims App.) Lee specifies that its “dual valving (18, 20, 22)” is made of “thermo-plastic” (Lee, col. 4, ll. 65–66), but does not say whether its valve disc is flexible or not. However, the Examiner determines that it would have been obvious, in view of the teachings of Struth, to “manufacture the valve from a flexible, resilient material in order to generate the tensile or compressive forces required to close off the inlet and outlet apertures.” (Final Action 3.)

The Appellants advance arguments premised upon the applied prior art failing to provide precise teachings that Lee’s valve elements could be manufactured from a flexible, resilient material. (*See* Appeal Br. 9.)² For example, the Appellants contend that “nowhere in Lee is there any indication that Lee’s valve may be made using a ‘flexible’ material” and “[n]othing” in Lee indicates that its valve 18 “could be made of a different material.” (*Id.* at 10.) Thus, according to the Appellants, no reason “exists” in the record “as to why” one of skill in the art would make the modification proposed by the Examiner. (*Id.*)

We are not persuaded by these arguments because the Examiner “need not seek out precise teachings directed to the specific subject matter of the challenged claim” as “the inferences and creative steps that a person of

² As for the Appellants’ argument implicating that the Examiner’s rejection entails the substitution of “a random component from Struth” into Lee’s doubled-headed valve (*see* Appeal Br. 9), the Examiner has clarified that the rejection involves no such bodily incorporation (*see* Advisory Action mailed December 3, 2015).

ordinary skill in the art would employ” can be taken into account. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Here, Struth teaches that valve elements can be “conveniently made entirely of resilient material” and, when so made, can “generate the tensile or compressive forces required to close off [] inlet and outlet apertures.” (Struth, col. 1, ll. 35–41.) In Lee’s device, valve 18 “seats on seat 40” to “prevent[] fluids from escaping from within [a] dispenser nipple [12].” (Lee, col. 3, ll. 39–41.) In other words, Lee’s valve 18 is used to close off an aperture and Struth teaches that this can be accomplished via valve elements made of resilient material. We agree with the Examiner that one of ordinary skill, armed with this knowledge, would infer that Lee’s valve elements could be manufactured from a resilient material.

The Appellants also advance arguments that appear to attack the Examiner’s “alleged motivation” for manufacturing Lee’s valve elements from a flexible material. (Appeal Br. 10.) For example, the Appellants contend that there is no evidence in the record that “the Lee device does not work” and there is no evidence in the record that Lee’s device “could be improved with a ‘flexible’ valve.” (*Id.* at 9.) The Appellants also assert that “[t]here is no discussion of the ‘tensile or compressive forces’ required for the Lee device so one of skill in the art would not know if the material of Struth would work with Lee.” (*Id.* at 10.)

We are not persuaded by these arguments because the Examiner finds that “Struth explains the benefits of using a flexible material in the construction of valves of similar shape and function as Lee in order to generate the tensile or compressive forces required to close off and enhance the sealing of inlet and outlet apertures.” (Answer 2.) The Appellants do

not file a Reply Brief disputing these findings of the Examiner, and they therefore stand unchallenged. As such, the record before us establishes that one of ordinary skill would have recognized that the modified version of Lee's valve would "work" and that improvements (e.g., enhanced sealing) could be realized by such a modification.³

Thus, we sustain the Examiner's rejection of independent claim 1 under 35 U.S.C. § 103(a).

The Examiner's double-patenting rejection of independent claim 1 (Rejection IX) relies upon claim 1 of Han de man "compris[ing] all of the limitations of the instant claim" including a "valve stem," an "outlet valve," a "valve disc," and a "rim." (Final Action 9.) However, as discussed above, independent claim 1 requires these valve elements to be "a single, molded component." (Appeal Br., Claims App.) As pointed out by the Appellants, claim 1 of Han de man does not recite this limitation (*see id.* at 13); and the Examiner articulates no reason why such a molded valve would have been obvious thereover.

Thus, we do not sustain the Examiner's rejection of independent claim 1 on the ground of non-statutory double-patenting.

Independent Claim 15

The Examiner's obviousness rejection of independent claim 15 (Rejection IV) relies upon Lee to disclose a pump comprising a valve, a

³ Although the Appellants assert in the Appeal Brief that "[t]he valves in the two references operate in a different manner with different component parts which are required for each device to operate effectively" (Appeal Br. 9), the Examiner's unchallenged finding of similar shapes and functions (*see* Answer 2) adequately refutes this assertion.

base, and a bellow. (*See* Final Action 5.) Lee’s dual-headed valve 16 is situated with a container 12 and, when the container’s walls are squeezed, fluid exits through an opening 23. (*See* Lee, col. 4, ll. 27–33, Fig. 6.) The Examiner considers Lee’s container 12 to form both the claimed “base,” and the claimed “bellow.” (Final Action 5.)

Independent claim 15 further requires the bellow to be “a domed bellow.” (Appeal Br., Claims App.) Lee’s container 12 has a cylindrical shape (*see* Lee Fig. 3) and, therefore, the container’s to-be-squeezed walls do not have a dome shape. The Examiner determines that it would have been obvious, in view of the teachings of Weber “to choose a domed shape for the bellows” that can be compressed “in the event that the hands of the user are not free.” (Final Action 5–6.)

The Appellants argue that “[n]othing exists in the record” that would lead one of ordinary skill “to modify Lee to include an additional part,” i.e., a “domed bellow,” or to alter the shape of Lee’s container 12. (Appeal Br. 11.) The Appellants also argue that “the ‘domed bellow’ of Weber may not be easily combined with Lee absent significant alteration and redesign of Lee.” (*Id.*) According to the Appellants, there is no teaching “to guide one of skill in the art to combine the references.” (*Id.*)

We are not persuaded by these arguments because Lee discloses a cylindrical container that is squeezed to change the volume of, and the pressure conditions in, the container’s interior chamber. (*See* Lee, col. 4, ll. 28–40.) Weber teaches that such a change in volume/pressure can likewise be accomplished with a domed bellow. (*See* Weber ¶ 8.) Weber also provides guidance as to how a domed bellow can be retained on a cylindrical container (e.g., tube 10) via a holding ring 12 and a sleeve 16.

(*See id.* ¶¶ 11, 26, Figs. 1–4.) These teachings in the prior art would sufficiently lead and guide one of ordinary skill in the art towards the Examiner’s proposed modification.

Thus, we sustain the Examiner’s rejection of independent claim 15 under 35 U.S.C. § 103(a).

The Examiner’s double-patenting rejection of independent claim 15 (Rejection XII) relies upon claim 10 of Han de man “compris[ing] all of the limitations of the instant claim” including a “valve,” a “base,” and a “bellow.” (Final Action 9.) However, as indicated above, independent claim 15 requires a “molded valve.” (Appeal Br., Claims App.) As pointed out by the Appellants, claim 10 of Han de man does not recite this limitation (*see id. at* 13); and the Examiner articulates no reason why such a molded valve would have been obvious thereover.

Thus, we do not sustain the Examiner’s rejection of independent claim 15 on the ground of non-statutory double-patenting.

Independent Claim 21

The Examiner’s anticipation rejection of independent claim 21 relies upon Lee to disclose a pump comprising a valve, a base, and a bellow. (*See* Final Action 2.) As discussed above, the Examiner considers Lee’s container 12 to form both the claimed “base,” and the claimed “bellow.” (Final Action 5.)

The Appellants advance arguments premised upon independent claim 21 requiring the bellow to be “separate” from the base. (Appeal Br. 7.) The Appellants point out that independent claim 21 “specifically recites ‘a unitary molded base, comprising:’ a list of elements and ‘a bellow’ in communication with the base.” (*Id.*) According to the Appellants, had

they “intended to claim that the ‘bellow’ was part of the ‘unitary molded base,’ then ‘a bellow’ would have been included in the list of elements following the ‘comprising’ language.” (*Id.*)

We are not persuaded by these arguments because we construe independent claim 21 as neither necessitating nor precluding the bellow from being integrally formed with the unitary molded base, or the listed elements thereof. While independent claim 21 requires the listed elements of the base to be part of the unitary molded structure, independent claim 21 does not prohibit this unitary molded structure from including other parts. Independent claim 21 only requires the bellow to be “in communication with at least a portion of the interior chamber of the base.” (Appeal Br., Claims App.) And the Appellants do not assert that such communication would not occur if the bellow was integrally formed with the base and/or the listed elements thereof.

Independent claim 21 additionally recites that the outlet valve “seats against [a] discharge passage” and an adapter “abuts” the valve rim. (Appeal Br., Claims App.) The Examiner finds that in Lee’s pump device, the valve elements seat/about in this manner. (*See* Final Action 2.) When Lee’s dispenser is in an upright position, its outlet valve (ball valve 20) seats against a discharge passage (passage leading to opening 23). (*See* Lee, col. 4, ll. 28–31, Fig. 2.) And when Lee’s dispenser is turned upside down, its valve rim (rim of valve 18) seats against an adapter (connector 26). (*See id.*, col. 4, ll. 38–41, Fig. 7.)

The Appellants advance arguments premised upon independent claim 21 specifying that the recited seating/abutting conditions occur “at one time.” (Appeal Br. 8.) The Appellants contend that “[t]he claim language

clearly indicates that these conditions exist simultaneously” and [t]here is no language in the claims that would lead one of skill in the art to believe that they do not occur simultaneously.” (*Id.*) And, according to the Appellants, “in Lee, such simultaneous contact does not exist and in fact, such contact is mutually exclusive.” (*Id.*)

We are not persuaded by these arguments because independent claim 21 does not specify that the “seating” and “abutting” conditions occur at any identified valve position, much less at the same one. Indeed, independent claim 21 does not even specify that the valve structure is movable relative to the recited seating/abutting structure. That being said, construing independent claim 21 to only read on a pump device when the recited seating/abutting actually occurs, would be inconsistent with the Specification, as it clearly conveys that valve movement changes seating/abutting relationships. (*See Spec.* ¶¶ 87–92.) As such, we construe independent claim 21 as requiring the structure of the claimed components to allow the recited seating and abutting to occur sometime, but not necessarily at the same time, during valve movement.

Thus, we sustain the Examiner’s rejection of independent claim 21 under 35 U.S.C. § 102(b).

The Examiner’s double-patenting rejection of independent claim 21 (Rejection XVI) relies upon claim 10 of Han de man “compris[ing] all of the limitations of the instant claim” including a “valve,” a “base,” and a “bellow.” (Final Action 10.) However, as indicated above, independent claim 21 requires a “molded” valve. (Appeal Br., Claims App.) As pointed out by the Appellants, claim 10 of Han de man does not recite this limitation

(*see id.* at 13); and the Examiner articulates no reason why such a “molded valve” would have been obvious thereover.

Thus, we do not sustain the Examiner’s rejection of independent claim 21 on the ground of non-statutory double-patenting.

Dependent Claims

As for the Examiner’s rejections of the dependent claims on prior art grounds (Rejections I–VIII), the Appellants state that the dependent claims “fall with their independent claims.” (Appeal Br. 11.) As discussed above, the Appellants do not establish that the Examiner errs in rejecting the independent claims on appeal on prior art grounds.

Thus, we sustain the Examiner’s rejections of dependent claims 2–4, 17–20, and 22–25 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a).

As for the Examiner’s rejections of the dependent claims due to alleged double patenting (Rejections X, XI, XIII–XV, and XVII), these claims require, by virtue of their dependency, a “molded” valve. (*See* Appeal Br., Claims App.) This limitation does not appear in any of the cited claims in *Han de man* (e.g., claims 1–3, 8, and 10); and the Examiner articulates no reason why such a molded valve would have been obvious thereover. (*See* Final Action 9–11.)

Thus, we do not sustain the Examiner’s rejections of dependent claims 2, 3, 18–20, 24, and 25 on the ground of non-statutory double-patenting.

DECISION

We AFFIRM the Examiner’s rejections of claims 1–4, 15, and 17–25 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a).

Appeal 2017-000968
Application 12/912,241

We REVERSE the Examiner's rejections of claims 1–3, 15, 18–21, 24, and 25 on the ground of non-statutory double patenting.

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

AFFIRMED