

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte GEORG GARTNER and JAN HASKER

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Appeal No. 96-2985  
Application No. 08/332,620<sup>1</sup>

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ON BRIEF

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Before HAIRSTON, MARTIN and LEE, Administrative Patent Judges.  
HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 2, 3, 5 through 7 and 10. Claims 8, 9 and 12 have been found to contain allowable subject matter.

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<sup>1</sup> Application for patent filed October 31, 1994. According to appellants, the application is a continuation of Application No. 07/989,625, filed December 14, 1992, now abandoned.

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The disclosed invention relates to a cathode having a matrix body impregnated with an alkaline earth compound, and a two-layer top coat on the surface of the matrix body. The layer in contact with the matrix body consists essentially of scandium and a high melting point metal, and the top layer is a metallic sealing layer that consists essentially of a high melting point metal.

Claim 10 is the only independent claim on appeal, and it reads as follows:

10. A cathode having a matrix body impregnated with an alkaline earth compound, a top coat on the surface of the body, the top coat comprising a high melting point metal, characterized in that the coat comprises at least first and second layers, each of different chemical composition, the first layer, in contact with the body, consisting essentially of scandium and a high melting point metal, the second layer being a metallic sealing layer consisting essentially of a high melting point metal.

The references relied on by the examiner are:

Thomas et al. (Thomas) 1978	4,101,800	Jul. 18,
Watanabe et al. (Watanabe) 1989	4,855,637	Aug. 8,
Hasker et al. (Hasker) 1991	5,006,753	Apr. 9,

Claims 3 and 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Watanabe.

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Claim 2 stands rejected under 35 U.S.C. § 103 as being unpatentable over Watanabe in view of Hasker.

Claims 5, 6<sup>2</sup> and 7 stand rejected under 35 U.S.C. § 103 as being unpatentable over Watanabe in view of Thomas.

Reference is made to the brief and the answer for the respective positions of the appellants and the examiner.

#### OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 2, 3, 5 through 7 and 10.

According to the examiner (Answer, pages 3 and 4):

Watanabe discloses a cathode (figure 1) which has a matrix body (1) impregnated with an alkaline earth compound (line 63 of column 3) and a top coat (5 and 6) which comprises a high melting point metal (line 21 of column 2). The top coat has a first metallic layer

(5) which is in contact with the matrix body and a second layer (6) of different composition (ln 21 of col 4).

Watanabe does not specifically state that the first layer comprises a high melting point metal and scandium and that the second layer is a metallic sealing layer and it comprises a high melting point metal. However, in lines 24 and 25 of column 5,

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<sup>2</sup> Inasmuch as claim 6 depends from claim 2, a proper rejection of claim 6 must include Hasker.

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Watanabe discloses that a plurality of these layers (i.e., first and second layers) are constructed from a high melting point metal and scandium or a high melting point metal.

In rebuttal, appellants argue (Brief, pages 4 and 5) that:

The Watanabe et al patent shows an impregnated cathode having an impregnated matrix body upon which there is provided a top coating formed of a plurality of layers, col. 1, lines 38-47.

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However, this patent does not teach or even suggest that the top coating be formed so as to comprise a layer in contact with the matrix body that consists essentially of scandium and a high melting point metal and a sealing layer, that has a different chemical composition from that of the layer in contact with the matrix body, [and that] consists essentially of a high melting point metal. This patent teaches in this portion that all the layers of the top coating have the same composition, all of which contain a high melting point metal (tungsten) and scandium or an oxide of scandium.

Watanabe clearly states (column 1, line 46, column 5, lines 1 and 2, and column 5, lines 27 and 28) that the two layers 5 and 6 have "the same composition." As the two layers in Watanabe have "the same composition," they do not have different compositions, as required by the claim. Moreover, one layer cannot consist essentially of "scandium and a high melting point metal," and the other layer can not be a "metallic sealing layer" that consists essentially of a "high melting point metal." For this reason, the 35 U.S.C. § 103 rejection of claims 3 and 10 is reversed.

Turning to dependent claim 2, Hasker discloses an intermetallic compound or alloy of scandium and rhenium, but

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he does not disclose the two different layers of claim 10.

The

35 U.S.C. § 103 rejection of claim 2 is reversed because  
Hasker does not cure the noted shortcoming in the teachings of  
Watanabe.

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Turning lastly to claims 5 through 7, Thomas discloses perforations 24 in the tungsten foil 20, but, like Hasker, does not disclose the two different layers of claim 10. The 35 U.S.C. § 103 rejection of claims 5 through 7 is reversed because Thomas does not cure the noted shortcoming in the teachings of Watanabe.

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DECISION

The decision of the examiner rejecting claims 2, 3, 5  
through 7 and 10 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
JOHN C. MARTIN	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
JAMESON LEE	)	
Administrative Patent Judge	)	

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**JENINE GILLIS**

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Serial No. 08/332,620

Judge HAIRSTON

Judge MARTIN

Judge LEE

Typed: 30 Jul 98

DECISION: REVERSED

Send Reference(s): Yes No  
or Translation(s)

Panel Change: Yes No

3-Person Conf. Yes No

Heard: Yes No

Remanded: Yes No

Index Sheet-2901 Rejection(s): \_\_\_\_\_

Acts 2: \_\_\_\_\_

Palm: \_\_\_\_\_

Mailed:

Updated Monthly Disk: \_\_\_\_\_

Updated Monthly Report:

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