THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KAREN E. JACHIMOWICZ and MICHAEL S. LEBBY

Appeal No. 1997-2150
Application No. 08/350,777

ON BRIEF

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

GROSS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 13 and 20, which are all of the claims pending in this application.

Appellants' invention relates to a portable transceiver device having a miniature virtual image display with an image generation apparatus for providing a real image and a fixed

optical system for magnifying the real image to produce a virtual image. Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A portable transceiver device with a virtual image display comprising:

a portable transceiver device having a first hollow body and a second hollow body pivotally attached to the first hollow body, the first hollow body including a portable transmitter and a portable receiver, and a miniature virtual image display having a viewing aperture contained in the second hollow body, the miniature virtual image display being operably attached to the portable receiver and including an image generation apparatus that provides a complete real image producing less than 15 fL and a fixed optical system for producing, from the complete real image, a virtual image viewable through the viewing aperture.

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

Villa-Real	4,481,382	Nov. 06, 1984
Thorsten	4,722,587	Feb. 02, 1988
Becker	4,934,773	Jun. 19, 1990
Wells et al. (Wells)	5,048,077	Sep. 10, 1991
Brandenstein[1]	DE 3323858	Jan. 03, 1985

[1] Our understanding of this reference is based upon a translation provided by the Scientific and Technical Information Center of the Patent and Trademark Office. A copy of the translation is enclosed with this decision.

Claims 1, 7, and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Villa-Real in view of Wells.

Claims 2 through 6 and 8 through 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Villa-Real in view of Wells and Becker, with the addition of Thorsten for claims 5 and 6 and the addition of Brandenstein for claim 12.

Reference is made to the Examiner's Answer (Paper No. 13, mailed December 23, 1996) for the examiner's complete reasoning in support of the rejections, and to appellants' Brief (Paper No. 12, filed September 19, 1996) and Reply Brief (Paper No. 14, filed January 8, 1997) for appellants' arguments thereagainst.

OPINION

We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellants and the examiner. As a consequence of our review, we will reverse the obviousness rejections of claims 1 through 13 and 20.

Regarding the rejection of claims 1, 7, and 20, appellants argue (Brief, page 7) that "nothing in Villa-Real

suggests mounting a display in a second hollow body hingedly attached to the first hollow body." Villa-Real, however, discloses an upper housing 7 (or first hollow body) and a main housing 1 (or second hollow body), connected via an inter-linking stem 8 that links the two housings "in a flip-flop fashion" (see column 3, lines 16-19). Figure 2 demonstrates how the upper housing bends towards the lower housing, and Figure 1 shows a concave portion in the main housing that is the same shape and size as the upper housing combined with the inter-linking stem. Therefore, we find that Villa-Real discloses two hollow bodies hingedly attached. Further, Villa-Real shows in Figure 1 a display window 2 in main housing 1, or the second hollow body, as claimed.

Since Villa-Real uses a small direct view display, the examiner turns to Wells for a teaching for a miniature virtual image display. The examiner states (Answer, pages 3-4) that it would have been obvious to modify Villa-Real's device to include a miniature virtual image display "to provide a telephone handset which incorporates a full page of text or graphics information display which is compact and space-efficient." Although the examiner fails to point to any

specific portion of Wells for the motivation to combine, Wells discloses in the background of the invention that prior art telephones include only small displays capable of displaying information such as dialed numbers and that a need for displaying a large amount of transmitted data at the telephone has increased. Wells further discusses the problems associated with incorporating full-size data displays. Wells solves the prior art problems by providing a miniature virtual image display which can display a full page of text (see column 2, lines 42-46).

Wells uses for his display a line of light emitting diodes (LEDs) and a magnifying optical system which "creates a magnified virtual image of the LED line" (column 2, lines 47-51). Wells then converts the virtual line image into a virtual raster image by an oscillating mirror. Appellants contend (Reply Brief, page 3) that Wells' vibrating mirror is not a fixed optical system as is required by each of claims 1, 7, and 20. However, as described in the abstract, "[a] magnifying optical system creates a magnified virtual image of the LED line and the virtual line image is then converted into a virtual raster image by an oscillating mirror." Wells shows

in Figure 4, lenses 90 and 100 between the LEDs and the mirror. Thus, the lenses are a fixed optical system which produces a magnified virtual image.

The examiner admits (Answer, page 4) that the combination of Villa-Real and Wells lacks disclosure for the image producing less than 15 fL. The examiner states (Answer, page 4) that Wells uses the same light emitting devices as appellants and, therefore, his display must produce less than 15 fL. The examiner further asserts (Answer, page 4) that the claimed amount of light produced would have been obvious as it is merely an optimum value of a result effective variable.

The examiner's first reason for obviousness is essentially an inherency argument. However, appellants explain (Brief, page 8) that the amount of light produced depends on the amount of current that is applied to the LEDs, and that the amount of current that can be applied to each LED is determined by the size of the semiconductor chip upon which the LEDs are formed. Since Wells does not discuss the luminance nor limit the size or the amount of current that can be applied to each LED, appellants contend (Brief, page 9) that there is no teaching that would lead the skilled artisan

to the limitation of less than 15 fL. We agree. Appellants have clearly shown that the luminance is not inherent to LEDs per se but rather depends on the size and the amount of current supplied thereto. Without any discussion in Wells as to the amount of current and/or the luminance, we find no suggestion to limit the amount of luminance to that which is claimed.

As to the examiner's second reason for obviousness, the examiner has not shown that the amount of light is a result effective variable. The examiner has provided no evidence of any relationship, and particularly an inverse relationship, between the amount of light and another characteristic of the LEDs, such that one would want to balance or optimize the two. Therefore, In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) does not apply to the claimed limitation. Accordingly, we cannot sustain the rejection of claims 1, 7, and 20.

For claims 2 through 4, 8 through 11, and 13, the examiner adds Becker to the combination of Villa-Real and Wells, contending that Becker teaches arranging the diodes to produce an array of pixels in rows and columns. However, like claim 1, independent claims 8 and 13 recite that the image

generation apparatus produces less than 15 fL, a limitation found lacking from the combination of Villa-Real and Wells. Becker fails to cure this deficiency. Accordingly, we cannot sustain the rejection of claims 8 and 13. Additionally, since claims 2 through 4 and 9 through 11 depend from claims 1 and 8, respectively, and therefore include the same limitations discussed above, we further cannot sustain the rejection of claims 2 through 4 and 9 through 11.

The examiner rejects claims 5 and 6 over Villa-Real, Wells, Becker, and Thorsten. The examiner asserts (Answer, page 6) that Thorsten teaches that it is well known to form an array of light sources from lasers. However, Thorsten merely suggests the equivalence of LEDs and laser diodes as emitters in an optical communication system. As indicated by appellants (Brief, page 13), nothing in Thorsten teaches or suggests the use of an array of lasers to produce an image. Accordingly, the examiner has failed to establish a prima facie case of obviousness. Further, claims 5 and 6 depend from claim 1 and therefore include the same limitation of the image generation apparatus's producing less than 15 fL, found lacking from the combination of Villa-Real, Wells, and Becker.

As Thorsten fails to cure this deficiency, we must reverse the rejection of claims 5 and 6.

Claim 12 is the only claim which does not recite the image generation apparatus's producing less than 15 fL. Instead claim 12 recites three hollow bodies with a miniature virtual display in each of the second and third hollow bodies. The examiner applies Villa-Real and Wells for a portable transceiver device with a miniature virtual display as discussed above, and adds Becker for its disclosure of using two miniature virtual displays for providing 3-D images (see column 2, lines 18-21). The examiner further adds Brandenstein for a third hollow body. Brandenstein shows in Figures 1-3 three hollow bodies hingedly attached, which he explains (translation, page 9) is for small and easily handled dimensions when the phone is not in use. Brandenstein places a small direct view display, similar to that used by Villa-Real, in the second section, since it is the largest part (see translation, page 10). Nowhere, however, does Brandenstein or any of the other applied references suggest placing one display in each of the second and third hollow bodies. If anything, Brandenstein would suggest placing the second

display in the second hollow body for the same reason that he places the first display in the second hollow body. Further, Becker discloses using the two displays for 3-D images mounted to glasses or goggles, thereby suggesting that the two displays should be horizontally aligned, not in separate hollow bodies which are vertically displaced from one another. Thus, the examiner again has failed to establish a prima facie case of obviousness, so we cannot sustain the rejection of claim 12.

CONCLUSION

The decision of the examiner rejecting claims 1 through 13 and 20 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON Administrative Patent Judge	)	
MICHAEL R. FLEMING Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)	

apg/vsh

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