

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte SEIICHI TANAKA

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Appeal No. 1999-0864  
Application No. 08/757,550

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HEARD: May 24, 2001

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

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the rejection of claims 1, 3-6, and 12-35. We reverse.

BACKGROUND

The invention at issue in this appeal is a head mounted display (HMD). A conventional HMD comprises a pair of enlarging lenses, a pair of field diaphragms, a pair of miniaturized liquid crystal displays (LCDs), and a pair of back lights. All these components are mounted in a casing.

In the conventional HMD, the periphery of a main display image is covered with a black-colored field. As a result, a user views an LCD screen floating in a black space. Unfortunately, the difference of brightness between the main display image and the periphery tires the user's eyes.

The appellant's HMD detects a change in the brightness or color-tone of an image displayed on a screen of its LCDs; a change in the volume or frequency of an accompanying sound; or a change of the state surrounding a user who is viewing the displayed image. According to the detected change, the HMD varies the brightness or color-tone of the "environmental image," i.e., the periphery, surrounding the image on the LCD screen. Reducing the difference in brightness between the field-of-vision of the HMD and the external light around the user reduces his eye fatigue. Varying the brightness or color-tone, furthermore, enhances the user's experience.

Claim 22, which is representative for our purposes, follows:

Claim 22.

A method for displaying a main image together with an environmental image disposed at periphery of the main image, the environmental image providing a background context for the main image, comprising:

detecting conditions under which a user uses the image display device, said conditions being external to the environmental image; and

varying the environmental image according to conditions detected by said circumstance detection [sic].<sup>1</sup>

The prior art of record applied in rejecting the claims follows:

Yamanaka et al. (Yamanaka)	5,598,297	Jan. 28,
1997		
	(filed Aug. 17, 1994)	
Sawachika et al. (Sawachika)	5,485,172	Jan.
16, 1996		
(filed May 17, 1994).		

Claims 1, 3, 4, 15-17, 19-25, 28-31, and 35 stand rejected under 35 U.S.C. § 102(e) as anticipated by Yamanaka. Claims 5, 6, 12-14, 18, 26, 27, and 32-34 stand rejected under 35 U.S.C. § 103(a) as being obvious over Yamanaka in view of Sawachika. Rather than reiterate the arguments of the

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<sup>1</sup>We note that the expression "said circumstance detection" lacks express antecedent basis and leave it to the appellant and examiner to correct.

appellant or examiner in toto, we refer the reader to the briefs and answer for the respective details thereof.

OPINION

In deciding this appeal, we considered the subject matter on appeal and the rejections made by the examiner. Furthermore, we duly considered the arguments and evidence of the appellant and examiner. After considering the record, we are persuaded that the examiner erred in rejecting claims 1, 3-6, and 12-35. Accordingly, we reverse. Our opinion addresses the following rejections:

- anticipation rejection of claims 1, 3, 4, 15-17, 19-25, 28-31, and 35
- obviousness rejections of claims 5, 6, 12-14, 18, 26, 27, and 32-34.

We start with the anticipation rejection.

I. Anticipation Rejection of Claims 1, 3, 4, 15-17,

19-25, 28-31, and 35

We begin by noting the following principles from Rowe v. Dror, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997).

A prior art reference anticipates a claim only if the reference discloses, either expressly or inherently, every limitation of the claim. See Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "[A]bsence from the reference of any claimed element negates anticipation." Kloster Speedsteel AB v. Crucible, Inc., 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

With these principles in mind, we consider the examiner's rejection and the appellant's argument.

The examiner asserts, "in Yamanaka, the luminosity of the environmental image may be adjusted to high or low in case of enjoying a TV program or a movie, respectively, by means of an automatic lighting controller 262, which clearly or inherently detects the light quantity of the video data of a TV program or a movie and in response adjusts the luminosity of the environmental image." (Examiner's Answer, ¶ 11.) The appellant argues, "[t]he automatic lighting controller 262 ...

does not detect conditions external to the image display device." (Appeal Br. at 8.)

Claims 1, 3, 4, and 21 specify in pertinent part the following limitations: "a circumstance detector for detecting conditions external to the image display device under which a user uses the image display device; and environmental image-changing means for varying the environmental image according to external conditions detected by said circumstance detector." Similarly, claims 12-14 and 20 specify in pertinent part the following limitations: "a circumstance detector for detecting a quantity or brightness of light of the main image external to the environmental image under which a user uses the image display device; and environmental image-changing means for varying the environmental image according to detected light quantity or brightness of the main image detected by said circumstance detector." Analogously, claims 15-19 specify in pertinent part the following limitations: "a circumstance detector for detecting a sound volume or sound of the display device under which a user uses the image display device; and environmental image-changing means for varying the

environmental image according to the sound volume or sound of the display device detected by said circumstance detector." In addition, claims 22-25, 29-31, and 35 specify in pertinent part the following limitations: "detecting conditions under which a user uses the image display device, said conditions being external to the environmental image; and varying the environmental image according to conditions detected by said circumstance detection." Accordingly, claims 1, 3, 4, 15-17, 19-25, 28-31, and 35 require at least varying an environmental image of an image display device according to detected conditions external to the image.

The examiner fails to show a teaching or suggestion of the limitations in the prior art. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (quoting Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991)). "Inherency, however,

may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" Id., 49 USPQ2d at 1951 (quoting Continental Can Co., 948 F.2d at 1269, 20 USPQ2d at 1749).

Here, although Yamanaka's "automatic lighting controller **262** can gradually darken the illumination of the environmental image to begin a movie as if it was effected in a movie theater[,]" col. 12, ll. 27-29, there is no extrinsic evidence that the reference detects conditions external to the environmental image, let alone darkens the illumination according to such detected conditions. The mere fact that the controller may darken the illumination of the reference's environmental image according to detected conditions external to the image is insufficient. The lighting controller may instead darken the illumination when it is activated regardless of external conditions.

Because it is uncertain whether the reference detects conditions external to the environmental image, let alone

darkens the illumination according to such detected conditions, we are not persuaded that Yamanaka teaches the limitations of "a circumstance detector for detecting conditions external to the image display device under which a user uses the image display device; and environmental image-changing means for varying the environmental image according to external conditions detected by said circumstance detector[;]" "a circumstance detector for detecting a quantity or brightness of light of the main image external to the environmental image under which a user uses the image display device; and environmental image-changing means for varying the environmental image according to detected light quantity or brightness of the main image detected by said circumstance detector[;]" "a circumstance detector for detecting a sound volume or sound of the display device under which a user uses the image display device; and environmental image-changing means for varying the environmental image according to the sound volume or sound of the display device detected by said circumstance detector[;]" or "detecting conditions under which a user uses the image display device, said conditions being external to the environmental image; and varying the

environmental image according to conditions detected by said circumstance detection." Therefore, we reverse the rejection of claims 1, 3, 4, 15-17, 19-25, 28-31, and 35 as anticipated by Yamanaka. We proceed to the obviousness rejections.

II. Obviousness Rejections of Claims 5, 6, 12-14, 18,  
26, 27, and 32-34

We begin by noting the following principles from In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).... "A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Bell, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

With these principles in mind, we consider the examiner's rejections and the appellant's arguments regarding the following claims:

- claims 5, 26, and 33
- claims 12-14
- claims 6, 18, 27, 28, 32, and 34.

We start with claims 5, 26, and 33.

A. Claims 5, 26, and 33

The examiner alleges, "[e]lements 3 and 2R and 2L [of Sawachika] can make up the varying means for varying the color-tone of the background environmental image of Yamanaka because the intensity or color tone of a particular color could be changed also from the environmental image, not only from a main image, to maintain good image visibility in different viewing environments." (Examiner's Answer, ¶ 11.) The appellant argues, "Sawachika does not disclose varying a color-tone . . . ." (Appeal Br. at 13.)

Claim 5 specifies in pertinent part the following limitations: "the environmental image-changing means varies a color-tone of the environmental image according to the detected light quantity or brightness." Similarly, claim 26 specifies in pertinent part the following limitations: "the varying includes changing a color-tone of the environmental

image according to the sensed light quantity or brightness." Analogously, claim 33 specifies in pertinent part the following limitations: "the varying includes changing a color-tone of the environmental image according to the sensed light quantity or brightness." Accordingly, claims 5, 26, and 33 require, inter alia, varying a color-tone of the environmental image.

The examiner fails to show a teaching or suggestion of the limitations in the prior art of record. "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." Para-Ordnance Mfg. v. SGS Importers Int'l, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995)(citing W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1551, 1553, 220 USPQ 303, 311, 312-13 (Fed. Cir. 1983)). "It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992) (citing In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir.

1991)). "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." Id. at 1266, 23 USPQ2d at 1784 (citing In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)).

Here, the examiner admits, "Yamanaka et al. ... do not disclose that the image changing means is used for varying a color-tone of the environmental image ...." (Examiner's Answer, ¶ 10.) Although Sawachika varies an image, it does not vary the color-tone of an image. To the contrary, the reference changes the brightness of an image. Specifically, "the image viewed by the user will brighten in response to bright outside ambient light, conversely, if a low level of ambient light is present, the image will darken accordingly." Col. 5, ll. 35-38.

Because Yamanaka and Sawachika merely change the brightness of an image, we are not persuaded that the teachings from the prior art would appear to have suggested

the limitations of "the environmental image-changing means varies a color-tone of the environmental image according to the detected light quantity or brightness[,]" "the varying includes changing a color-tone of the environmental image according to the sensed light quantity or brightness[,]" or "the varying includes changing a color-tone of the environmental image according to the sensed light quantity or brightness." Therefore, we reverse the rejection of claims 5, 26, and 33 as obvious over Yamanaka in view of Sawachika. We proceed to claims 12-14.

#### B. Claims 12-14

The examiner asserts, "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the means of varying visibility, as taught by Sawachika, in the apparatus of Yamanaka ...." (Examiner's Answer, ¶ 10.) The appellant argues, "Sawachika varies an object (main) image but does not vary the environmental image according to the detected light of the main image ...." (Appeal Br. at 14.)

“[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)). Here, claims 12-14 specify in pertinent part the following limitations: “a circumstance detector for detecting a quantity or brightness of light of the main image external to the environmental image under which a user uses the image display device; and environmental image-changing means for varying the environmental image according to detected light quantity or brightness of the main image detected by said circumstance detector.” Accordingly, the claims require, inter alia, varying an environmental image of an image display device according to a detected brightness of a main image thereof.

The examiner fails to show a teaching or suggestion of the limitations in the prior art of record. As explained

regarding the anticipation rejection, it is uncertain whether Yamanaka darkens illumination according to any conditions external to an environmental image. Although Sawachika brightens or darkens an image according to detected conditions external to a detected brightness, the brightness is not that of the main image. To the contrary, the brightness is that of outside light. As noted regarding claims 5, 26, and 33, "the image viewed by the user will brighten in response to bright outside ambient light, conversely, if a low level of ambient light is present, the image will darken accordingly." Col. 5, ll. 35-38.

Because Sawachika changes an image according to brightness of outside ambient light, we are not persuaded that the teachings from the prior art would appear to have suggested the limitations of "a circumstance detector for detecting a quantity or brightness of light of the main image external to the environmental image under which a user uses the image display device; and environmental image-changing means for varying the environmental image according to detected light quantity or brightness of the main image

detected by said circumstance detector." Therefore, we reverse the rejection of claims 12-14 as obvious over Yamanaka in view of Sawachika. We proceed to claims 6, 18, 27, 28, 32, and 34.

C. Claims 6, 18, 27, 28, 32, and 34

The examiner alleges, "Yamanaka's lighting controller is capable of detecting a sound volume or a sound associated with the main image of the display device considering that a movie inherently contains video and audio data." (Examiner's Answer, ¶ 11.) The appellant argues, "[n]either Yamanaka nor Sawachika remotely teach or suggest a volume of sound or sound as a detected condition." (Appeal Br. at 13.)

Claim 6 specifies in pertinent part the following limitations: "a condition detected by the circumstance detector is a volume of sound or sound around a user ...." Similarly, claim 18 specifies in pertinent part the following limitations: "the environmental image-changing means varies a color-tone of the environmental image according to the detected sound volume or sound." Also similarly, claims 27

and 28 specify in pertinent part the following limitations: "the detecting a sound volume or sound of the display device and the varying includes changing a color-tone of the environmental image according to the sensed sound volume or sound." Further similarly, claim 32 specifies in pertinent part the following limitations: "the detecting a sound volume or sound around a user ...." Similarly, claim 34 specifies in pertinent part the following limitations: "the detecting includes sensing a sound volume or sound around a user ...." Accordingly, claims 6, 18, 27, 28, 32, and 34 require, inter alia, detecting sound or sound volume.

The examiner fails to show a teaching or suggestion of the limitations in the prior art of record. As explained regarding the anticipation rejection, it is uncertain whether Yamanaka detects any conditions external to the environmental image. As explained regarding claims 12-14, Sawachika merely detects the brightness of outside ambient light.

Because neither Yamanaka nor Sawachika detects sound or sound volume, we are not persuaded that the teachings from the

prior art would appear to have suggested the limitations of "a condition detected by the circumstance detector is a volume of sound or sound around a user[,]" "the environmental image changing means varies a color-tone of the environmental image according to the detected sound volume or sound[,]" "the detecting a sound volume or sound of the display device and the varying includes changing a color-tone of the environmental image according to the sensed sound volume or sound[,]" "the detecting a sound volume or sound around a user[,]" or "the detecting includes sensing a sound volume or sound around a user ...." Therefore, we reverse the rejection of claims 6, 18, 27, 28, 32, and 34 as obvious over Yamanaka in view of Sawachika.

#### CONCLUSION

In summary, the rejection of claims 1, 3, 4, 15-17, 19-25, 28-31, and 35 under 35 U.S.C. § 102(e) is reversed. The rejections of claims 5, 6, 12-14, 18, 26, 27, and 32-34 under 35 U.S.C. § 103(a) are also reversed.

REVERSED

MICHAEL R. FLEMING	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
PARSHOTAM S. LALL	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
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LANCE LEONARD BARRY	)	
Administrative Patent Judge	)	

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