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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/191,108	07/27/2005	Matthew Justin Murray	PU05 0043US / 2002-140	4494
54472	7590	01/16/2013	EXAMINER	
COATS & BENNETT/SONY ERICSSON			TRAN, PAUL P	
1400 CRESCENT GREEN			ART UNIT	
SUITE 300			PAPER NUMBER	
CARY, NC 27518			2647	
			MAIL DATE	
			DELIVERY MODE	
			01/16/2013	
			PAPER	

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MATTHEW JUSTIN MURRAY

Appeal 2011-001397
Application 11/191,108
Technology Center 2600

Before JOSEPH L. DIXON, ST. JOHN COURTENAY III, and
CARLA M. KRIVAK, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Patent Examiner finally rejected claims 1-4, 8-13, and 17-25. Claims 5-7, 14-16, and 26-28 are objected to. (App. Br. 2; Fin. Rej. 1). Appellant appeals therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

INVENTION

This invention relates to wireless communications devices that employ surface-mountable transducers. (Spec. 1). Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A wireless communications device comprising:

a printed circuit board;

microphone circuitry mounted to a first surface of the printed circuit board; and

an acoustic path acoustically coupling the microphone circuitry to an exterior of the wireless communications device, *at least a portion of the acoustic path being integrally formed with the printed circuit board and extending generally parallel to a plane defined by the first surface of the printed circuit board.*

(Disputed limitations emphasized).

REJECTION

Claims 1-4, 8-13, and 17-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the published application to Minervini (U.S. Pat.

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App. Pub. No. 2004/0184632, hereinafter, "Minervini") in view of the published application to Hawker (U.S. Pat. App. Pub. No. 2006/0104469, hereinafter, "Hawker").

ANALYSIS

We disagree with Appellant's contentions regarding the Examiner's obviousness rejection of the claims. We adopt as our own: (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken, and (2), the reasons set forth by the Examiner in the Answer in response to arguments made in Appellant's Appeal Brief. (Ans. 9-14). We highlight and address specific findings and arguments below.

A.

Issue: Under § 103, did the Examiner err in finding that the cited references, either alone or in combination, would have taught or suggested "at least a portion of the acoustic path being integrally formed with the printed circuit board and extending generally parallel to a plane defined by the first surface of the printed circuit board," within the meaning of claim 1 and the commensurate language of claims 10 and 21?

Appellant contends:

Appellant has yet to read anywhere in Minervini that teaches or suggests a portion of an acoustic port that is both integrally formed with the PCB and extends generally parallel to the PCB surface, unintentionally or otherwise. Certainly, this is not stated in the Minervini disclosure, nor is it ever shown in the drawings. The simple fact is that the rejection mischaracterizes the reference, and it does not teach or suggest what the Examiner says it does.

(Reply Br. 5).

Appellant's contentions are not persuasive. We find that Minervini's teachings would have taught or suggested to one skilled in the art the limitation at issue because Minervini's Figure 3A shows an acoustic path 124c generally parallel to the top surface of the PCB 12 and Figure 4A shows a microphone circuitry 212 mounted on a first PCB surface with an acoustic path 224B extending within the PCB 12. (Ans. 9-10). Moreover, Minervini describes acoustic paths formed, such as by drilling, through the housing and PCB to "allow acoustic energy to be coupled to the SMC 100 [microphone]." (¶ [0028]; Ans. 9-10)). Therefore, we find Minervini would have taught or suggested the claim 1 limitations including forming an acoustic path, integrally with or within the PCB, and generally parallel to a first surface of the PCB (*See* Figs. 3A and 4A) to couple acoustic energy to the microphone. (¶ [0028]; Ans. 9-10). The orientation and position of the acoustic path with or within the PCB is a mere design choice based on the desired position of the acoustic path opening and the PCB.^{1 2}

¹ *See* "Combining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness." *Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009).

² A claimed modification to the prior art may be obvious if the claimed structure performs the same function as in the prior art and it presents no novel or unexpected result over the prior art. *See In re Kuhle*, 526 F.2d 553, 555 (CCPA 1975) (use of claimed feature solves no stated problem and presents no unexpected result and "would be an obvious matter of design choice within the skill of the art"). However, when the claimed structure performs differently from the prior art, a finding of obvious design choice is

We further note that Appellant does not cite to a definition of the term "integrally formed with" in the Specification. As such, the broadest reasonable interpretation of "integrally formed with" includes being part of the same complete device. Therefore, Minervini's acoustic path that is part of the module including the printed circuit board would have taught or suggested the limitation of "at least a portion of the acoustic path being integrally formed with the printed circuit board."

For these reasons, we are not persuaded of Examiner error.

B.

Issue: Under § 103, did the Examiner err in combining the cited references relied upon in the rejection of claims 1-4, 8-13, and 17-25?

Appellant contends that "[o]ne skilled in the art would never go to Hawker to learn of a surface mounted microphone when Minervini already provides such a microphone." (Reply Br. 65).

Appellant's contention is not persuasive because Appellant's conclusory statement does not address or rebut the Examiner's proffered motivation "to improve the microphone isolation due to interference generated from other devices within the telephone (Hawker: Page 1: [0003])." (Ans. 4-5). Moreover, Appellant admits that the references are cumulative for at least some limitations. (Reply Br. 5).

precluded. *In re Gal*, 980 F.2d 717, 719 (Fed. Cir. 1992) (finding of obvious design choice precluded when claimed structure and the function it performs are different from the prior art).

For these reasons, we are not persuaded of Examiner error. Accordingly, we sustain the Examiner's rejection of claim 1 and of claims 10 and 21, which have commensurate limitations.

C.

Under § 103, did the Examiner err in finding that the cited references, either alone or in combination, would have taught or suggested "the portion of the acoustic path integrally formed with the printed circuit board comprises a channel that extends through an interior of the printed circuit board," within the meaning of claim 8 and the commensurate language of claim 17?

We agree with Appellant that the limitation of claim 1 "at least a portion of the acoustic path being integrally formed with the printed circuit board and extending generally parallel to a plane defined by the first surface of the printed circuit board" is incorporated into dependent claim 8. (Reply Br. 7). However, this is not dispositive.

Appellant makes similar contentions regarding claim 8 and 17 as presented above regarding claim 1. (App. Br. 11-13; Reply Br. 7). We did not find these arguments persuasive. Specifically, we find that Minervini would have taught or suggested the claim 8 limitations because Minervini would have taught or suggested to integrally form an acoustic path channel, within a PCB, generally parallel to the first surface of the PCB (Figs. 3A and 4A) for the motivation to couple acoustic energy to the microphone. (¶ [0028]; Ans. 9-10; 12-13).

For these reasons, we are not persuaded of Examiner error.

D.

Issue: Under § 103, did the Examiner err in finding that the cited references, either alone or in combination, would have taught or suggested the limitations of claims 22 and 23:

22. The method of claim 21 wherein the printed circuit board comprises a plurality of substrate layers, and wherein forming an acoustic path comprises forming the plurality of substrate layers to include a cutout of the acoustic path.

23. The method of claim 22 further comprising connecting the plurality of substrate layers by aligning each of the cutouts to form an acoustical channel that extends through an interior of the printed circuit board.

Appellant contends:

Drilling a hole in a PCB - especially one that does not meet the structural or orientation requirements of the claimed acoustic path - does not teach or suggest forming a cutout in each of a plurality of substrate layers (claim 22), *and then aligning* those cutouts during assembly to form the acoustic path (claim 23). In fact, it cannot teach or suggest this limitation because any substrate layers that the PCB may have in Minervini *must already be assembled* for the drilling to occur. Minervini says nothing with respect to forming cutouts in substrate layers, or aligning those cutouts *during assembly*. Any contention otherwise is pure speculation and is not supported by the references.

(Reply Br. 8; emphasis added).

Appellant's arguments are not persuasive because Appellant's arguments are not commensurate with the scope of claims 22 and 23. Specifically, claims 22 and 23 do not have the temporal limitations argued by Appellant. (Reply Br. 8). Minervini teaches the claim 22 and 23 limitation's forming and aligning the cutouts during the drilling/assembly

process. (Ans. 13-14). Moreover, we find that it would have been obvious to one skilled in the art at the time of the invention, considering Minervini's general teaching of forming acoustic ports (¶ [0028]), to use the conventional fabrication steps of claims 22 and 23.

E.

Appellant argues claims 2-4, 9, 11-13, 18-20, and 24-25 are patentable by virtue of their dependency from independent claims 1, 10, and 21. (App. Br. 14). However, we find no defects for the reasons discussed above. Accordingly, we sustain the rejection of claims 2-4, 9, 11-13, 18-20, and 24-25.

DECISION

We affirm the Examiner's rejection of claims 1-4, 8-13, and 17-25 under § 103.

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED