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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DYLAN M. LUNDBERG and MARK W. MCMASTERS

Appeal 2018-004725
Application 14/697,705
Technology Center 3700

Before JAMES T. MOORE, MEREDITH C. PETRAVICK, and
MICHAEL L. WOODS, *Administrative Patent Judges*.

WOODS, *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 1–19. Appeal Br. 5. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). The Real Party in Interest is Bosch Automotive Service Solutions Inc. and Robert Bosch GmbH. Appeal Br. 2.

CLAIMED SUBJECT MATTER

Appellant's application is titled "Flow Control Valve for Injecting Oil into an Air Conditioning Circuit" and the specification describes "flow control valves for refrigerant service systems." Spec. 1; Title, Technical Field. Of the rejected claims, claims 1 and 11 are independent. Appeal Br. 26–30 (Claims App.). We reproduce claim 1, below, with emphasis added to a particular limitation discussed in this Decision.

1. An air conditioning service system comprising:
 - an oil receptacle configured to store an oil;
 - a solenoid valve configured to selectively allow the oil to flow from the oil receptacle into an oil injection line;
 - a coupling port in fluid communication with the oil receptacle through the oil injection line when the solenoid valve is in an open condition; and
 - a flow control valve including a chamber with an inlet and an outlet, the inlet in fluid communication with the oil receptacle when the solenoid valve is in the open condition, and the outlet in fluid communication with the oil injection line when the solenoid valve is in the open condition,
 - wherein the flow control valve is configured such that, for a given pressure difference between the inlet and the outlet, the oil flows from through the flow control valve at a flow rate that is independent of a viscosity of the oil within a predetermined range of viscosities.*

Id. at 26 (emphasis added).

REFERENCES

The prior art relied upon by the Examiner is:

| Name | Reference | Date |
|---------|-----------------|----------------|
| Miller | US 3,770,009 | Nov. 6, 1973 |
| Lace | US 4,350,176 | Sept. 21, 1982 |
| Tinsler | US 5,548,966 | Aug. 27, 1996 |
| Murray | US 6,138,462 | Oct. 31, 2000 |
| Kobes | US 6,915,813 B2 | July 12, 2005 |

REJECTIONS

| Claim(s) Rejected | 35 U.S.C. § | Reference(s)/Basis |
|-------------------|-------------|---------------------|
| 1–19 | 112(a) | Written Description |
| 1–19 | 112(b) | Indefiniteness |
| 11–18 | 102(a) | Kobes |
| 1–10 | 103(a) | Tinsler, Miller |
| 19 | 103(a) | Kobes |

OPINION

I. Rejection Under 35 U.S.C. § 112(a)

The Examiner rejects claims 1–19 under 35 U.S.C. § 112(a) for failing to comply with the written description requirement. Final Act. 5.

Independent claim 1 recites, *inter alia*, “wherein the flow control valve is configured such that, for a given pressure difference between the inlet and the outlet, the *oil flows from through the flow control valve at a flow rate that is independent of a viscosity of the oil* within a predetermined range of viscosities.” Appeal Br. 26 (Claims App.) (emphasis added).

Independent claim 11 recites a similar limitation. *See id.* at 29.

The Examiner finds that the limitations have “not been described in the specification as to how this functionality is achieved.” Final Act. 5.

The purpose of the written description requirement is to convey with reasonable clarity to those skilled in the art that applicant was in possession

of the claimed invention when the application was filed. *See Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). “[T]he written description requirement is satisfied by the patentee’s disclosure of ‘such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention.’” *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 969 (Fed. Cir. 2002) (quoting *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997)).

In contesting the rejection, Appellant references the Specification, including its Figures 7 and 8. *See, e.g.*, Appeal Br. 7. Figures 7 and 8 of the Specification depict a flow control valve with different inflow forces. *See* Spec. ¶¶ 33, 34.

We reproduce Figure 7, below:

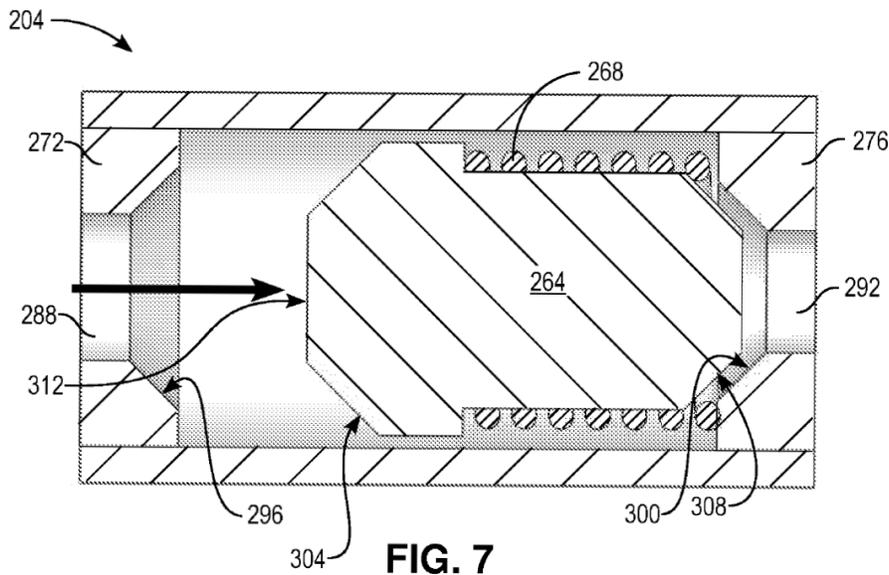


Figure 7 depicts a cross-sectional view of a flow control valve with a *high-velocity inflow*. Spec ¶ 33.

We also reproduce Figure 8, below:

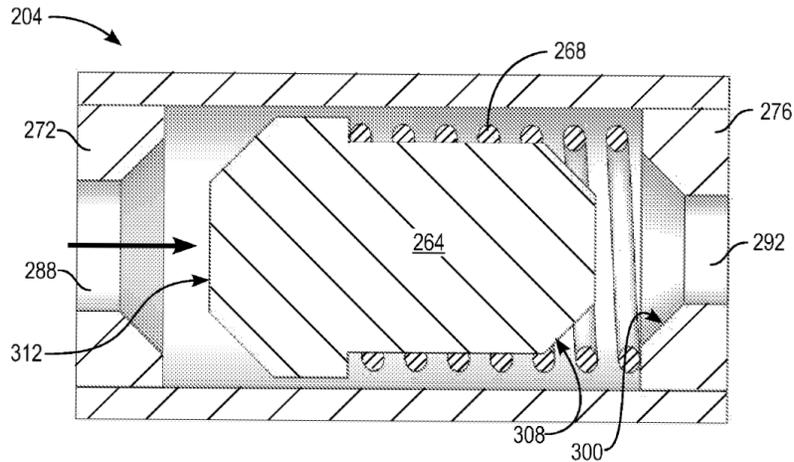


FIG. 8

Figure 8 depicts the flow control valve of Figure 7 but with a *low-velocity flow*. Spec. ¶ 34.

Appellant explains that the valve is tuned so that the flow rate through the valve is constant for fluids with different viscosities. *See* Appeal Br. 7 (citing Spec. ¶¶ 64, 65, Figs 7, 8) (“the spring constant, inflow surface, and the frustoconical surfaces of the valve *are tuned* . . . in such a way that the opening cross-section for the various different positions of the valve plunger . . . balances the change in viscosity for the claimed range of viscosities” (emphasis added)). The Specification also describes:

In order to tune the valve 204, the maximum flow rate through the valve 204 is set for the oil of the highest viscosity that is to be used in the valve 204. *The geometry of the frustoconical surfaces 300, 308, the area and geometry of the inlet facing surface 312, and the spring constant of the spring 268 are further tuned for oils of various viscosities such that the flow rate through the valve is independent of the viscosity of the oil flowing through the valve 204.*

Id. ¶ 65 (emphasis added).

In the Answer, the Examiner asserts that “there is no example of ‘tuning’ of the valve . . . [and Appellant does not provide] any details on dimensions or values or even examples of how to determine the dimensions and values as to how the above mentioned claimed limitation is met.” Ans. 13.

Although we agree with the Examiner that the Specification fails to include specific dimensions of a “tuned” flow control valve, we nonetheless find that the Specification contains sufficient written description that would “allow one skilled in the art to visualize or recognize the identity of the subject matter” recited in claim 1. *Enzo Biochem*, 323 F.3d at 968. The rejection appears to conflate the written description and enablement requirements, and impose what seems to be in some aspect a best mode requirement. Regardless, we find that the Specification, which describes tuning a valve “for oils of various viscosities such that the flow rate through the valve is independent of the viscosity,” provides adequate written description support for the claimed limitation. *See, e.g.*, Spec. ¶ 65, reproduced above indicating the spring constant and valve geometry.

For the foregoing reasons, we do not sustain the Examiner’s rejection of claims 1–19 for failing to comply with the written description requirement.

II. Rejection Under 35 U.S.C. § 112(b)

The Examiner rejects claims 1–19 under 35 U.S.C. § 112(b) as being indefinite. Final Act. 6.

During prosecution, “[a] claim is indefinite when it contains words or phrases whose meaning is unclear.” *Ex parte McAward*, Appeal 2015-006416, 2017 WL 3669566, at *5 (PTAB Aug. 25, 2017) (precedential) (quoting *In re Packard*, 751 F.3d 1307, 1310 (Fed. Cir. 2014) (per curium)). The Examiner determines that it “is not clear how the flow rate of a fluid flowing through the valve is independent of the fluid’s viscosity,” and, “[f]urthermore, the range of viscosities in claim 11 is not clear.” Final Act. 6.

In contesting the rejection, Appellant asserts that “[t]here is nothing unclear in this recitation.” Appeal Br. 10. As to the claimed “range of viscosities,” Appellant explains that “the range of viscosities is intentionally not recited in the claim because the range is highly dependent on the system in which the valve is to be used.” *Id.* Appellant contends that a skilled artisan would understand what a “predetermined range of viscosities” is. *See id.*

In the Answer, the Examiner explains, “Appellant does not provide any details as to how the valve is ‘tuned’ and this lack of detail necessitates a 112(b) rejection.” Ans. 16.

We agree with Appellant that the claimed limitation is sufficiently clear. The Examiner’s position that the Specification fails to describe how the valve is tuned (*see* Ans. 16) is again more relevant to an enablement analysis, and conflates the requirements of 35 U.S.C. § 112(a) and (b). *Union Pacific Resources Co. v. Chesapeake Energy Corp.*, 236 F.3d 684, 692 (Fed. Cir. 2001) (citation omitted) (“The definiteness inquiry focuses on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the rest of the specification. Even if the

written description does not enable the claims, the claim language itself may still be definite.”)

For the foregoing reasons, we do not sustain the Examiner's indefiniteness rejection of claims 1–19.

III. Claims 11–18 Rejected as Anticipated by Kobes

The Examiner rejects claims 11–18 as anticipated by Kobes, referencing Kobes’s Figure 1. Final Act. 7. We reproduce Kobes’s Figure 1, below:

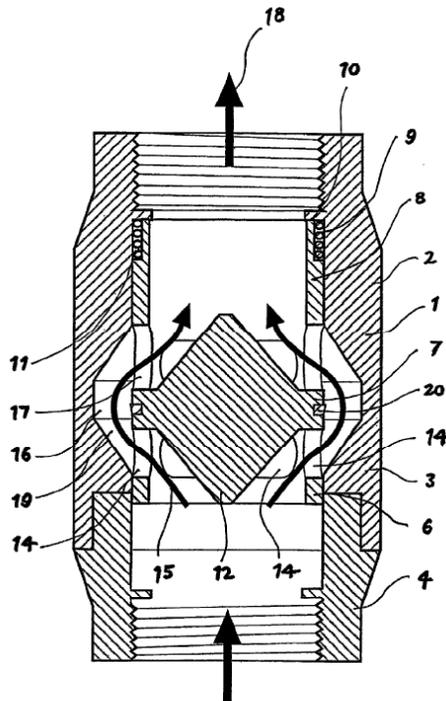


Fig 1

Kobes describes Figure 1 as depicting a *check valve*. Kobes, 4:19–21.

As to the claimed limitation, “wherein the inlet facing surface, the second end portion, and the biasing member are configured such that a flow rate of fluid through the flow control valve remains constant over a

predetermined range of viscosities of the fluid for a given differential pressure across the flow control valve,” the Examiner finds that “as best understood, the valve of Kobes meets this limitation since a range of fluids of varying viscosity that would bias the valve into the fully open position depicted in Fig. 1 would have the same flow potential through.” Final Act. 7.

In contesting the rejection, Appellant asserts that “when [Kobes’s] valve is biased into the fully open state, the opening area is constant.” Appeal Br. 13. Appellant further explains that “[f]luids having greater viscosity, by definition, lose more energy to internal friction within the fluid, and as a result, all else being equal, will move at a slower rate.” *Id.*

We find Appellant’s argument persuasive. Importantly, the Examiner does not cite to anything in Kobes that supports a finding that Kobes discloses a “flow rate of fluid through the flow control valve remains constant over a predetermined range of viscosities.” *See* Final Act. 7. The Examiner’s position that a fully-open check valve would have a constant flow rate for fluids with different viscosities—as required by the claims—is not supported by sufficient evidence in the record. *See id.*

For the foregoing reasons, we do not affirm the rejection of claims 11–18 as anticipated by Kobes.

IV. Claim 19 Rejected as Obvious over Kobes

In rejecting dependent claim 19 as obvious over Kobes, the Examiner relies on the same finding that Kobes discloses the features of independent claim 11. *See* Final Act. 14 (“Regarding claim 19, Kobes further discloses

all of the limitations of claim 16”); *see also id.* at 8 (“Regarding claim 16, Kobes further discloses the flow control valve of claim 11”).

Because we do not sustain the rejection of claims 11–18 as anticipated by Kobes, for those same reasons we do not sustain the rejection of claim 19 as obvious over Kobes.

V. Claims 1–10 Rejected as Obvious over Tinsler and Miller

The Examiner rejects claims 1–10 as unpatentable over Tinsler in view of Miller. Final Act. 9. The Examiner finds that Tinsler discloses the limitations of independent claim 1 with the exception of “wherein the flow control valve is configured such that, for a given pressure difference between the inlet and the outlet, the oil flows from through the flow control valve at a flow rate that is independent of a viscosity of the oil within a predetermined range of viscosities.” *Id.* at 10. To address this limitation, the Examiner relies on Miller. *Id.*

In particular, the Examiner finds that Miller teaches such a flow control valve that “meets this limitation since a range of fluids of varying viscosity that would bias the valve into the fully open position would have the same flow potential through.” *Id.* (citing Miller’s Figure 3). We reproduce Miller’s Figure 3, below:

CONCLUSION

The Examiner's rejection of claims 1–19 under 35 U.S.C. § 112(a) is reversed.

The Examiner's rejection of claims 1–19 under 35 U.S.C. § 112(b) is reversed.

The Examiner's rejection of claims 11–18 under 35 U.S.C. § 102(a) as anticipated by Kobes is reversed.

The Examiner's rejection of claims 1–10 as unpatentable under 35 U.S.C. § 103(a) over Tinsler and Miller is reversed.

The Examiner's rejection of claim 19 as unpatentable under 35 U.S.C. § 103(a) over Kobes is reversed.

DECISION SUMMARY

In summary:

| Claim(s) Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|------------------------------|------------------------|---------------------------|-----------------|-----------------|
| 1–19 | 112(a) | Written Description | | 1–19 |
| 1–19 | 112(b) | Indefiniteness | | 1–19 |
| 11–18 | 102(a) | Kobes | | 11–18 |
| 1–10 | 103(a) | Tinsler, Miller | | 1–10 |
| 19 | 103(a) | Kobes | | 19 |
| Overall Outcome | | | | 1–19 |

REVERSED