

**THIS OPINION WAS NOT WRITTEN FOR PUBLICATION**

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte YOSHINORI YOSHIMURA  
and MASAOKI IWASAKI

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Appeal No. 1997-3420  
Application 08/371,227

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ON BRIEF

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Before COHEN, ABRAMS, and BAHR, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

**DECISION ON APPEAL**

This is an appeal from the decision of the examiner finally rejecting claims 1, 4 and 6-9, which at that point constituted all of the claims remaining of record in the application. Subsequently, claims 1 and 9 were canceled and

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claim 4 was amended. Claims 4, 6, 7 and 8 remain before us on appeal.

The appellants' invention is directed to a magnetron sputtering apparatus. The claims on appeal have been reproduced in an appendix to the Brief.

**THE REFERENCES**

The references relied upon by the examiner to support the final rejection are:

Anderle et al. (Anderle)	4,886,592	Dec.
12, 1989		
Zejda et al.	4,943,363	Jul. 24,
1990		
Zejda	5,112,467	May 12,
1992		
Braeuer et al. (Braeuer)	5,164,063	Nov.
17, 1992		
Bourez et al. (Bourez)	5,174,880	Dec. 29,
1992		

**THE REJECTION**

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Claims 4, 6, 7 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Braeuer in view of Bourez, Zejda, Anderle and Zejda et al.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejection and the conflicting viewpoints advanced by the examiner and the appellants regarding the rejection, we make reference to the Examiner's Answer (Paper No. 14) and the Appellants' Brief (Paper No. 13).

#### OPINION

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a *prima facie* case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some

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teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure.

See, for example, *Uniroyal ,Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1439 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988).

The appellants' invention relates to improving the manner in which thin film layers are deposited upon the surface of optical discs that are used in recording audio or video information. As part of the process of magnetron sputtering that is used to coat the surface of these discs while they are on a holding means, it is known to provide center and outer peripheral masks to shield, respectively, the center and the outer periphery of the disc substrate. Features of the appellants' invention that are recited in independent claim 4 include insulating the center mask from the target cooling means upon which it is mounted, making the peripheral mask independent of the center mask, and anodizing the center mask by virtue of its contact with an anodic substrate holding means during sputtering. The examiner has assembled five references which, when taken collectively, in the examiner's

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view render the subject matter of claim 4 obvious. The primary reference is Braeuer, which is directed to the same technology as the appellants' invention. While this reference has some commonality of structure with the appellants' claimed invention, the examiner admits that it fails to disclose or teach (1) insulating the center mask from the target and (2) applying an anodic potential to the center mask during sputtering (Answer, pages 5 and 6).

It is the examiner's position that it would have been obvious to insulate the center mask from the target in Braeuer because Bourez and Zejda disclose such a feature. From our perspective, however, this conclusion is undermined by the fact that the Bourez system is quite different from that of Braeuer because in Bourez the masks are not in contact with the substrate, and in Zejda the element that the examiner specifies as comprising insulation is not so designated, nor can it be established from the drawing that such is the case. We therefore fail to discern in these references any teaching or suggestion which would have motivated one of ordinary skill in the art to modify the Braeuer sputtering apparatus in such a fashion as to meet this requirement of claim 4. Moreover,

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insulating the center mask from the target cooling means would substantially alter the structure and operation of the Braeuer invention, which would operate as a disincentive to one of ordinary skill in the art to make such a modification, in our view.

As to the second difference, the examiner points out that Bourez teaches applying a voltage across the anode (center post 26) and the cathode (annular assembly 12) to cause the target to generate the atoms which then are deposited on the substrate (column 6, lines 13-19), and that Anderle discloses a sputtering system in which the substrate is in contact with the central mask and the substrate holder. From this, the examiner concludes that "[a]s to the substrate holder applying an anodic potential to the center mask," such would have been obvious "since Bourez et al. teaches that a voltage can be applied to the central mask" (Answer, page 10). We cannot agree. Claim 4 requires not only that the center mask be anodized, but that it "is anodized by being contacted with said substrate holding means during sputtering" (emphasis added). Even if one were to consider that the center mask in Anderle is in an anodic condition during sputtering, there is

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no evidence which establishes that the anodic condition is caused to exist by virtue of contact between the center mask and the substrate holding means. Furthermore, in Anderle the center mask and the peripheral mask are connected together, which is a different system from that of Braeuer and, as was the case above, we fail to discern any reason why one of ordinary skill in the art would have been motivated to make this change to the Braeuer apparatus.

The deficiencies noted above are not alleviated by further considering the teachings of Zejda *et al.*

For the reasons stated above, it is our conclusion that the combined teachings of the five references fail to establish a *prima facie* case of obviousness with regard to the subject matter recited in independent claim 4. We therefore will not sustain the rejection of claim 4 or, it follows, of claims 6-8, which depend therefrom.

**SUMMARY**

The rejection is not sustained.

The decision of the examiner is reversed.

**REVERSED**

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	Charles Irwin Cohen	)	
	Administrative Patent Judge	)	
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	Neal E. Abrams	)	BOARD OF
PATENT		)	
	Administrative Patent Judge	)	APPEALS AND
		)	INTERFERENCES
		)	
		)	
	Jennifer D. Bahr	)	
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