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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DIETMAR STRAEUSSNIGG and
ANDREAS WIESBAUER

(Applicant: Infineon Technologies AG)
Appeal 2018-001889
Application 14/075,225¹
Technology Center 2600

Before JEAN R. HOMERE, JON M. JURGOVAN, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

BENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1–10 and 12–24. App. Br. 2. Claims 4 and 11 have been canceled. *Id.* We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ References herein to “Appellants” are to the applicant, Infineon Technologies AG, also identified as the real party in interest. App. Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to a microphone package and method for generating a microphone signal. Spec., Title. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A microphone package for providing a modified microphone signal, comprising:
 - a microphone;
 - an equalizer device coupled to the microphone, wherein the equalizer device is configured to modify a microphone signal within the equalizer device such that a signal-to-noise ratio of the modified microphone signal is increased; and
 - a common housing enclosing the microphone and the equalizer device at least partly.

App. Br. 13 (Claims Appendix).

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Nielsen	US 2003/0053646 A1	Mar. 20, 2003
Li	US 2006/0206320 A1	Sept. 14, 2006
Theuss	US 2008/0298621 A1	Dec. 4, 2008
Nair	US 2012/0155667 A1	Jun. 21, 2012
Parkins	US 2014/0198932 A1	Jul. 17, 2014

REJECTIONS

Claims 1–6, 8, 9, 12, 13, and 21 are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by Parkins. Final Act. 4–7.

Claims 7, 10, and 22–24 are rejected under 35 U.S.C. § 103 as being unpatentable over Parkins in view of Theuss. Final Act. 7–12.

Claims 14–16 are rejected under 35 U.S.C. § 103 as being unpatentable over Parkins in view of Nair. Final Act. 12–13.

Claims 17 and 18 are rejected under 35 U.S.C. § 103 as being unpatentable over Parkins and Li. Final Act. 13–15.

Claims 19 and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Parkins and Nielsen. Final Act. 15.

ISSUES

First Issue: Has the Examiner erred in finding Parkins discloses “wherein the equalizer device is configured to modify a microphone signal within the equalizer device such that a signal-to-noise ratio of the modified microphone signal is increased,” as recited in claim 1?

Second Issue: Has the Examiner erred in finding Parkins discloses “a common housing enclosing the microphone and the equalizer device at least partly,” as recited in claim 1?

ANALYSIS

First Issue

Claim 1 recites the limitation “wherein the equalizer device is configured to modify a microphone signal within the equalizer device such that a signal-to-noise ratio of the modified microphone signal is increased.” App. Br. 13 (Claims Appendix). In finding claim 1 anticipated by Parkins, the Examiner states “Parkins teaches a microphone that sends a signal to an equalizer circuit for attenuating the frequency region of the boosted signal, and the signal-to-noise ratio of the microphone output is increased by the resonator in combination with the equalizer circuit.” Ans. 15 (citing Parkins

¶ 27 and Fig. 4). Thus, the Examiner finds the claimed “equalizer device” is disclosed by the equalization circuit 34 and resonator 20 shown in Parkins’ Figure 4. *Id.*

Appellants contend the Examiner has erred because “*the equalizer device* in Parkins is configured to attenuate or modify a frequency response of the boosted signal.” App. Br. 5. Appellants further argue “the signal-to-noise ratio of the microphone signal is increased by the acoustic resonator (i.e., the protective housing) and not by the modification of the microphone signal within the equalizer device, as required in claim 1.” App. Br. 6 (emphasis omitted).

We are not persuaded by Appellants’ argument, which rests on the flawed premise that only the equalization circuit 34 in Parkins can correspond to the recited “equalizer device.” As explained by the Examiner, the recited “equalization device” need not be limited to Parkins’ equalization circuit 34. Ans. 15. An “equalization device,” within the meaning of Appellants’ claims, may encompass more than just an equalizer or equalization circuit. Specifically, Appellants’ Specification describes that “[s]ome example embodiments comprise an infinite impulse response filter (IIR) within the equalization device.” Spec. ¶ 28. Thus, we agree with the Examiner that the recited “equalization device” encompasses an equalizer along with additional signal processing components, and that the Specification contemplates an embodiment in which “the combination of the equalizer and the filter . . . increase the signal-to-noise ratio of the modified microphone signal.” Ans. 15. In the same way, Parkins discloses a structure, namely an equalization circuit 34 together with resonator 20, which increases the signal-to-noise ratio of the signal within it. Because the

resonator 20 forms part of the “equalization device,” the modification of the signal by the resonator² is “within the equalizer device.” Accordingly, we are not persuaded the Examiner erred in finding Parkins discloses this limitation.

Second Issue

Appellants also challenge the Examiner’s finding that Parkins discloses “a common housing enclosing the microphone and the equalizer device at least partly,” as recited in claim 1. The Examiner finds “Parkins teaches enclosure 32 enclosing a microphone 40 and an equalizer circuit 34 and resonator 20 (Fig. 4). Therefore, Parkins[’] enclosure reads on the claimed common housing.” Ans. 16.

Appellants argue “[t]o the extent the resonator in Parkins is interpreted as the ‘common housing’ in claim 1, the resonator in Parkins cannot be within the equalizer circuit in Parkins.” App. Br. 6 (emphasis omitted). Appellants also argue:

Further, if the resonator (*i.e.*, the chamber 20 defined by housing 32) is part of the equalizer device, as alleged in the Examiner's Answer, then the equalizer device (*i.e.*, the circuit 34 and housing 32 as would be required in the interpretation set forth in the Examiner's Answer) are not further enclosed partially or entirely by a further common housing as required by limitation (2) of claim 1.

Reply Br. 2.

² We note Appellants acknowledge that the resonator causes the recited modification. App. Br. 6 (“Clearly, this shows that the signal-to-noise ratio of the microphone signal is increased by the acoustic resonator.”). As we noted above, Appellants’ argument wrongly presumes that the resonator cannot form part of the “equalization device.”

We are not persuaded by Appellants' arguments. Appellants' first argument is not persuasive because it does not address the finding made by the Examiner. In particular, Appellants' first argument wrongly characterizes the Examiner's position as finding Parkins resonator 20 is the recited "common housing." App. Br. 2. But the Examiner has made no such finding. Rather, the Examiner finds the resonator 20, which, together with equalization circuit 34, forms the claimed "equalizer device," is enclosed, along with the microphone 40 by enclosure 32. Ans. 16 (citing Parkins Fig. 4). Nor are we persuaded by Appellants' second argument. Appellants contend that because the resonator 20 is defined by enclosure 32, it cannot be "enclosed partially or entirely" by a common housing. Effectively, Appellants argue the enclosure 32 is the resonator, and it cannot enclose itself. However, this characterization of Parkins is not supported by the teaching of the reference. The resonator 20, while perhaps defined by the enclosure 32, is not the enclosure itself. Moreover, Parkins discloses that "the enclosure could be a separate component from the outer surface that attaches to the outer surface." Parkins ¶ 43. As such, even if Appellants were correct that the enclosure 32 is part of the resonator 20, Parkins would nevertheless disclose a "common housing" that partially encloses the resonator 20 and microphone 40. Accordingly, we are not persuaded by Appellants' arguments and we sustain the rejection of claim 1 under 35 U.S.C. § 102(a)(2). For the same reasons, we also sustain the rejections of dependent claims 2–6, 8, 9, 12, 13, and 21 (under § 102) and claims 14–20 (under § 103) for which Appellants offer no separate arguments for patentability.

Remaining Argument

Appellants assert that “[c]laims 1–6, 8, 9, 12, 13, and 21 were rejected under 35 U.S.C. § 103 as being unpatentable over [Parkins] in view of [Killion], in further view of [Visser et al]” and argues the combination of Parkins with Killion and Visser is improper. App Br. 7. However, we do not identify any such rejection made by the Examiner. Rather, the Examiner refers to Killion and Visser as evidence in support of the rejection made under § 102. *See* Ans. 16; *see also* Advisory Act. 2 (continuation sheet). It appears that Appellants have understood the Examiner’s references to Killion and Visser as forming the basis of a rejection under § 103—a rejection not made by the Examiner. Accordingly, these arguments are not persuasive of Examiner error.

Appellants correctly identify claims 7, 10, and 22–24 as standing rejected under 35 U.S.C. § 103 as being unpatentable over Parkins and Theuss. However, Appellants’ arguments against these rejections are substantially the same as those presented in connection with the rejections under 35 U.S.C. § 102(a)(2). *See* App. Br. 9–10. For the same reasons, we are not persuaded by these arguments and we sustain their rejections under 35 U.S.C. § 103.

DECISION

We affirm the Examiner’s rejections of claims 1–10 and 12–24.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED