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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANTERO TOSSAVAINEN, VESA KAJANUS, and PETRI SORONEN

Appeal 2018-001609
Application 13/818,225
Technology Center 2600

Before JEREMY J. CURCURI, BARBARA A. BENOIT, and AARON W. MOORE, *Administrative Patent Judges.*

CURCURI, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 21–28, 30–36, 38–44, 46, and 49–51. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Nokia Technologies Oy. Appeal Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to a "display apparatus providing speaker functionality for use in mobile devices." Spec. 1:5–6. Claim 21, reproduced below with the key limitation emphasized, is illustrative of the claimed subject matter:

> 21. An apparatus comprising:
>
> a first part configured to form at least part of a case of the apparatus;
>
> a second part configured to form at least one of:
>
> a front window, and
>
> at least one layer of a display assembly for the apparatus;
>
> a flexible membrane coupling, at a first area of contact, the first part and, at a second area of contact, the second part; and
>
> at least two actuators coupled to the second part and configured to actuate the second part to generate a translational planar motion displacement of the second part based at least partially upon the flexible membrane that enables the translational planar motion displacement of the second part to generate sound waves when the second part is actuated by the at least two actuators, *where the at least two actuators are configured to generate the translational planar motion displacement of the second part comprising at least one of:*
>
> *an entirety of the front window having the translational planar motion displacement, and*
>
> *an entirety of the at least one layer of a display assembly having the translational planar motion displacement*.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Burrough	US 2010/0156818 A1	Jun. 24, 2010
Takenaka	US 2008/0055277 A1	Mar. 6, 2008

REJECTIONS

Claims 21–28, 33–36, 39–44, 46, and 49–51 are rejected under pre-AIA 35 U.S.C. § 102(b) as anticipated by Burrough. Final Act. 7–13.

Claims 30–32 and 38 are rejected under pre-AIA 35 U.S.C. § 103(a) as obvious over Burrough and Takenaka. Final Act. 13–15.

OPINION

The Anticipation Rejection of Claims 21–28, 33–36, 39–44, 46, and 49–51 by Burrough

The Examiner finds Burrough describes all limitations of claim 21. Final Act. 7–9. In particular, the Examiner finds Burrough discloses providing haptic sensations to the protective layer 120 (Burrough, Figures 1B–1E) as a single unitary member, and that such disclosure describes the key limitation. Final Act. 9 (citing Burrough ¶ 53); *see also* Ans. 5–11.

Appellant argues that Burrough does not describe the key limitation. *See* Appeal Br. 6–23. For example, Appellant presents the following arguments:

> There is no disclosure or suggestion of all locations "A", "B" and "C" shown [in Figure 1D of Burrough] having a same equal displacement (H_1 and H_2 together) and, thus, there is no translational planar motion displacement disclosed or suggested. Fig. 2A clearly shows limited localized effects for each actuator as shown by the circles around each actuator and including showing **non-translational effects,** such as "silent areas" versus the other areas.

Appeal Br. 11. Appellant further argues that "**[a] member can be 'unitary' and still bend for example.** There is no disclosure or suggestion that an entire unit 120 moves in unison to provide translation of the entire unit 120 as the examiner has stated." Appeal Br. 13; *see also* Reply Br. 1–10.

In light of Appellant's arguments, we determine the Examiner erred in finding Burrough describes the following key limitation:

> where the at least two actuators are configured to generate the translational planar motion displacement of the second part comprising at least one of:
>
> an entirety of the front window having the translational planar motion displacement, and
>
> an entirety of the at least one layer of a display assembly having the translational planar motion displacement.

The claim language requires *translational* planar motion *displacement* of an *entirety* of the front window or the at least one layer of a display assembly. That is, the *entirety* of the structure must undergo *translational displacement*.

This interpretation of the claim language is consistent with the disclosure in Appellant's Specification:

> With respect to Figure 9 an example of the operation of the piezoelectric actuator 305 is shown. In Figure 9 the piezoelectric actuator 305 is configured to vibrate 1001 in such a way that the bending moment of the piezoelectric actuator 305 transfers a force via the rubber force contact 501 to the display assembly 304 causing the display to move 1003 substantially in translational mode of displacement. The display assembly 304 as discussed herein can be configured in some embodiments to move in such a way that it is substantially a linear translation in the dimension perpendicularly into and out of the apparatus 10 (the 'z' direction as compared to the x and y directions which define the display plane) perpendicular to the membrane layer because of the relatively large degree of flexibility available at the membrane joint 1005 compared to the display assembly rigidity.

Spec. 22:17–28.

Burrough discloses the following:

> Generally speaking, substantially all of protective layer 120 can be provided with haptic sensations as a single unitary member, however, it is possible to provide for individually-moving portions of protective layer 120 by providing each portion with their own haptic actuator where the haptic responses can be limited to [a] particular region of surface 126 with effective range R as shown in FIG. 2A.

Burrough ¶ 53.

Thus, Burrough discloses providing haptic sensations to protective layer 120 as a single unitary member. Nonetheless, these disclosures in Burrough do not require the single unitary member to, in its entirety, undergo translational displacement; rather, these disclosures suggest bending of protective layer 120. Put another way, Burrough discloses providing a haptic sensation to part or all of protective layer 120, but when the haptic sensation is provided to all of protective layer 120, Burrough suggests bending of protective layer 120 rather than translational displacement of the protective layer 120 in its entirety.

Burrough further discloses "[i]t should also be noted that multiple haptic actuators can be driven in unison for stronger haptic effects or at different times to provide sensations at particular locations of surface 126." Burrough ¶ 50. Thus, Burrough further describes driving multiple haptic actuators in unison. But again, this still suggests bending of protective layer 120 rather than translational displacement of the protective layer 120 in its entirety.

We, therefore, do not sustain the Examiner's rejection of claim 21. We also do not sustain the Examiner's rejection of claims 22–28, 33, 41, 50, and 51, which depend from claim 21.

Independent claim 34 recites the same key limitation. We, therefore, also do not sustain the Examiner's rejection of claim 34. We also do not sustain the Examiner's rejection of claims 35, 36, 39, 40, and 49, which depend from claim 34.

Independent claim 42 recites the same key limitation. We, therefore, also do not sustain the Examiner's rejection of claim 42. We also do not sustain the Examiner's rejection of claims 43, 44, and 46, which depend from claim 42.

The Obviousness Rejection of Claims 30–32 and 38 over Burrough and Takenaka

The Examiner does not find Takenaka cures the deficiency of Burrough. *See* Final Act. 13–15; *see also* Ans. 2–11.

We, therefore, also do not sustain the Examiner's rejection of claims 30–32 and 38.

CONCLUSION

The Examiner's decision to reject claims 21–28, 30–36, 38–44, 46, and 49–51 is reversed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
21–28, 33-36, 39–44, 46, and 49–51	102(b)	Burrough		21–28, 33-36, 39–44, 46, 49–51
30–32 and 38	103(a)	Burrough, Takenaka		30–32, 38

Overall Outcome				21–28, 30–36, 38–44, 46, 49–51

REVERSED