

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TIM WADE

Appeal 2007-1465
Application 10/229,414
Technology Center 3700

Decided: September 27, 2007

Before JENNIFER D. BAHR, LINDA E. HORNER, and
ANTON W. FETTING, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Tim Wade (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-7 and 14-16. Claims 9-13 have been withdrawn from consideration and claim 8 has been indicated allowable. No

other claims are pending. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

Appellant's claimed invention is directed to a PCV valve assembly (Specification [2]). Claims 1, 2, 5 and 15 are representative of the claimed invention and read as follows:

1. A positive crankcase ventilation valve assembly comprising:

a housing having a fluid inlet and a fluid outlet;

a poppet valve disposed in said housing between said fluid inlet and said fluid outlet and movable in an axial direction between a plurality of positions respectively defining a plurality of fluid flow rates; and

a plurality of ribs extending radially from one of said poppet valve and said housing in said axial direction, said plurality of ribs defining a bearing surface between said housing and said poppet valve, wherein one of said poppet valve and said housing includes said plurality of ribs.

2. The assembly according to claim 1, wherein said plurality of ribs extend radially from said housing.

5. The assembly according to claim 4, wherein said second poppet portion includes a second plurality of ribs defining a second bearing surface between said second poppet portion and said second housing portion.

15. The assembly according to claim 1, wherein said plurality of ribs are a part of said poppet valve.

The Examiner relies upon the following as evidence of unpatentability:

Pittsley	US 3,359,960	Dec. 26, 1967
McMullen	US 3,766,898	Oct. 23, 1973
Otto	US 4,625,703	Dec. 02, 1986

Appellant seeks review of the Examiner's rejections of claims 1, 7, 14 and 15 under 35 U.S.C. § 102(b) as anticipated by Otto; claims 2-4 and 16 under 35 U.S.C. § 103(a) as unpatentable over Otto and claims 5 and 6 under 35 U.S.C. § 103(a) as unpatentable over Otto in view of McMullen or Pittsley.¹

The Examiner provides reasoning in support of the rejections in the Answer (mailed January 26, 2007). Appellant presents opposing arguments in the Appeal Brief (filed August 24, 2006) and Reply Brief (filed January 10, 2007).

OPINION

Claims 1, 7, 14 and 15

Appellant's claim 1 includes a limitation "a plurality of ribs extending radially from one of said poppet valve and said housing , wherein one of said poppet valve and said housing includes said plurality of ribs." Claim 15 further recites that "said plurality of ribs are a part of said poppet valve." The first issue presented in this appeal is whether the fins 59 on part 58 of

¹ In the Advisory Actions mailed November 22, 2004 and January 21, 2005, the Examiner indicated the rejection of claims 5 and 6 had been overcome. The Examiner apparently came to the realization that this was an error and repeated the rejection in the Answer. In any event, Appellant responds to this rejection in the Reply Brief and thus is not prejudiced by our treatment of this rejection as being carried forward into the Answer.

means 57 of Otto are included by (claim 1) or "part of " (claim 15) the poppet valve (poppet 30 of Otto).

Appellant does not argue that Otto's fins 59 are not ribs, as called for in the claims. Rather, Appellant argues that it is the means 57, not the poppet 30, that includes the fins and that, accordingly, Otto's poppet 30 does not include fins, as required in claim 1 (Appeal Br. 3) and Otto's fins 59 are not part of the poppet 30, as required by claim 15 (Appeal Br. 4).

Otto's valve includes a housing 22 having an inlet 23, an outlet 24 and an annular valve seat 25 intermediate the inlet 23 and outlet 24 and a movable valve member or poppet 30 disposed in the housing 22 (Otto 3:35-43 and 52-53). Poppet 30 includes a stem portion 53 which carries "unique structure or means" 57 to cooperate with the internal peripheral surface 46 of housing 22 on the outlet side of valve seat 25 "to tend to prevent vibration, oscillation or wobble" of poppet 30 during fluid flow through the valve seat 25 by substantially centering poppet 30 in the opening 54 of the valve seat 25 (Otto 4:52-61). Means 57 comprises a part 58 having a plurality of circumferentially spaced apart fins 59 that radiate outwardly from a substantially cylindrical body portion 60 that has an opening 61 passing therethrough for receiving a reduced cylindrical part 62 of stem portion 53 (Otto 4:62-68). The reduced cylindrical part 62 can be secured in opening 61 in any suitable manner, such as by press-fitting or adhesively (Otto 5:1-5).

Otto's poppet 30 has part 58, with fins 59, secured to the reduced cylindrical part 62 of stem portion 53 thereof and thus "includes" the part 58, and thus fins 59, as "a part" thereof, thereby satisfying the language at issue in claims 1 and 15. It is noteworthy that neither claim 1 nor claim 15

requires the poppet valve and ribs to be a unitary, one-piece structure or even integrally formed. It is well established that limitations not appearing in the claims cannot be relied upon for patentability. *In re Self*, 671 F.2d 1344, 1348, 213 USPQ 1, 5 (CCPA 1982).

Having determined that Otto's poppet 30 includes the part 58, and thus fins 59 of part 58, as a part thereof, we conclude that Appellant's arguments fail to demonstrate error in the Examiner's rejection of claims 1 and 15. The rejection of claims 1 and 15, and claims 7 and 14 which Appellant has not argued separately from claim 1, as anticipated by Otto, is sustained.

Claims 2-4 and 16

The issue involved in this rejection is whether it would have been obvious to secure the fins 59 to the housing 22 (i.e., internal peripheral surface 46 of housing 22), rather than to the poppet 30, so as to extend from the internal peripheral surface 46 toward the poppet 30, as proposed by the Examiner (Answer 4 and 8). We agree with the Examiner that such a modification would have been obvious to one of ordinary skill in the art at the time of Appellant's invention.

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.

KSR Int'l. Co. v. Teleflex Inc, 127 S.Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007).

The purpose of the part 58, and fins 59 thereof, is to stabilize the stem portion 53 of poppet 30 during its travel within outlet passage 45 between different flow positions to prevent vibration, oscillation and wobble. Fins 59 fulfill this purpose by cooperating with the internal peripheral surface 46 of housing 22. A person of ordinary skill in the art would immediately understand that such stability can be provided equally well either by a stabilizing structure extending radially outwardly from the stem portion 53 of poppet 30, as in the part 58 with fins 59 specifically disclosed by Otto, or by a structure extending radially inwardly from the internal peripheral surface 46 of housing 22. Moreover, application of the alternative structure extending radially inwardly from the internal peripheral surface 46 of housing 22 would have involved merely the securement of a cylindrical ring structure with circumferentially spaced fins extending inwardly radially toward stem portion 53 of poppet 30 and thus would have been well within the technical grasp of a person of ordinary skill in the art.

Appellant argues that the modification proposed by the Examiner to form the fins 59 as a part of the housing 22 is not possible because the stem portion 53 would remove from the opening 61 of the carrier means 57 each time the poppet 30 moves to another position and, when the poppet 30 returned to its original position, stem portion 53 would have to re-align with and be received within the opening 61 of the carrier means 57 (Appeal Br. 4-5). This argument is unsound because it improperly presumes lack of common sense on the part of the person of ordinary skill in the art. "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 127 S.Ct. at 1742, 82 USPQ2d at 1397. In forming the fins 59 as part of the housing 22, extending radially inwardly from the

internal peripheral surface 46, rather than as part of poppet 30 extending radially outwardly from stem portion 53, a person of ordinary skill in the art would provide the fins with sufficient length in the axial direction to accommodate the entire extent of travel of reduced cylindrical part 62 throughout all positions of poppet 30. Such an arrangement would completely avoid the problem alluded to by Appellant.

For the reasons discussed above, Appellant's argument fails to demonstrate the Examiner erred in rejecting claims 2-4 and 16 as unpatentable over Otto. The rejection is sustained.

Claims 5 and 6

Claim 5, which depends from claim 4, and claim 6, which depends from claim 5, are directed to the configuration of the second poppet portion 30, that is, the portion of the poppet valve 18 opposite the first poppet portion 28 that includes the first set of ribs. As best seen in Appellant's Figures 6 and 7, this configuration includes "a head with corners 36 defining a second set of ribs" (Specification [22]).

The Examiner concedes that Otto's poppet 30 does not disclose such a second plurality of ribs on its second portion (Answer 4). While this may be true, the valve member (poppet) 30A of Otto's embodiment of Figures 7-11 does have such a configuration at its second end, in the form of a substantially square flange 37A with the corners 75 thereof being rounded (Otto 7:4-11; Fig. 11). This embodiment also includes a finned part 58A, with fins 59A, on reduced portion 62A of valve member (poppet) 30A (Otto 7:18-20; Figs. 7, 8). Thus, akin to Appellant's "head with corners 36 defining a second set of ribs," Otto does teach including on the valve member 30A a second plurality of ribs on its second portion, as called for in

claims 5 and 6. Moreover, to provide the first set of fins 59A or ribs on the housing 22A extending inwardly from the internal peripheral surface of the outlet passage thereof, instead of on reduced portion 62A of valve member 30A, would have been obvious to one of ordinary skill in the art, for the reasons discussed above with respect to claims 2-4 and 16. Accordingly, the Examiner correctly concluded that the subject matter of claims 5 and 6 is not patentable over Otto, even without the additional teachings of McMullen and Pittsley.

Moreover, Appellant's argument that the modification proposed by the Examiner would not have been obvious because the fins of means 57 would interfere with and contact the ribs on the housing 39 as poppet 30 moves, disrupting operation of poppet 30 (Reply Br. 3-4), is unsound. The Examiner determined it would have been obvious to provide a second set of ribs, as defined in Appellant's claims 5 and 6, on the second portion of Otto's poppet 30 in view of the teaching of such poppet inlet end structure by McMullen (McMullen 3:16-24; Fig. 2, head portion 74) and Pittsley (Pittsley 4:67-72; Fig. 2, head 76) to provide greater stability to the poppet valve while still allowing flow through the valve (Answer 5). In the modification proposed by the Examiner, the first plurality of ribs (fins 59) are disposed on internal peripheral surface 46 and the second plurality of ribs are disposed on the second or opposite portion of poppet 30, presumably in the region of annular flange 37 of poppet body 31. The second portion of poppet 30 will not travel within the outlet passage 45 so as to engage ribs or fins extending radially inwardly from the internal peripheral surface 46. Therefore, the two sets of fins or ribs cannot interfere with one another. The

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desirability of providing two sets of fins or ribs in Otto's valve is of course evidenced in the embodiment of Figures 7-11 of Otto discussed above.

In light of the above, Appellant's arguments do not demonstrate error in the Examiner's rejection of claims 5 and 6. The rejection is sustained.

SUMMARY

The decision of the Examiner is affirmed.

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) (2006).

AFFIRMED

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