

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

Paper No. 20

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, PETER GEITTNER and ERNST KLEIN

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Appeal No. 1998-1869  
Application 08/688,423

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ON BRIEF

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Before JERRY SMITH, LALL and GROSS, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1, 2 and 4-8. Claim 3 was indicated as containing allowable subject matter. In response to the appeal brief, the examiner withdrew the rejection of claims 5-8. Accordingly, this appeal is now limited to the rejection of claims 1, 2 and 4.

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The disclosed invention pertains to a scandate dispenser cathode for use in an electric discharge tube. The invention is particularly related to a coating having an emissive surface on the cathode body. The coating is a three layer coating with each of the layers having a specific composition.

Representative claim 1 is reproduced as follows:

1. An electric discharge tube having a scandate dispenser cathode, which is composed of a cathode body and a coating having an emissive surface, said cathode body comprising a matrix material of at least one refractory metal or at least one refractory alloy and a barium compound which is in contact with the matrix material to supply barium to the emissive surface by means of a chemical reaction with said matrix material, said coating containing a multilayer which includes a bottom layer of tungsten or a tungsten alloy, an intermediate layer of rhenium or a rhenium alloy and a top layer of scandium oxide, a mixture of scandium oxide and rare-earth metal oxides, a scandate or a scandium alloy.

The examiner relies on the following reference:

Watanabe et al. (Watanabe)                    4,855,637                    Aug. 8, 1989

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Watanabe. Claim 4 stands rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Watanabe.

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Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

#### OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that Watanabe does not anticipate or render obvious the invention as set forth in claims 1, 2 and 4. Accordingly, we reverse.

We consider first the rejection of claims 1 and 2 as anticipated by the disclosure of Watanabe. Anticipation is established only when a single prior art reference discloses,

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expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

Claims 1 and 2 are similarly rejected and stand or fall together [brief, page 5]. Watanabe discloses an electric discharge tube having a dispenser cathode. The cathode of Watanabe is coated with a plurality of emissive thin layers. The thin layers of Watanabe are each made of the same composition but with each layer having a different density. Watanabe lists several exemplary compositions for use as the emissive material for the thin layers. The examiner finds that the compositions suggested by Watanabe include a tungsten alloy, a rhenium alloy and scandium oxide [answer, page 4].

Appellants argue that Watanabe discloses the same composition for each of the thin layers of coating whereas claims 1 and 2 require different materials for the top,

intermediate and bottom layers of the multilayer coating [brief, pages 5-6; reply brief, page 2]. The examiner responds that the broadest reasonable interpretation of claims 1 and 2 is met by Watanabe's disclosure [answer, page 6].

Although the examiner is correct to give the claims their broadest reasonable interpretation in making a prior art rejection, the examiner does not explain how his interpretation is fully met by the disclosure of Watanabe. The examiner is correct that a broad interpretation of claims 1 and 2 permits the bottom layer to be made of a tungsten alloy, the intermediate layer to be made of a rhenium alloy, and the top layer to be made of scandium oxide. These are different materials, however. As pointed out by appellants, Watanabe requires that each of the layers be made of the exact same material. The examiner has not identified any composition of material disclosed in Watanabe which is simultaneously a tungsten alloy, a rhenium alloy and scandium oxide. In other words, although each layer in Watanabe could presumably have tungsten, rhenium and/or scandium oxide as a component thereof, the examiner has not explained how such a composition can be accurately identified as a tungsten alloy

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layer, a rhenium alloy layer and a scandium oxide layer.

In summary, the examiner has not explained how the different materials of the layers recited in claims 1 and 2 are satisfied by the same materials of the layers disclosed by Watanabe. Therefore, we do not sustain the examiner's anticipation rejection of claims 1 and 2. Since the rejection of claim 4 under 35 U.S.C. § 103 relies upon the examiner's incorrect finding of anticipation as discussed above, we also do not sustain the examiner's rejection of claim 4.

In conclusion, we have not sustained either of the examiner's rejections of the appealed claims. Accordingly, the decision of the examiner rejecting claims 1, 2 and 4 is reversed. REVERSED

JERRY SMITH )  
Administrative Patent Judge )  
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PARSHOTAM S. LALL	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
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