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WENDEROTH, LIND & PONACK, L.L.P. 1025 Connecticut Avenue, NW Suite 500 Washington, DC 20036			LOPEZ, FRANK D	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FRANK SCHULZ and PETER BRUCK

Appeal 2019-003003
Application 13/261,913
Technology Center 3700

Before MURRIEL E. CRAWFORD, PHILIP J. HOFFMANN, and
BRADLEY B. BAYAT, *Administrative Patent Judges*.

HOFFMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner’s decision to reject claims 8–23. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

According to Appellant, “[t]he invention relates to a hydraulic hybrid system for rotary applications, having an actuator in the form of a motor pump unit, which is coupled with a rotary-operating device, for example a

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as “HYDAC FLUIDTECHNIK GMBH.” Appeal Br. 1.

traction drive.” Spec. 1. Independent claim 8, reproduced below, is illustrative of the claimed subject matter:

8. A hydraulic hybrid system for rotary applications, comprising:

a motor pump unit;

a rotary-operating device being coupled to said motor pump unit, being a consumer of hydraulic energy in a first operating state and being a producer of hydraulic energy in a second operating state;

an adjustable hydropneumatic piston accumulator being connected in fluid communication with said motor pump unit, being chargeable by said motor pump unit for energy storage in the second operating state and being discharged for energy release to said motor pump unit in the first operating state, said piston accumulator having a plurality of separate pressure chambers adjacent to active surfaces of different sizes on a fluid side of an accumulator piston in said piston accumulator, said piston accumulator having a gas side and having two of said active surfaces inside said accumulator piston in a stepped configuration; and

an adjustment assembly connecting a selected one of said pressure chambers or a plurality of selected ones of said pressure chambers of said piston accumulator to said motor pump unit or to said rotary-operating device depending on prevailing pressure levels on said piston accumulator, and motor pump unit and said rotary-operating device.

REJECTIONS AND PRIOR ART

The Examiner rejects the claims as follows:

- I. Claims 8–15, 22, and 23 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement;
- II. Claims 16–21 under 35 U.S.C. § 102(b) as anticipated by Beachley et al. (US 5,971,027, issued Oct. 26, 1999) (“Beachley”); and

- III. Claims 8–15, 22, and 23 under 35 U.S.C. § 103(a) as unpatentable over Beachley and Roethler et al. (US 7,100,723 B2, issued Sept. 5, 2006) (“Roethler”).

ANALYSIS

Rejection I—Written description rejection of claims 8–15, 22, and 23

The Examiner rejects independent claim 8 as failing to comply with the written description requirement, for three reasons. Final Act. 5. The first reason, according to the Examiner, appears to be based on claim 8’s recitation of “a *rotary-operating device* . . . being a *consumer of hydraulic energy* in a first operating state and being a producer of hydraulic energy in a second operating state.” Appeal Br., Claims App. (emphases added). According to the Examiner, claim 8 lacks written-description support because “the [claimed] *motor pump unit* . . . would appear to be the *consumer and producer of hydraulic fluid*, not the rotary-operating device.” Final Act. 5 (emphases added).

Appellant argues that the Examiner errs because claim 8 recites that “the rotary-operating device . . ., not the motor pump unit . . .[,] is the consumer and producer of hydraulic energy, not fluid.” Appeal Br. 4. This is consistent with Appellant’s Specification describing that “the rotary-operating device[,] consumes or produces energy that is converted to hydraulic energy via . . . pump 91[,] such that the rotary-operating device is alternatively at least an indirect energy consumer and producer of hydraulic energy.” *Id.*

Thus, at least because claim 8 does not recite that the rotary-operating device consumes hydraulic fluid, the Examiner does not support adequately that the claim lacks written-description support.

According to the Examiner, the second reason that independent claim 8 lacks written-description support (Final Act. 5) relates to the claim's recitation of "an adjustment assembly connecting . . . said piston accumulator to *said motor pump unit* or to *said rotary-operating device*" (Appeal Br., Claims App. (emphases added)). Specifically, the Examiner finds that "there is nothing in the disclosure that indicates the adjustment assembly connects the accumulator to the rotary-operating device; . . . [the adjustment assembly] only connects the accumulator to the motor pump unit." Final Act. 5; *see* Fig. 3.

Appellant argues that the "mechanical connection between . . . motor pump unit 91 and . . . rotary-operating device 94 provides the connection [from adjustment assembly 51] to the rotary-operating device." Appeal Br. 5; *see also* Reply Br. 2–3 ("The claim language is not limited to a 'direct' connection and reads on a 'direct' or 'indirect' connection to either of the motor pump unit or the rotary-operating device. These connections to the motor pump unit and the rotary-operating device are different since they are respectively direct and indirect.").

We agree with the Examiner that the above claim recitation lacks written-description support. Appellant's written description does not describe the invention such that the claim recitation of "an adjustment assembly connecting a . . . pressure chamber[] or . . . pressure chambers of said piston accumulator to *said motor pump unit* or to *said rotary-operating device*" (Appeal Br., Claims App. (emphases added)) is understood to encompass a connection from the piston accumulator to the rotary-operating device through both of the adjustment assembly and the motor pump.

Thus, based on the foregoing, the Examiner adequately supports that claim 8 lacks written-description support. Therefore, we sustain claim 8's written-description rejection, and sustain the rejection of claims 9–15, 22, and 23 that depend from claim 18.

According to the Examiner, the third reason that claim 8 lacks written-description support (Final Act. 5) relates to the claim's recitation of “connecting . . . said piston accumulator to said motor pump unit or to said rotary-operating device depending on prevailing *pressure levels on said piston accumulator, and motor pump unit and said rotary-operating device*” (Appeal Br., Claims App. (emphasis added)). In particular, the Examiner finds that “there is nothing [described in Appellant's Specification] sensing the pressure in the rotary-operating device (94), to be able to control the adjustment assembly.” Final Act. 5.

According to Appellant, the Examiner errs because “the allegedly missing sensing of the pressure in the rotary-operating device is provided via the motor pump unit by the shaft connecting them.” Appeal Br. 5. We agree with Appellant.

We construe the claim language differently than the Examiner does, such that the pressure levels arise from two locations, not three. Specifically, one location from which pressure is determined is the “piston accumulator,” and the other is the “motor pump unit and . . . rotary-operating device.” In that second location, the pressure of the two components together is measured in the hydraulic pressure of the motor pump, because the rotary-operating device affects the forces, and thus pressures, in the motor pump. In addition, although the rotary-operating device may be hydraulic (Spec. 7), the rotary-operating device is not limited to a hydraulic

device. A traction device, for example, or mechanical transmission, may not have any fluid pressure to sense. Thus, based on the foregoing, the Examiner does not support adequately that this recitation of claim 8 lacks written-description support.

Rejection II—Anticipation of claims 16–21

As set forth above, independent claim 16 recites

an accumulator piston axially movable in said accumulator housing along said longitudinal axis and separating said internal chamber of said accumulator housing into a fluid side and a gas side, said *accumulator piston having two active piston surfaces of different sizes inside said accumulator piston in a stepped configuration.*

Appeal Br., Claims App. (emphasis added). The Examiner finds that Beachley discloses the claimed two active piston surfaces inside an accumulator piston in a stepped configuration, because Beachley teaches two “axially stepped” piston surfaces that “are interior to the piston,” at column 9, lines 51–54, 58–59, and 63–67, and column 10, lines 4–7. Final Act. 6–7; Answer 13.

Appellant argues that Beachley does not disclose “an accumulator piston having a plurality of the active surfaces inside the accumulator piston in a stepped configuration.” Appeal Br. 7–8. Appellant further argues that in Beachley, “Figures 4–7 and 10 . . . only have its active surfaces on the outside of its accumulator piston,” and that in Beachley’s Figure 8, the “active surfaces inside the accumulator piston . . . are only coplanar.” *Id.* at 8.

The Examiner, however, determines that because Beachley discloses that Figure 8’s configuration could be modified so that voids 178 could be

pressure chambers within the piston, and that because the surfaces of voids 178 are “axially spaced” with “active surface (166, 168) of the inner chambers (172, 174),” this meets the claim language. Answer 10–13. The Examiner also determines that because Beachley discloses that surfaces could be “stepped,” as in accumulator systems 50, 90, 100, 120, 150 and 200, “pressure chambers 172, 174, 176 could also be stepped.”

Answer 13.

As set forth above, claim 16 expressly recites an “accumulator piston having two active piston surfaces of different sizes inside said accumulator piston in a stepped configuration.” Appeal Br., Claims App. Thus, each of the two active piston surfaces are inside the piston, and stepped with regard to each other. Therefore, the Examiner is incorrect that the surfaces in Beachley’s Figure 8, when modified so that inside chambers 178 are pressure chambers, are stepped with regard to the surfaces of chambers 172, 174, and 176, consistent with the above-discussed recitation of claim 16. *See* Final Act. 6–7. This is because only the surfaces of chamber 178 are “inside” the piston, and these surfaces are stepped with regard to surfaces 172, 174, and 176 that are outside the piston. Accordingly, this configuration would not disclose piston surfaces that are both inside a piston and in a stepped configuration with each other, as claimed.

The Examiner also interprets Beachley as disclosing that various non-stepped piston surfaces may be stepped, and, based on this interpretation, determines that Beachley discloses the claimed stepped configuration, as discussed above. Answer 13 (citing Beachley col. 9, ll. 62–67). The cited portion of Beachley describes stepped configurations of piston surfaces, but references accumulator systems 50, 90, 100, 120, 150, and 200. Those

systems are shown in Beachley's Figures 4–10, but the stepped surfaces shown are all *outside* the piston, not *inside*, as claimed.

The Examiner has thus failed to support adequately that Beachley discloses a piston accumulator system with piston surfaces that are both inside the piston and axially-spaced in a stepped configuration with each other, as recited in claim 16. Therefore, we do not sustain the Examiner's anticipation rejection of claim 16, and of claims 17–21 that depend from claim 16.

Rejection III—Obviousness rejection of claims 8–15, 22, and 23

As set forth above, independent claim 8 recites, in relevant part, an adjustable hydropneumatic piston accumulator being connected in fluid communication with said motor pump unit, being chargeable by said motor pump unit for energy storage in the second operating state and being discharged for energy release to said motor pump unit in the first operating state, said piston accumulator having a plurality of separate pressure chambers adjacent to active surfaces of different sizes on a fluid side of an accumulator piston in said piston accumulator, *said piston accumulator having a gas side and having two of said active surfaces inside said accumulator piston in a stepped configuration.*

Appeal Br., Claims App. (emphases added).

The Examiner's obviousness rejection of claim 8 relies on Beachley to disclose the claimed piston accumulator having two active surfaces inside the accumulator piston in a stepped configuration. Final Act. 7. Thus, for reasons substantially similar to those discussed above with respect to independent claim 16, the Examiner does not support adequately that Beachley discloses the claimed configuration.

Further, to the extent that the Examiner's statements may be understood as determining that an obvious modification of Beachley would result in the claimed stepped configuration, the Examiner does not provide any teaching, suggestion, or motivation, or rational reason, for modifying Beachley. *See Answer 13.*

Thus, based on the foregoing, we do not sustain the Examiner's obviousness rejection of independent claim 8. We also do not sustain the obviousness rejection of claims 9–15, 22, and 23 that depend from claim 8.

CONCLUSION

We AFFIRM the Examiner's written-description rejection of claims 8–15, 22, and 23.

We REVERSE the Examiner's anticipation and obviousness rejections of claims 8–23.

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
8–15, 22, 23	112, first paragraph	Written description	8–15, 22, 23	
16–21	102(b)	Beachley		16–21
8–15, 22, 23	103(a)	Beachley, Roethler		8–15, 22, 23
Overall Outcome			8–15, 22, 23	16–21

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 IN PART