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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GREGORY A. PICCIONELLI and TED R. RITTMASER

Appeal 2019-005389
Application 14/818,970
Technology Center 2600

Before JAMES B. ARPIN, ADAM J. PYONIN, and AMBER L. HAGY,
Administrative Patent Judges.

ARPIN, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a), the Examiner’s final rejections of claims 1–3, 6, 7, 9, 10, 21, 22, and 25–35. Appeal Br. 4.² Claims 4, 5, 8, 11–20, 23, and 24 are canceled; and claims 6, 7, and 33 are

¹ “Appellant” here refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real parties-in-interest as Gregory A Piccionelli and Ted R. Rittmaster. Appeal Br. 2.

² In this Decision, we refer to Appellant’s Appeal Brief (“Appeal Br.,” filed September 25, 2018) and Reply Brief (“Reply Br.,” filed June 21, 2019); the Final Office Action (“Final Act.,” mailed May 4, 2018) and the Examiner’s Answer (“Ans.,” mailed May 1, 2019); and the originally-filed Specification (“Spec.,” filed August 5, 2015). Rather than repeat the Examiner’s findings and determinations and Appellant’s contentions in their entirety, we refer to these documents.

withdrawn from consideration. *Id.* We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

STATEMENT OF THE CASE

Appellant’s claimed inventions “relate[] to flexible display screen systems and methods and, in particular embodiments, to systems and methods in which one or more flexible display screens is formed as or included in a wearable article or cover for an article.” Spec. ¶ 2.

As noted above, claims 1–3, 6, 7, 9, 10, 21, 22, and 25–35 stand rejected. Claims 1 and 31 are independent. Appeal Br. 19 (claim 1), 22 (claim 31) (Claims App.). Claims 2, 3, 6, 7, 9, 10, 21, 22, and 25–30 depend directly or indirectly from claim 1; and claims 32–35 depend directly from claim 31. *Id.* at 19–23.

Claim 1 recites “[a] flexible display screen system,” and claim 31 recites “[a] method of making a flexible display screen system.” *Id.* at 19, 22. The Examiner relies on the same references and substantially similar arguments in rejecting claims 1 and 31 (Final Act. 3–4, 7); and Appellant only contests the rejections of claims 2, 21, 25, and 27 separately from claim 1 (Appeal Br. 15–16). Therefore, we focus our analysis on independent claim 1 and the disputed and overlapping limitations recited in independent claim 31.

Claim 1, reproduced below with disputed limitations emphasized, is illustrative.

1. A flexible display screen system comprising:
an article comprising a flexible material configured to cover at least a portion of a person's face or head;

at least one flexible display screen secured on the flexible material and facing away from the person's face or head when the flexible material covers at least the portion of the person's face or head;

a computer system configured to provide image information for controlling a display of images on the flexible display screen, *the images providing or enhancing a visual appearance of a face feature*;

wherein the flexible material and the at least one flexible display screen have at least one transparent or semi-transparent portion *through which a feature of the person's face or head is visible through the article when the flexible material covers the portion of the person's face or head.*

Id. at 19 (emphases added).

REFERENCES AND REJECTIONS

The Examiner relies upon the following references in rejecting the claims:

Name³	Number	Published	Filed
Liguori	US 2010/0263247 A1	Oct. 21, 2010	Apr. 21, 2009
Inagaki	US 2015/0227245 A1	Aug. 13, 2015	Feb. 24, 2014
Rodriguez	US 2015/0223532 A1	Aug. 13, 2015	Feb. 13, 2015
Bae	US 2016/0116746 A1	Apr. 28, 2016	Nov. 5, 2015

Specifically, claims 1, 2, 21, 25–31, 34, and 35 stand rejected as unpatentable under 35 U.S.C. § 103 over the combined teachings of Liguori and Bae (Final Act. 3–7); claims 3, 22, and 32 stand rejected as unpatentable under 35 U.S.C. § 103 over the combined teachings of Liguori, Bae, and Rodriguez (*id.* at 7–8); and claims 9 and 10 stand rejected as unpatentable

³ All reference citations are to the first named inventor only.

under 35 U.S.C. § 103 over the combined teachings of Liguori, Bae, and Inagaki (*id.* at 8–10).

Appellant contests the obviousness rejection of independent claim 1 (Appeal Br. 10–13) and relies on the alleged deficiencies in that rejection to overcome the rejection of the independent claim 31 and the dependent claims (*id.* at 13–14). Because we determine that reversal of the rejection of independent claim 1 is dispositive, except for our ultimate decision, we do not discuss the merits of the rejections of claims 2, 3, 6, 7, 9, 10, 21, 22, and 25–35 further herein. We review the appealed rejection of independent claim 1 for error based upon the issues identified by Appellant, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential). We address the rejection of claim 1 below.

ANALYSIS

1. Obviousness of Claim 1 Over Liguori and Bae

As noted above, the Examiner rejects independent claim 1 as obvious over the combined teachings of Liguori and Bae. Final Act. 3–4. In particular, claim 1 recites, “a computer system configured to provide image information for controlling a display of images on the flexible display screen, *the images providing or enhancing a visual appearance of a face feature.*” Appeal Br. 19 (Claims App.) (emphasis added). We understand these images are either a *first* visual appearance of a “facial feature” (Spec. ¶ 38) or a *second* visual appearance of an enhanced “facial feature” (*id.*), as opposed to other visual appearances, which may be “stored and selected,” such as “objects on the face,” including “nose studs or other jewelry, eye patches, eye glasses, bandages, or the like” (*id.*). The Examiner finds that

Liguori teaches or suggests, “a wireless connection or plug-in socket connection (224) is connected to control circuit (222) so as to attach a computer to control the images on display (202) to provide or enhance the visual appearance of the user’s forehead.” Final Act. 3–4 (citing Liguori, Figs. 7, 8, ¶ 80); *see* Ans. 13. Thus, the Examiner finds Liguori teaches or suggests this limitation. Appellant disagrees.

a. Liguori’s Teachings

Liguori’s Figure 7 is reproduced below.

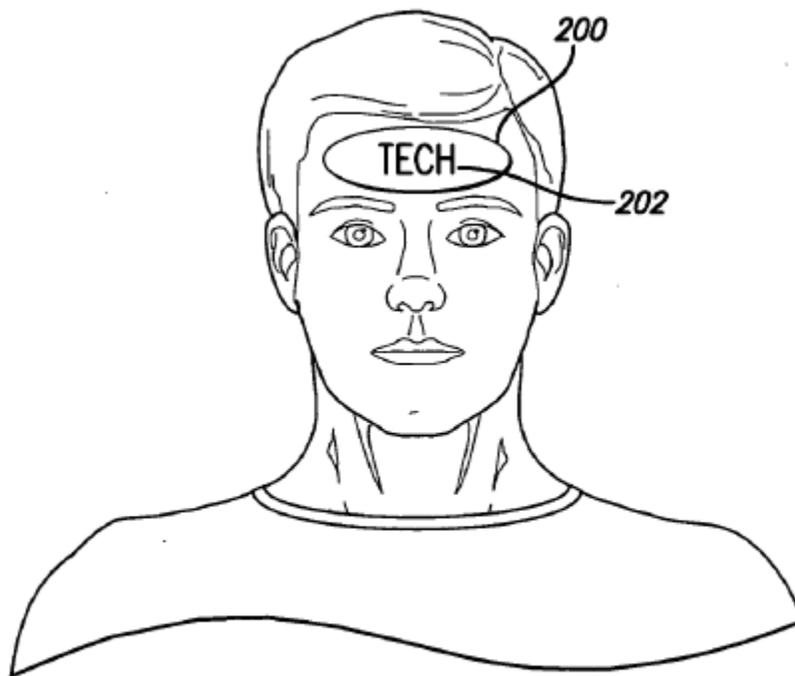


FIG. 7

Figure 7 depicts “a front view of the forehead adhesive display of the present invention with a liquid crystal display (LCD) light display.” Liguori ¶ 44.

Liguori explains:

The forehead adhesive display **200** of FIG. 7 has a liquid crystal display (LCD) light display **202**. The flexible LCD display **202** should be thin, relatively lightweight, and flexible. The LCD

display can be made from plastic, polymer or other flexible material. The LCD should withstand exposure to the outdoor and indoor elements, and withstand perspiration of the wearer and wrinkling of the forehead. *The LCD should also support the coating of the adhesive on the bottom surface without running of the adhesive over time. The LCD should be non-allergenic and not cause a rash or markings on the skin.* The LCD can still incorporate an ink display, in addition to the lighted aspect of the display. Alternately, the display can just be a light display. The light display can be static or animated (moving).

Id. ¶ 75. Thus, Liguori’s display has a coating of adhesive between the display and the wearer’s forehead. *See id.*, Fig. 8 (depicting bottom adhesive coating 216), ¶ 76 (“The bottom surface **214** of the flexible display sheet **212** will be coated with the reusable adhesive **216** for removable attachment to the forehead.”).

The Specification’s Figure 2 is reproduced below.

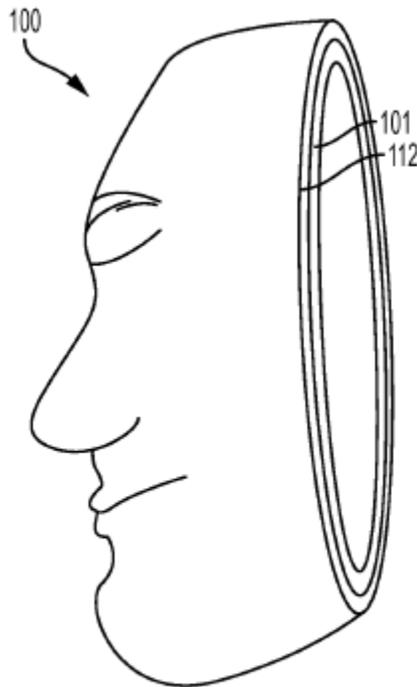


FIG. 2

Figure 2 depicts flexible display screen mask 100. Spec. ¶ 5. The Specification explains:

In particular embodiments, the display screen layer 112 (or the display screens in the layer 112) are formed of thin, transparent or semi-transparent materials, so that the layer 101 is visible through the display screen layer 112. *In such embodiments, the layer 101 may be colored, shaped and/or otherwise configured to provide a first visual appearance of facial features when the display screen(s) in the layer 112 are off or otherwise not displaying an electronically generated image. In those embodiments, the layer 112 enhances or otherwise changes the visual appearance (to a second visual appearance) of facial features on the mask 100.* For example, a first visual appearance may show some or all facial features of layer 101 as appearing without makeup or other enhancements, while a second visual appearance (with one or more display screen(s) in the layer 112 providing an electronically generated image) may show some or all of the same facial features as appearing with makeup or other enhancements. A plurality of selectable images (for example, each having an appearance of a different amount, color, shade, tone, style or other quality of makeup, or other different visible enhancement relative to the other selectable images) may be available and selectable, as described above. . . . Such other enhancements may include, but are not limited to, images of other visual appearance features may be stored and selected (e.g., other than makeup), such as, but not limited to, features relating to the shape or contour of portions of the face (e.g., nose shapes, lip shapes, cheek-bone structures, forehead wrinkles, or the like) and/or images relating to objects on the face (e.g., nose studs or other jewelry, eye patches, eye glasses, bandages, or the like), to allow a user to selectively enhance or change the visual appearance of the facial features on the layer 101 in other manners.

Id. ¶ 38 (emphasis added). Appellant contends:

Ligouri teaches to cover a person's forehead with the display sheet and show messages on the display sheet covering the person's forehead. As Ligouri is concerned with displaying

outward-directed messages on a sheet that is easy to read, there would be no purpose or reason for Liguori to employ a transparent or semitransparent portion through which a feature of a person's face or head is visible. . . . The proposed purpose of Liguori (to display messages on a display sheet adhered to a person's forehead) is contrary to a transparent or semi-transparent portion through which a feature of a person's face or head is visible.

Appeal Br. 12–13. In light of Liguori's disclosure, Liguori's display sheet covers a portion of the wearer's face and displays an image and the display sheet is attached to the wearer's forehead with an adhesive, which obscures, rather than enhances, the wearer's facial features. *See* Liguori ¶¶ 61–69, 80. Further, Liguori's teachings for a message displayed on a person's face (*see* Liguori, Figs. 7, 8) are comparable to “objects *on* the face,” which Appellant's Specification distinguishes from claimed limitations relating to features *of* a person's face or head. Spec. ¶ 38 (emphasis added). Consequently, we are not persuaded the Examiner has shown that Liguori teaches or suggests that its forehead display produces images “providing or enhancing a visual appearance *of a face feature*,” as defined in the Specification and as recited in claim 1.

b. Bae's Teachings

Further, the Examiner acknowledges:

Liguori is deficient in disclosing wherein the flexible material and the at least one flexible display screen have at least one transparent or semi-transparent portion *through which a feature of the person's face or head is visible through the article when the flexible material covers the portion of the person's face or head.*

Final Act. 4 (emphasis added). The Examiner finds, however,

Bae discloses wherein the flexible material and the at least one

flexible display screen have at least one transparent or semi-transparent portion through which a feature of the person's face or head is visible through the article when the flexible material covers the portion of the person's face or head.

Id. (citing Bae, Fig. 11, ¶ 39).

Bae's Figure 11 is reproduced below.

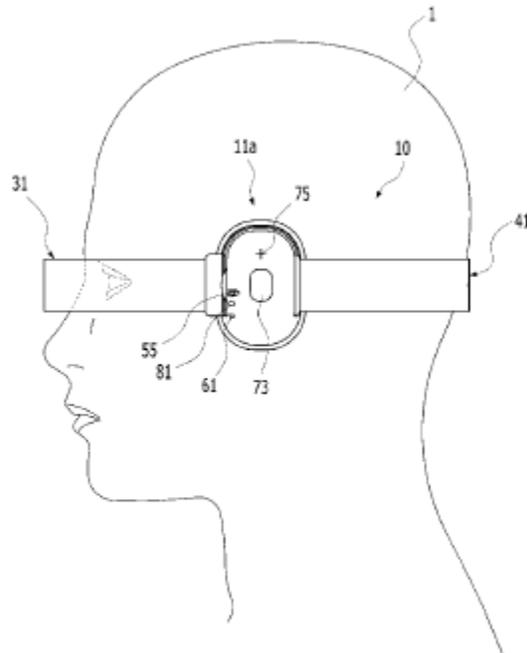


FIG. 11

Figure 11 depicts “a state in which a wearer wears a head-mounted display according to an embodiment of [Bae’s claimed] invention.” Bae ¶ 31. Bae explains, “[t]he first arm **31** is made of a transparent flexible display having the same function as smart glasses.” *Id.* ¶ 39. Moreover, Bae explains

when the head-mounted display **10** is in the first mode, the wearer **1** may view the front through the first arm **31** *as if the wearer 1 wears glasses so that no limitation is provided to general activities*, and computing information, for example, the information controlled by the control unit **51** may be effectively provided through the first arm **31** to the entire field of view.

Id. ¶ 64 (emphasis added). Thus, Bae teaches that the purpose of transparent

first arm 31 is for the wearer to see out. Moreover, it is axiomatic that the purpose of eyeglasses, especially, prescription lenses and sunglasses, is to enable the wearer to see objects clearly, not for observers to see the wearer's face. Thus, Bae teaches the wearer may see out through first arm 31, but does not teach necessarily that observers may see the wearer's facial features through first arm 31. *See* Appeal Br. 12. Therefore, we are not persuaded that Bae teaches or suggests the limitation that the Examiner acknowledges is missing from Liguori. *See* Final Act 4.

c. Reason to Combine

Finally, the Examiner concludes,

it would have been obvious to a person of ordinary skilled in the art to have modified the flexible display screen as taught by *Liguori* by including the flexible display screen having a transparent portion as taught by *Bae*. The suggestion/motivation would have been *so the user is able to see through the flexible display screen for safety*.

Final Act. 4 (emphasis added). The U.S. Supreme Court instructs that “[u]nder the correct analysis, *any need or problem known in the field of endeavor at the time of invention and addressed by the patent* can provide a reason for combining the elements in the manner claimed.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007) (emphasis added). Nevertheless, the Examiner fails to show where either Liguori or Bae teaches that *safety* is a concern. Final Act. 4; *see* Liguori ¶ 63 (describing placement of display sheet 12 above wearer’s eyes); Bae ¶ 64 (“so that no limitation is provided to general activities”). Because Liguori’s display is mounted on the wearer’s forehead above the eyebrows, Liguori does not demonstrate a need or problem requiring Bae’s transparent screen; nor has the Examiner shown

one of ordinary skill would have considered such problem arising from Liguori’s teachings. Appeal Br. 12; Reply Br. 3–4; *see* Liguori ¶ 63. Thus, we are not persuaded the Examiner has shown that a person of ordinary skill in the art would have had reason to combine the teachings of Liguori and Bae based on a desire for “safety” to achieve the systems, as recited in claim 1.⁴

Consequently, we are persuaded that the Examiner erred in rejecting claim 1, and we do not sustain the obviousness rejection of claim 1.

2. *The Remaining Claims*

As noted above, Appellant challenges the rejection of independent claim 31 for the same reasons as claim 1. Appeal Br. 13–14. Each of claims 2, 3, 6, 7, 9, 10, 21, 22, 25–30, and 32–35 depends directly or indirectly from independent claim 1 or 12. *Id.* at 19–23 (Claims App.). Appellant does not challenge the rejections of the independent claim 31 or, with a few exceptions, the dependent claims separately from its challenge to the rejection of claim 1. *Id.* at 14–18; *see* Reply Br. 5–7. Because we are persuaded the Examiner erred with respect to the obviousness rejection of claim 1, we also are persuaded the Examiner erred with respect to the

⁴ Claim 2 recites “the article [of claim 1] comprises a mask configured to cover at least a portion of a person’s face or head, *without covering any eye of the person.*” Appeal Br. 19 (Claims App.). Although we reverse the rejection of this claim based on the reversal of the rejection of its base claim, it is particularly unclear why the Examiner’s stated reason for combining the teachings of Liguori and Bae would be applicable to this embodiment. *See also id.* at 19 (Claim 3 recites “wherein the mask *includes one or more openings that align with eyes on the person’s face to allow the person to see through the mask* while the flexible material covers at least the portion of the person’s face or head.” (emphasis added)).

obviousness rejections of claims 2, 3, 6, 7, 9, 10, 21, 22, and 25–35. For this reason, we do not sustain the rejections of those claims.

DECISIONS

1. The Examiner erred in rejecting claims 1–3, 6, 7, 9, 10, 21, 22, and 25–35 under 35 U.S.C. § 103 as rendered obvious over the combined teachings of Liguori and Bae, alone or in combination with another reference.
2. Thus, on this record, claims 1–3, 6, 7, 9, 10, 21, 22, and 25–35 are not unpatentable.

CONCLUSION

For the above reasons, we reverse the Examiner’s decision rejecting claims 1–3, 6, 7, 9, 10, 21, 22, and 25–35.

In summary:

Claims Rejected	35 U.S.C. §	References	Affirmed	Reversed
1, 2, 21, 25–31, 34, 35	103	Liguori, Bae		1, 2, 21, 25–31, 34, 35
3, 22, 32	103	Liguori, Bae, Rodriguez		4, 13, 16
9, 10	103	Liguori, Bae, Inagaki		9, 10
Overall Outcome				1–3, 6, 7, 9, 10, 21, 22, 25–35

REVERSED