

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

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(2) is not binding precedent of the Board.

Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SHINJI KOYANO,
KOUSHIRO KOGURE, and YUICHI SAITO

Appeal No. 95-4372
Application 08/043,610¹

ON BRIEF

Before HAIRSTON, KRASS and MARTIN, Administrative Patent Judges.
KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 16, 17, 19 and 21 through 25, all of the claims remaining in the application.

The invention is directed to a speaker system which includes a phase shift in order to decrease the sensitivities of the

¹ Application for patent filed April 5, 1993. According to appellant, this application is a continuation of Application 07/676,007, filed March 27, 1991.

sound waves in the mid- and high-frequency ranges on the principal speaker axis and increase those on both sides of the principal axis.

Representative independent claim 16 is reproduced as follows:

16. A speaker system for reproducing an audio signal, comprising:

a power amplifier for providing the audio signal;

a first speaker for receiving the audio signal from said power amplifier;

phase shifter means, coupled to receive the audio signal from the power amplifier, for shifting a phase of the received audio signal between $\pm 120^\circ$ and $\pm 180^\circ$ in the mid- and high-frequency ranges; and

a second speaker for receiving the phase-shifted audio signal from said phase shifter means, a composite sound pressure wave of said first and second speakers decreasing on a principal axis (0°) which corresponds to a line of symmetry of respective radiating axes of said first and second speakers; wherein said first and second speakers are mounted in a single cabinet such that the respective distances from said first and second speakers to a listener are equal to each other, and wherein the speaker system reproduces the audio signal such that the principal axis is directed towards the listener.

The examiner relies on the following references:

Tominari	4,873,722	Oct. 10, 1989
Kendall et al. (Kendall)	5,121,433	Jun. 9, 1992
Kondratiev (USSR)	1,248,080 ²	Jul. 30, 1986

² Our understanding of this reference is based on an English translation thereof prepared by the United States Patent and

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Yamamoto et al. (Japan) 63-300699²

Dec. 7, 1988

Claims 16 and 17 stand rejected under 35 U.S.C. § 102(b) as anticipated by Tominari. In a new ground of rejection entered in the principal answer, the examiner also rejects claims 16 and 17 under 35 U.S.C. § 103 as unpatentable over Tominari and Kendall. Claims 23 through 25 stand rejected under 35 U.S.C. § 103 as unpatentable over Kondrat'ev in view of Tominari. Claims 19, 21 and 22 stand rejected under 35 U.S.C. § 103 as unpatentable over Kondrat'ev and Tominari in view of Yamamoto.

Reference is made to the briefs and answers for the respective positions of appellants and the examiner.

OPINION

We turn first to the rejection of claims 16 and 17 under 35 U.S.C. § 102(b) as anticipated by Tominari.

Trademark Office. A copy of said translation is included herewith.

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First, we are unsure whether this rejection is still being maintained by the examiner because claim 16 was amended by appellants in the reply brief of January 30, 1995 and the examiner did not explain, in response thereto, how Tominari is applied to the amended claim 16. Yet, the examiner did not withdraw the rejection under 35 U.S.C. § 102(b) but did not repeat the rejection either.

To the extent that the rejection has not been withdrawn by the examiner, we will not sustain the rejection under 35 U.S.C. § 102(b) because amended claim 16 now calls for, inter alia, the first and second speakers to be mounted "in a single cabinet."³ This is not disclosed by Tominari, either explicitly or implicitly. As such, Tominari cannot be said to be an anticipatory reference with regard to claim 16.

Turning now to the new ground of rejection of claims 16 and 17 under 35 U.S.C. § 103 over the combination of Kendall and Tominari, we also will not sustain this rejection because we do not believe that the examiner has established a prima facie case of obviousness with regard to the claimed subject matter of claim 16.

³ Although this phrase was used for the first time in appellants' amendment of January 30, 1995, we assume that the examiner did not raise an issue of adequacy of the written description in view of Figure 8 which, although not described as showing a "single cabinet," appears to show three speakers in a box.

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The examiner reasoned that Kendall essentially disclosed the claimed invention but for explicitly mentioning shifting the phase of the receiver audio signal between $\pm 120^\circ$ and $\pm 180^\circ$ in the mid- to high-frequency ranges. The examiner then employed Tominari as teaching this feature as well as a power amplifier and concluded, somehow [see pages 10-11 of the principal answer], that the combination of references would have resulted in the claimed subject matter. We disagree.

If the examiner is contending that it would have been obvious to somehow use the phase shifter of Tominari in the system of Kendall and then enclose the whole system in a single cabinet, we find ourselves in agreement with appellants that Tominari teaches away from employing a single cabinet. Since Figure 7 and column 3, lines 15-27 of Tominari indicate that the speakers therein should generally oppose each other and not generate sound in the same direction, this is a clear indication that the artisan would not have sought to employ the speakers of Tominari in a "single cabinet." Therefore, the question arises as to why the artisan, against the teachings of Tominari, would have employed the phase shifter of Tominari, used for generating a delay in order to give the feeling of a concert hall and in an environment where the sounds from speakers are not directed in the same direction, in the system of Kendall

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(which also does not clearly suggest its use in a single cabinet) in order to place first and second speakers in a single cabinet in the arrangement set forth in instant claim 16. The examiner has not convinced us that there would have been any suggestion to do so, based on the evidence supplied by the applied references.

We will, however, sustain the rejection of claims 23 through 25 under 35 U.S.C. § 103, based on Kondrat'ev and Tominari.

The examiner sets forth the reasoning used to reject claim 23 at pages 6-7 of the principal answer including the disclosures of Kondrat'ev and Tominari and how the combination of references is being applied to claim 23.

Appellants, at page 7 of the principal brief, argue only that Tominari fails to teach the feature of a single amplifier for the entire system and that, even assuming a modification of Kondrat'ev by Tominari, that modification would have resulted in employing Kondrat'ev's arrangement being placed between the power amplifiers and speakers of Tominari since Kondrat'ev does not disclose a power amplifier.

Appellants do not argue the examiner's application of Tominari for the teaching of shifting the audio signal in the mid- and high-frequency range claimed. They argue, in essence, only the

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absence of a power amplifier, as claimed. However, it would have been clear to artisans, even without a specific teaching, that the terminals, labeled "u" on the left side of Kondrat'ev's Figure 3 must be connected to a power amplifier so as to provide an amplified signal to the speakers. Accordingly, we will sustain the rejection of claim 23, and, therefore, claims 24 and 25, under 35 U.S.C. § 103 as appellants' argument has failed to convince us of any error in the examiner's position.

Finally, we turn to the rejection of claims 19, 21 and 22 under 35 U.S.C. § 103. We will not sustain this rejection as the examiner has failed to establish a prima facie case of obviousness.

The examiner relies on Yamamoto for a teaching of employing a high-pass filter and reasons [at page 8 of the principal answer] that because "the phase characteristic is dictated by the audio frequency and the listening environment," it would have been "obvious to correct the phase at a higher frequency by a high-pass filter (see abstract in '699)." We do not follow the examiner's reasoning. Rather, we agree with appellants, at page 9 of the principal brief, that

it is not clear from the Examiner's reasoning as to why it would have been obvious to employ a high-pass filter in the specific arrangement defined in claim 19. That is, claim 19 recites a high-pass filter for receiving the audio signal from the

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power amplifier and that the third speaker is connected to receive the output of the high-pass filter.

It appears to us that some hindsight, gleaned from appellants' disclosure, has seeped into the examiner's rationale for including a high-pass filter in the specific manner set forth in instant claim 19. Clearly, the applied references do not suggest that a high-pass filter should receive, as its input, the audio signal from a power amplifier and provide its output to a third speaker.

CONCLUSION

We have sustained the rejection of claims 23 through 25 under 35 U.S.C. § 103 but we have not sustained either the rejection of claims 16 and 17 under 35 U.S.C. § 102(b) or the rejections of claims 16, 17, 19, 21 and 22 under 35 U.S.C. § 103 based on the evidence provided by the applied references.

Accordingly, the examiner's decision is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

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