

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TROY DANIEL McARTHY
and TIMOTHY ALAN HEGEMIER

Appeal No. 2004-0441
Application 09/777,535

ON BRIEF

Before GARRIS, WARREN, and OWENS, *Administrative Patent Judges*.
OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the fourth (nonfinal) rejection of claims 1-3, 9-13, 19 and 20.¹ Claims 7, 8, 17 and 18 stand objected to but allowable if rewritten in independent form. Claims 4-6 and 14-16 stand withdrawn from consideration by the examiner as being directed toward a nonelected invention.

¹In an appeal in which claims have been at least twice rejected, the board has jurisdiction as discussed in *Ex parte Lemoine*, 46 USPQ2d 1432 (Bd. Pat. App. & Int. 1995).

THE INVENTION

The appellants claim a valve stem seal assembly including a cylindrical retainer with an outwardly extending radial flange having an elastomeric sealing media affixed to its bottom surface. Claim 11 is illustrative:

11. A valve stem seal comprising a cylindrical retainer having an axis, said retainer having a radially oriented annular end wall integral therewith and defining an upper extremity of said retainer orthogonal to said axis; an annual elastomeric valve stem seal adapted for sealingly engaging a reciprocally movable valve stem; said valve stem seal having a circumferential exterior groove disposed for engaging said annular end wall whereby said seal is fixed to said cylindrical retainer; said cylindrical retainer including an outwardly extending radial flange having a bottom surface with an elastomeric sealing media affixed thereto.

THE REFERENCES

Foley et al. (Foley)	3,885,546	May 27, 1975
Binford	5,174,256	Dec. 29, 1992
Kirchner et al. (Kirchner)	5,775,284	Jul. 7, 1998

THE REJECTIONS

The claims stand rejected under 35 U.S.C. § 103 as follows:
claims 1, 3, 11 and 13 over Binford in view of Foley, and
claims 2, 9, 10, 12, 19 and 20 over Binford in view of Foley and
Kirchner.

OPINION

We reverse the aforementioned rejections.

Binford discloses a valve stem seal comprising 1) a cylindrical retainer (12, 14) which has an axis and a radially oriented annular end wall integral therewith which defines an upper extremity of the retainer orthogonal to the axis (figure 2), and 2) an annular elastomeric valve stem seal (20) adapted for sealingly engaging a reciprocally movable valve stem (18) (col. 2, lines 29-31). The valve stem seal has a circumferential exterior groove (25) disposed for engaging the annular end wall whereby the seal is fixed to the cylindrical retainer (col. 2, lines 45-47; col. 3, lines 1-7; figure 2). The cylindrical retainer comprises an outwardly extending radial flange-shaped coil spring seat (26) defining its lower extremity (figure 2). Binford does not disclose an elastomeric sealing media, or any other seal, affixed to the bottom surface of the outwardly extending radial flange-shaped coil spring seat.

The relevant disclosure by Foley is the following (col. 2, line 61 - col. 3, line 11):

The valve spring or an auxiliary spring **65** presses against an annular cover **67** which is positioned over and about a portion of the valve stem seal and lubricator assembly **69**. The assembly includes an

annular member **71** comprising primarily a porous, sintered material **73** and a segment **75** of elastomeric material under tension. Extending radially outwardly from the lower portion of the annular member is an elastomeric flange or shoulder **77**. The flange is bonded or otherwise secured to the annular member **71** and spaces the base **79** of the annular member from the surface of the cylinder head about the valve guide bore **81**. The flange functions as a seal to prevent oil from entering the lower valve stem surface **83** except through the porous material **73**. The flange **77** may be bonded as a separate element to the annular member **71** as stated above or it may be integrally formed with the elastomeric segment **75** and bonded to porous material **73**.

The examiner argues that "the flange [annular cover **67**] and seal [elastomeric flange **77**] of Foley et al. are attached by an interference fit" (answer, page 5). The examiner does not point out any disclosure by Foley of such an interference fit, and none is apparent. As indicated by the above-cited portion of Foley, this reference teaches that the elastomeric flange (77) is affixed to the annular member (71) but is merely pressed against the annular cover (67) by the valve spring (65) (figure 6).

The examiner (answer, page 5) and the appellants (brief, page 8) agree that the ordinary meaning of "affix", as indicated by the dictionary definition appended to the appellants' brief, is "to attach in any way". "Attach" means "[t]o fasten on or

affix to; connect or join".² The appellants' specification, which discloses, as affixing techniques, screen printing, pad printing, rolling and molding (page 7, lines 8-16), does not indicate that the appellants are using the term "affix" more broadly than its dictionary definition.

The examiner argues that Foley's elastomeric seal is affixed to the annular cover by the spring exerting a force on the annular cover which, in turn, exerts a force on the elastomeric seal, thereby preventing the elastomeric seal from moving from the annular cover (answer, pages 4-5). This argument is not well taken because the pressing action of Foley's spring does not fasten, connect or join the annular cover (67) and the elastomeric flange (77) and, therefore, does not affix the elastomeric flange to the annular cover. Hence, even if Binford and Foley are combined as proposed by the examiner, the appellants' claimed invention is not produced. See *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1439 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988).

² *Webster's New Riverside University Dictionary* 136 (Riverside 1984). A copy of this dictionary definition is provided to the appellants with this decision.

Kirchner discloses a valve stem seal having a first rigid cylindrical shell (14) connected to a second rigid cylindrical shell (16) (col. 2, lines 45-50). The first rigid cylindrical shell has an inwardly extending upper end wall (20) to which a resilient sealing body (18) is directly bonded by molding, interference fit, epoxies, or any other method capable of creating a fixed joint (col. 2, lines 33-35, 50-51 and 56-65). The second rigid cylindrical shell has at its lower end an outwardly extending radial flange (36) which serves as a seat for a valve spring (32) and is in direct contact with an engine block head (26) (col. 3, lines 12-16). Thus, like Binford, Kirchner does not disclose a seal on the bottom surface of the outwardly extending radial flange.

The examiner states that he relies upon Kirchner for a teaching of bonding an elastomeric seal to an annular valve stem retainer assembly (answer, page 6). The examiner, however, does not explain how Kirchner, in combination with Binford and Foley, would have led one of ordinary skill in the art to an outwardly extending radial flange having an elastomeric seal affixed to its bottom surface.

Appeal No. 2004-0441
Application 09/777,535

For the above reasons we conclude that the examiner has not carried the burden of establishing a *prima facie* case of obviousness of the appellants' claimed invention.

DECISION

The rejections under 35 U.S.C. § 103 of claims 1, 3, 11 and 13 over Binford in view of Foley, and claims 2, 9, 10, 12, 19 and 20 over Binford in view of Foley and Kirchner, are reversed.

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
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)	
)	BOARD OF PATENT
CHARLES F. WARREN)	
Administrative Patent Judge)	APPEALS AND
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)	INTERFERENCES
)	
TERRY J. OWENS)	
Administrative Patent Judge)	

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Appeal No. 2004-0441
Application 09/777,535

Rader, Fishman & Grauer PLLC
39533 Woodward Avenue
Suite 140
Bloomfield Hills, MI 48304-0610