

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 43

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte NOBUO HASHIMOTO, KEIZOU OCHI,
GEN SASAKI, KENJI MIZUMOTO, HIROAKI KUBO,
YOSHIHIKO AZUMA, TAKEHIRO KATOH, and HIROSHI OOTSUKA

Appeal No. 1998-1387
Application No. 08/208,791

ON BRIEF

Before FLEMING, FRAHM and BARRY, Administrative Patent Judges.
BARRY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the final rejection of claims 1, 10-13, and 18-21. We affirm.

BACKGROUND

Exposure of a color video camera is often controlled by keeping constant a luminance level in an image plane. Keeping

the luminance level constant, however, does not ensure that a person's skin is exposed correctly. This is particularly true when he is backlit or is highlighted against a dark background.

The invention at issue in this appeal detects the presence of skin-colored hues suggesting a person. It then discerns whether the person is the primary subject to be photographed by determining whether he is in-focus. If so, the invention controls exposure of the photograph to optimize the skin-colored portion thereof. Otherwise, it controls exposure based on landscape other than the skin-colored portion.

Claim 1, which is representative for our purposes, follows:

1. An automatic exposure control apparatus comprising:
 - skin color extracting means for extracting a skin-colored portion signal from an input video signal;
 - focus condition detecting means for detecting a focus condition of the skin-colored portion and providing a focus condition signal; and

the examiner. Furthermore, we duly considered the arguments and evidence of the appellants and examiner. After considering the totality of the record, we are persuaded that the examiner did not err in rejecting claims 1, 10-13, and 18-21. Accordingly, we affirm. Our opinion addresses the grouping and obviousness of the claims.

Grouping of the Claims

When the appeal brief was filed, 37 C.F.R. § 1.192(c)(7) (1996) included the following provisions.

For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and ... appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.

In general, claims that are not argued separately stand or fall together. In re Kaslow, 707 F.2d 1366, 1376, 217 USPQ 1089, 1096 (Fed. Cir. 1983). When the patentability of dependent claims in particular is not argued separately, the claims stand or fall with the claims from which they depend. In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983).

Here, the appellants state, "Independent Claim 1 and dependent Claims 11 and 12 are grouped together" (Appeal Br. at 5.) They add, "Dependent Claims 13 ... and 19 are grouped together" (Id.)

Regarding claim 21, the appellants merely point out differences in what the claim covers and allege, "There is no teaching in the cited references which disclose or suggest [sic] this feature" (Appeal Br. at 21.) This does not amount to an argument that claim 21 is separately patentable. Furthermore, the appellant does not contest the examiner's

interpretation that the "claimed adjusting means [in claim 21] has the same function as exposure controlling means in claim 1." (Examiner's Answer at 10.) Therefore, we consider the claims to stand or fall together in the following groups:

- claims 1, 11, 12, and 21
- claims 10, 18, and 20
- claims 13 and 19.

We select claims 1, 10, and 13 to represent the respective groups. Next, we address the obviousness of the claims.

Obviousness of the Claims

We begin by finding that the references represent the level of ordinary skill in the art. See In re GPAC Inc., 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995) (finding that the Board of Patent Appeals and Interference did not err in concluding that the level of ordinary skill was best determined by the references of record); In re Oelrich, 579 F.2d 86, 91, 198 USPQ 210, 214 (CCPA 1978) ("[T]he PTO usually must evaluate ... the level of ordinary skill solely on the cold words of the literature."). Of course, "[e]very patent application and reference relies to some extent upon

knowledge of persons skilled in the art to complement that [which is] disclosed' " In re Bode, 550 F.2d 656, 660, 193 USPQ 12, 16 (CCPA 1977) (quoting In re Wiggins, 488 F.2d 538, 543, 179 USPQ 421, 424 (CCPA 1973)). Those persons "must be presumed to know something" about the art "apart from what the references disclose." In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962). We next address the appellants' arguments regarding the obviousness of the claims.

Regarding claims 1, 10-13, and 18-21, the appellants argue, "there is no rationale for combining the two cited references other than hindsight" (Appeal Br. at 11.)

The examiner's reply follows.

[I]t would have been obvious ... to implement the accumulating circuits, iris motor control circuit and microcomputer of Haruki et al in the camera circuit of Imai et al, so as to obtain the focus detecting circuit and exposure controlling circuit operable only in response to the skin-colored portion being detected in an in-focus condition. This is because the focus operation, which is first performed by the microcomputer 26, would provide more accurate exposure on an image subject. (Examiner's Answer at 6.)

The appellants misconstrue the criteria for combining references. "[T]he question is whether there is something in

the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" In re Beattie, 974 F.2d 1309, 1311-12, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992) (quoting Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984)).

Here, Haruki teaches performing both an automatic exposure adjustment operation and an automatic focusing operation. Specifically, "description is made of a main routine in the automatic focusing operation and the automatic iris operation (automatic exposure adjustment) by the microcomputer 26." Col. 7, ll. 25-28. The reference further teaches performing the automatic exposure adjustment operation after performing the automatic focusing operation.

Specifically, Haruki includes the following disclosure.

[A] count value of a counter AECNT provided for carrying out the automatic focusing operation and the automatic iris operation in a time-divisional manner is decremented ... to determine in the step 33 whether or not the count value is zero. The automatic focusing operation is carried out if the count value is not zero, while the automatic iris operation is carried out only when the count value is zero. Id. at ll. 36-44.

For its part, Imai teaches performing an automatic exposure adjustment operation. The appellants admit, "According to Imai, a portion having a luminance of a predetermined level or higher and close to skin color, as shown in Figure 3, is extracted to perform control so that the exposure of this portion is appropriate." (Appeal Br. at 15.) The reference specifically "provide[s] an image pickup apparatus ... capable of enabling the most suitable exposure regardless of the position and the background of the subject image." Col. 2, ll. 36-42. Imai's apparatus is also "capable of enabling the most suitable exposure when humans are subject of the image." Id. at ll. 45-46. "As a result of the thus-obtained exposing mechanism controlling method," id. at ll. 60-61, moreover, "the most suitable exposure can be always obtained when the human's skin or the like is the subject of the image." Id. at ll. 61-63. We are persuaded that Imai's teachings of enabling the most suitable exposure would have suggested the desirability, and thus the obviousness, of substituting Imai's automatic exposure adjustment operation for Haruki's automatic exposure adjustment operation.

Further regarding claims 1, 11, 12, and 21, the appellants make the following argument.

Independent Claim 1 recites "focus detecting means for detecting a focus condition of the skincolored portion" and exposure controlling means, operable only in response to the skin-colored portion being detected in an in-focus condition." Neither of the cited references alone or in combination teach or suggest [sic] these two elements (Appeal Br. at 17.)

The examiner's reply follows.

Imai et al discloses an image pickup apparatus which is able to extract the skin color of a human being so as to perform exposure (col. 4); besides that, Haruki et al teaches the use of an image sensing apparatus which can perform a focus operation before performing an exposure operation at an in-focus area (col. 9, lines 49); that is, an appropriate exposure is always obtained since the exposure operation is performed at the same in-focus area. (Examiner's Answer at 7-8.)

The appellants misinterpret the claimed invention.

"`[T]he main purpose of the examination, to which every application is subjected, is to try to make sure that what each claim defines is patentable. [T]he name of the game is the claim" In re Hiniker Co., 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998) (quoting Giles S. Rich, The Extent of the Protection and Interpretation of

Claims--American Perspectives, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499, 501 (1990)). "In the patentability context, claims are to be given their broadest reasonable interpretations. Moreover, limitations are not to be read into the claims from the specification." In re Van Geuns, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed. Cir. 1993) (citing In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)).

Here, representative claim 1 specifies in pertinent part the following limitations:

focus condition detecting means for detecting a focus condition of the skin colored portion and providing a focus condition signal; and exposure controlling means, operable only in response to the skin-colored portion being detected in an in-focus condition, for controlling exposure so that an exposure of the skin-colored portion signal is appropriate.

Giving the claim its broadest reasonable interpretation, the limitations recite adjusting exposure of a skin-colored subject that is in-focus.

The prior art would have suggested these limitations. As mentioned regarding the combination of references, Haruki teaches performing an automatic exposure adjustment operation after performing an automatic focusing operation. Because exposure is adjusted only after focusing, exposure is adjusted ipso facto only on a subject who is in-focus. In addition, a person being focused-on, see fig. 12, would have skin-colored hues.

Imai further teaches performing its automatic exposure adjustment operation on a skin-colored subject. The appellants make the following admission.

The `482 reference teaches an image pick-up apparatus having exposure control for human subjects ... and, based on the evaluation of the incident light with respect to known values of skin colored hues, a determination is made as to the presence of skin colored objects within the incident light. The feature which is relied upon by the Examiner is circuits 208-211, which are used to extract a skin color if available from an input. If a skin color is detected, the apparatus controls the exposure to produce the optimal exposure for the skin colored object (Appeal Br. at 7.)

The reference adds, "[a]s a result of the thus-obtained exposing mechanism controlling method, the most suitable

exposure can be always obtained when the human's skin ... is the subject of the image." Col. 2, ll. 60-63.

As mentioned regarding the combination of references, teachings of the prior art would have suggested the desirability of substituting Imai's automatic exposure adjustment operation for Haruki's automatic exposure adjustment operation. Upon such substitution, the resulting apparatus would have performed an automatic exposure adjustment operation on a skin-colored subject after performing an automatic focusing operation on the same. Because exposure would be adjusted only after focusing, exposure would be adjusted ipso facto only on a subject that is in-focus. In view of these teachings, we are persuaded that the combination of references in combination with the prior art as a whole would have suggested the claimed limitations of adjusting exposure of a skin-colored subject that is in focus. Therefore, we affirm the rejection of claims 1, 11, 12, and 21 under 35 U.S.C. § 103.

Further regarding claims 10, 18, and 20, the appellants argue that the "combination of extracting human skin color and providing automatic focusing of the human skin color is not disclosed by either of the two references, which are directed to exposure control." (Appeal Br. at 20) The examiner's reply follows.

[H]igh pass filters 9 and 11 are able to extract high frequency component signals from the image sensing circuit 8 where the signals are stored in accumulating circuits 16-21, and used by the microcomputer 26 for determining a focusing area (col. 5, lines 58-61 and col. 6, lines 21-59) as a priority area for exposure control (col. 9, lines 1-53). As a result, the video camera of Imai in view of Haruki would be able to make an appropriate exposure correction at an in-focus area. (Examiner's Answer at 9.)

As mentioned regarding claims 1, 11, 12, and 21, Haruki teaches providing automatic focusing on a person with human skin. For its part, Imai teaches extracting human skin color. The appellants admit, "The feature which is relied upon by the Examiner is circuits 208-211, which are used to extract a skin color if available from an input" (Appeal Br. at 7.) The reference specifically mentions "detecting quantity [sic] of skin color signal component," abs., l. 9, and "select[ing]

information on the luminance of the subject of the image including the color near skin color." Col. 4, ll. 46-47. In view of these teachings, we are persuaded that the combination of references in combination with the prior art as a whole would have suggested the combination of extracting human skin color and providing automatic focusing of the human skin color. Therefore, we affirm the rejection of claims 10, 18, and 20 under 35 U.S.C. § 103.

Further regarding claims 13 and 19, the appellants argue, "Neither Haruki nor Imai teach [sic] alone or in combination extracting the high frequency response of only a human skin color to determine an in-focus condition which is subsequently used to determine a target object." (Appeal Br. at 19.) The examiner's reply follows.

Haruki et al teaches high pass filters 9 and 11 which are able to extract high frequency component signals from the image sensing circuit 8, where the signals are stored in accumulating circuits 16-21, and used by the microcomputer 26 for determining a focusing area (col. 5, lines 58-61 and col. 6, lines 21-59) as a priority area for exposure control (col. 9, lines 1-53). As a result, the video camera of Imai in view of Haruki would be able to make an appropriate exposure correction at an in-focus area. (Examiner's Answer at 9.)

Representative claim 13 specifies in pertinent part the following limitation: "means for detecting a high frequency component of the skin-colored portion signal." The prior art would have suggested these limitations.

Haruki teaches obtaining a high frequency component of a signal. Specifically, "A luminance signal in the video signal obtained from the image sensing circuit 8 is applied to a high-pass filter (HPF) 9" Col. 5, ll. 58-60. The HPF is "set to allow the passage of the band of 200 KHz to 2.4 MHz" Col. 6, ll. 60-61. As mentioned regarding claims 10, 18, and 20, Imai teaches extracting human skin color.

In view of these teachings, we are persuaded that the combination of references in combination with the prior art as a whole would have suggested the claimed limitation of means for detecting a high frequency component of the skin-colored portion signal. Therefore, we affirm the rejection of claims 13 and 19 under 35 U.S.C. § 103.

CONCLUSION

To summarize, the rejection of claims 1, 10-13, and 18-21 under 35 U.S.C. § 103 is affirmed.

No period for taking subsequent action concerning this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

MICHAEL R. FLEMING)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
ERIC FRAHM)	APPEALS
Administrative Patent Judge)	AND
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Appeal No. 1998-1387
Application No. 08/082,373

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