

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte WILLIAM W. TOY

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Appeal No. 2004-0931  
Application 10/180,355

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ON BRIEF

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Before COHEN, STAAB, and MCQUADE, Administrative Patent Judges.  
MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

William W. Toy appeals from the final rejection of claims 1 through 3, all of the claims pending in the application.

THE INVENTION

The invention relates to "O-ring seals, and more specifically to O-rings of elastomeric material that are provided with a particular slot construction" (specification, page 1).

Representative claim 1 reads as follows:

1. A sealing ring comprising:
  - a) an annulus of elastic deformable material disposed in a plane, the annulus having the shape of a circle in radial axial section, the circle having a center; and

Appeal No. 2004-0931  
Application No. 10/180,355

b) a single continuous, concentric slot, the slot extending at right angles to the plane from a surface of the annulus, through said center, and to a point beyond said center.

THE PRIOR ART

The items relied on by the examiner as evidence of obviousness are:

Chambers, Jr. et al. (Chambers)	2,729,478	Jan. 03, 1956
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The prior art O-ring illustrated in Figure 3 and described in the specification of the instant application (the admitted prior art)

THE REJECTION

Claims 1 through 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art in view of Chambers.

Attention is directed to the brief (Paper No. 13) and answer (Paper No. 14) for the respective positions of the appellant and examiner regarding the merits of this rejection.

DISCUSSION

The admitted prior art encompasses a deformable O-ring of elastomeric rubber or rubber-like material. This O-ring meets all of the limitations in claims 1 through 3 except for those relating to the slot. As indicated above, claim 1 requires "a single continuous, concentric slot, the slot extending at right angles to the plane from a surface of the annulus, through said

Appeal No. 2004-0931  
Application No. 10/180,355

center, and to a point beyond said center." Similarly, claim 2 requires "a single continuous, concentric slot, the slot extending orthogonal to said plane from a surface of the ring through said center to a point beyond the center of the circle," and claim 3 requires "a concentric slot in the ring extending from a surface of the ring through said center to a point past said center; the slot having sides that are substantially perpendicular to said plane." The admitted prior art O-ring has no such slot. To cure this deficiency, the examiner turns to Chambers.

Chambers discloses an O-ring 46 made of Teflon (i.e., polytetrafluoroethylene) which is said to be superior in several respects to O-rings made of relatively soft and readily deformable rubber or rubber-like material (see columns 1 and 2). As Teflon is substantially non-deformable, Chambers provides the O-ring 46 with a circumferential slot 12a extending perpendicularly to and beyond the central radial plane of the ring (i.e., past the center of the ring's circular cross-section) to allow the ring to be radially deformed (see column 3, lines 64 through 71). This characteristic facilitates the placement of the ring in a groove and/or about a shaft and enables it to

Appeal No. 2004-0931  
Application No. 10/180,355

function properly as a packing seal (see, for example, column 1, line 46, through column 2, line 2).

In proposing to combine the admitted prior art and Chambers, the examiner submits that it would have been obvious in view of Chambers "to modify the [admitted prior art] o-ring of [appellant's] Figure 3, having a solid annulus, with a single continuous, concentric slot extending at right angles (*orthogonal*) to the plane from the surface of the annulus in order to permit compression of the o-ring" (answer, page 5). The flaw in this rationale, however, is that the admitted prior art O-ring has no need for a slot to be compressed or deformed as it already possesses this capability. By the same token, Chambers discloses the slot only in conjunction with an O-ring which, unlike the admitted prior art O-ring, is substantially non-deformable and requires the slot to function as intended. The only suggestion to combine these disparate teachings in the manner proposed by the examiner stems from hindsight knowledge derived from the appellant's disclosure. The use of such hindsight knowledge to support an obvious rejection is, of course, impermissible.

Appeal No. 2004-0931  
Application No. 10/180,355

Accordingly, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 1 through 3 as being unpatentable over the admitted prior art in view of Chambers.

SUMMARY

The decision of the examiner to reject claims 1 through 3 is reversed.

REVERSED

IRWIN CHARLES COHEN	)	
Administrative Patent Judge	)	
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LAWRENCE J. STAAB	)	
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JOHN P. MCQUADE	)	
Administrative Patent Judge	)	

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Appeal No. 2004-0931  
Application No. 10/180,355

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