Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWARD J. BAWOLEK and ZONG-FU LI

Appeal No. 2002-1158
Application No. 09/052,867

ON BRIEF

Before DIXON, GROSS and SAADAT, Administrative Patent Judges.
SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the Examiner's final rejection of claims 1-16, which are all of the claims pending in this application.

We reverse.

BACKGROUND

Appellants' invention is directed to a color imaging device comprised of a plurality of light selective elements sensitive to the light corresponding to orange, green and blue regions of the spectrum.

Representative independent claim 1 is reproduced as follows:

> 1. A color imaging device comprising an array of light selective elements, including a first light selective element sensitive to light having a wavelength corresponding to orange, a second light selective element sensitive to light having a wavelength corresponding to green, and a third light selective element sensitive to light having a wavelength corresponding to blue, wherein each of the light selective elements describes a respective color space for only a light sensitive element associated with the light selective element.

The prior art references of record relied upon by the Examiner in rejecting the appealed claims are:

Tabei	5,063,439	Nov. 5, 1991
Yamada et al. (Yamada)	5,540,998	Jul. 30, 1996

Claims 1-4 and 6-16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tabei.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tabei in view of Yamada.

We make reference to the answer (Paper No. 16, mailed June 18, 2001) for the Examiner's complete reasoning, and to the appeal brief (Paper No. 15, filed March 28, 2001) and the reply brief (Paper No. 17, filed August 21, 2001) for Appellants' arguments thereagainst.

OPINION

With respect to the 35 U.S.C. § 102 rejection of claims 1-4 and 6-16, Appellants argue that Tabei does not disclose or

suggest a device comprising "a light selective element sensitive to light having a wavelength corresponding to orange" (brief, page 4). Appellants further point to an exemplary photosensing matrix disclosed in Figure 12 of Tabei wherein the photo detector elements produce signals corresponding to blue, green and a third color represented by B,G and Or (brief, page 5). Appellants argue that the signal Or does not represent the color orange and is, in fact, described by Tabei (col. 10, lines 55-56) to have spectral sensitivity in the range of 460 nm to 700 nm (red and negative red combined) (brief, page 6). Appellants conclude that the color signal Or must represent "Optimal red" since Tabei subtracts the green signal from the third color signal (col. 11, lines 15-27) in order to obtain an Optimal red or "Or" (brief, page 7).

In response to Appellants' arguments, the Examiner asserts that "the third color signal SOr is produced by a color filter Or which has wavelength about 580 nm (answer, paragrph bridging pages 7 & 8). However, the Examiner relies on a diagram from an additional prior art ("Television Engineering Handbook" by K. Blair Benson (Benson))) and Appellants' Figures 2B and 2C and concludes that the wavelength of 580 nm corresponds to an orange region (answer, page 8).

Appellants further point out that Benson not only should not be considered as prior art, it also fails to teach the claimed features since it shows that the 578 nm peak of the Or signal corresponds to the color yellow instead of orange (reply brief, page 2). Additionally, Appellants argue that based on its broad spectral sensitivity, the Or signal of Tabei should not be characterized as having a wavelength of about 580 nm and even so, the peak is more properly characterized as yellow (reply brief, page 3).

A rejection for anticipation under section 102 requires that the four corners of a single prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation. See Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

After a review of Tabei, we agree with Appellants' assertion that the third signal "Or" is not representing the color orange. Tabei relates to a solid state image pick up device which improves color reproduction wherein the color signal obtained by using color filters of complementary colors to red, green and

blue are subtracted from the color signals (col. 3, lines 10-18). The result is a color signal which has a component of negative sensitivity and is closer to an ideal color signal (Col. 3, lines 18-21). Tabei further describes the spectral sensitivity of the filters as 400-540 nm for the blue filter, 460-640 nm for the green filter and 460-700 nm for the third color (col. 10, lines 51-59). Furthermore, Tabei discloses that the green component of the third signal "Or" will be subtracted in order to form a new or optimum red color signal (Col. 11, lines 13-26)). Therefore, as pointed out by Appellants, instead of the claimed "a light selective element sensitive to light having a wavelength corresponding to orange", Tabei initially provides for a wider wavelength spectrum for the third signal which is later processed to obtain an optimum red signal. In other words, Tabei does not use the color orange as one of the colors to which the light sensitive elements are sensitive.

As argued by Appellants, the third color disclosed by Tabei covers a wide range of wavelengths having a peak value of 580 nm which, even using the diagram of Benson, actually positions the peak closer to yellow. Thus, the Or signal of Tabei does not represent the color orange and therefore, Tabei cannot anticipate

claim 1. Accordingly, the rejection of claims 1-4 and 6-16 under 35 U.S.C. § 102 over Tabei is not sustained.

Regarding the 35 U.S.C. § 103 rejection of claim 5, we note the Examiner's failure to provide any teachings or suggestions in Yamada to overcome the deficiencies of Tabei discussed above. Based on our determination that Tabei does not teach the invention of base claim 1, the rejection of dependent claim 5 based on Tabei and Yamada cannot be proper. Accordingly, we do not sustain the § 103 rejection of claim 5 over Tabei and Yamada.

CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting claims 1-4 and 6-16 under 35 U.S.C. § 102 and rejecting claim 5 under 35 U.S.C. § 103 is reversed.

REVERSED

JOSEPH L. DIXON Administrative Patent Judge	)
ANITA PELLMAN GROSS Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
MAHSHID D. SAADAT Administrative Patent Judge	)

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