

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(2) is not binding precedent of the Board.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

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

~~Ex parte~~ YASUO IWASAKI

Appeal No. 95-0613
Application 07/883,171¹

HEARD: October 17, 1996

MAILED

OCT 28 1996

PAT.&T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Before THOMAS, HAIRSTON, and FLEMING, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

¹ Application for patent filed May 15, 1992.

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Application 07/883,171

DECISION ON APPEAL

This is an appeal from the final rejection (Paper No. 9) of claims 1 and 3 through 25.

The disclosed invention relates to an absorbing layer of a cathode ray tube (CRT) located between an inner surface of a faceplate and a phosphor layer.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

Claim 1. A color cathode ray tube comprising:

a face plate including an inner surface onto which electron beams are projected;

a transparent functional film formed on an outer surface of the face plate;

a tricolor phosphor layer, provided on the inner surface side of the face plate including red, green and blue phosphors which emit light when the electron beams are impinged thereon; and

an intermediate layer, having predetermined optical characteristics, provided between the inner surface of the face plate and the tricolor phosphor layer, wherein the intermediate layer is a selective light absorption layer having a light absorption characteristic common to the red, green and blue phosphors.

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The references relied on by the examiner are:

Maple	4,132,919	Jan. 2, 1979
Iwasaki et al. (Iwasaki)	5,200,667	Apr. 6, 1993 (filed May 3, 1991)

Claims 1, 7 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Maple.

Claims 3 through 6, 10 and 13 through 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Maple in view of Iwasaki.

Claims 8, 9 and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Maple in view of well known prior art as exemplified by Iwasaki.

Claims 19 through 25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Maple in view of admitted prior art.

Reference is made to the briefs and the answers for the respective positions of the appellant and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the 35 U.S.C. § 102(b) rejection of claims 1,

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7 and 12, and the 35 U.S.C. § 103 rejections of claims 3 through 6, 8 through 11 and 13 through 25.

With respect to the 35 U.S.C. § 102(b) rejection of claim 1, appellant argues that Maple fails to disclose an intermediate layer being a selective light absorption layer having a light absorption characteristic common to the red, green and blue phosphors. (Brief, pages 20 through 22). In response, the examiner argues that the intermediate layer of Maple inherently "can be" a selective light absorption layer with a light absorption characteristic common to the red, green and blue phosphors. (Answer, page 3).

Maple discloses (column 7, lines 42 through 68) that a quarter-wave homogeneous film 13 may be formed between faceplate 11 and the phosphor material 10 in order to prevent unwanted reflections at the interface between the faceplate and the phosphor material. The quarter-wave film simply compensates for the reflections caused by the intersection of two materials, each having a different refractive index. Appellant discloses (specification, page 36), however, that the selective light

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absorption layer of the claimed invention is obtained by dispersing and mixing the particles of an inorganic or organic pigment or dye with a binder. Such a layer would clearly have a light absorption characteristic common to the red, green and blue phosphors, while the intermediate layer of Maple would simply increase the transmission of light by reducing reflections and the resulting interference, rather than by absorbing light. Thus, the claimed intermediate layer absorbs light while the layer of Maple facilitates the transmission of light.

Maple discloses (column 7, lines 42 through 60) that a nonabsorbing inhomogeneous film may be used in place of the homogeneous film. The examiner argues (Answer, page 16) that because the inhomogeneous film is described as "nonabsorbing", the homogeneous film is implicitly absorbing. The mere fact that Maple discloses (column 7, lines 42 through 60) the use of a nonabsorbing inhomogeneous film does not mean that the substitute homogeneous film will necessarily be absorbing. Maple discloses (column 7, lines 42 through 56) that these two types of film differ in the value of the minimum wavelength at which

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reflections are reduced to zero, rather than disclosing that one is absorbing and the other is not. The reflections may be reduced by absorption or, alternatively, by transmission of the light which would have been reflected. The latter seems to be the method of Maple given its goal of correcting for the differences in the refractive indexes of the faceplate and the phosphor material using a quarter-wave film. Furthermore, Maple discloses (column 7, lines 53 through 56) that both films may be used interchangeably. Thus, we believe that Maple uses the term "nonabsorbing" to emphasize that the homogeneous film, as well as the inhomogeneous film, both of which can be used interchangeably, are to be comprised of a nonabsorbing material.

Accordingly, we find that Maple does not disclose a selective light absorption layer, provided between the inner surface of the face plate and the tricolor phosphor layer, having a light absorption characteristic common to the red, green and blue phosphors as required by claim 1. Therefore, we will reverse the 35 U.S.C. § 102(b) rejection of claims 1 and 7.

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With respect to the rejection of claim 12, appellant argues that Maple does not disclose that its intermediate layer is a neutral filter layer having uniform transmittance with respect to the light emitted from the red, green and blue phosphors.

(Brief, pages 25 through 27). In response, the examiner argues that Maple discloses such a layer. (Answer, pages 3 and 4).

Again, Maple discloses (column 7, lines 42 through 68) that a quarter-wave homogeneous film 13 may be formed between faceplate 11 and the phosphor material 10 in order to prevent unwanted reflections at the interface between the faceplate and the phosphor material. The quarter wave film simply compensates for the reflections caused by the intersection of two materials having different refractive indexes. Appellant discloses (specification, pages 44 and 45) that a neutral filter layer, as opposed to one with antistatic properties (specification, page 35) is obtained by dispersing and mixing the particles of an inorganic or organic pigment or dye with a binder to create a layer having uniform spectral transmittance. Such a filter layer would have uniform transmittance (and correspondingly, uniform

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absorption caused by the pigment or dye) with respect to the light emitted from the red, green and blue phosphors, while the layer of Maple would simply increase the transmission of light by reducing interference, rather than by filtering. Thus, the claimed intermediate layer is a filter which absorbs light, while the layer of Maple, on the other hand, facilitates the transmission of light. Accordingly, we will reverse the 35 U.S.C. § 102(b) rejection of claim 12.

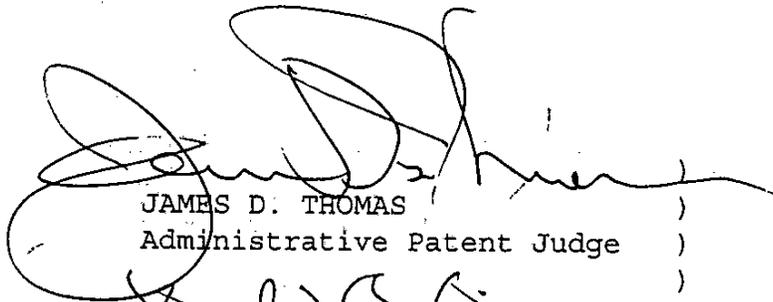
We further find that Iwasaki discloses (column 5, lines 56 through 67) placing an absorption layer on the outer surface of the face plate, as was already disclosed (specification, pages 5 through 6) in appellant's admitted prior art, which does not compensate for the shortcomings of Maple. Thus, we will reverse 35 U.S.C. § 103 rejections of claims 3 through 6, 8 through 11 and 13 through 25.

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DECISION

The decision of the examiner rejecting claims 1, 7 and 12 under 35 U.S.C. § 102(b), and claims 3 through 6, 8 through 11 and 13 through 25 under 35 U.S.C. § 103 is reversed.

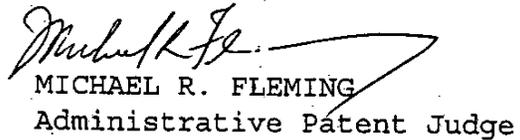
REVERSED



JAMES D. THOMAS
Administrative Patent Judge



KENNETH W. HAIRSTON
Administrative Patent Judge



MICHAEL R. FLEMING
Administrative Patent Judge

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