

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEPHEN R. SCHWARTZ

Appeal No. 2006-0681
Application No. 09/072,412

HEARD: MARCH 7, 2006

Before JERRY SMITH, BARRY, and MACDONALD, **Administrative Patent Judges**.

MACDONALD, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-5, 13-15, 28-32, and 36-41. Claims 6-12 and 16-27 have been canceled. Claims 33-35 have been objected to as being allowable if rewritten in independent form.

Invention

Appellant's invention relates to a method for designing a system (microphones, attachment mechanisms, and associated preamplifiers, equalizers, and processors) to be used with solo or group musical instruments, and the system as designed by the method. A principal feature of the system is the use of one or

more microphones placed proximately to, on or inside an instrument. For example, the microphone can be mounted permanently on or in the instrument, or it can be attached temporarily to the instrument with a chip designed for the specific instrument in question. It may also be held on a stand when feasible and preferable. While any microphone of suitable quality will do, a miniature microphone (and particularly when attached to the instrument) has two advantages. First, it is easier to accurately place, and will go in some places that a normal microphone will not fit. Second, it will move with a non-stationary (e.g., hand-held) instrument, and so avoid unwanted changes of sound quality that arise when an instrument moves relative to a microphone.

Another feature of the system is an equalizer unit that is "tailor-made" for each type of instrument and, more particularly, for a preselected optimum microphone location on each type of instrument. The equalizer may include conventional low pass, high pass, band pass, and/or notch filters, or other processors, as appropriate. Contrary to conventional general purpose equalizers having four or more adjustable filters, with up to three controls for each filter (a total of twelve or more knobs), these units may have only a minimum number and type of filters

needed to compensate for the differences between the instrument's sound at a normal listening spot and the microphone attachment spot. Each filter control can be limited to the smallest useful range that allows enough flexibility for variations between individual instruments.

Appellant's specification page 7, lines 7-24, and page 8, lines 1-15.

Claim 1 is representative of the claimed invention and is reproduced as follows:

1. A method for providing a system for high fidelity reproduction of the acoustic signal from a selected type of acoustical generator, the method comprising:
 - (1) determining a selected location proximate to an acoustical generator;
 - (2) placing a first microphone at said selected location;
 - (3) separately generating sounds from the acoustical generator to produce sounds as picked up by the first microphone;
 - (4) playing reference sounds of the acoustical generator;
 - (5) comparing the sounds of the acoustical generator as picked up by the first microphone with the reference sounds as generated by the acoustical generator;
 - (6) determining first and second differences in level over first and second respective discrete frequency ranges between the sounds of the

acoustical generator as picked up by the first microphone at the selected location and the reference sounds as generated by the acoustical generator;

- (7) assembling a first filter element, said first filter element including components selected to compensate for said first difference in level over said first discrete frequency range;
- (8) assembling a second filter element, said second filter element including components selected to compensate for said second difference in level over said second discrete frequency range;
- (9) constructing an equalizer for the first microphone by arranging said first and second filter elements so as to compensate for the first and second differences between the sounds as picked up by the microphone at the selected location and the reference sounds as generated by the acoustical generator.

References

The references relied on by the Examiner are as follows:

Murayama et al.	6,141,425	Oct. 31, 2000
(Murayama)		(filed Sep. 19, 1997)

Bartlett; "Tonal Effects of Close Microphone Placement"; J. Audio Eng. Soc.; Vol. 29, No. 10; October 1981; pp. 726-738.

Rejections At Issue

Claims 1-5, 13-15, 28-32, and 36-41 stand rejected under 35 U.S.C. § 103 as being obvious over the combination of Bartlett and Murayama.

Throughout our opinion, we make references to the Appellant's briefs, and to the Examiner's Answer for the respective details thereof.¹

OPINION

With full consideration being given to the subject matter on appeal, the Examiner's rejections and the arguments of the Appellant and the Examiner, for the reasons stated *infra*, we affirm the Examiner's rejection of claims 1-5, 13-15, 28-32, and 36-41 under 35 U.S.C. § 103.

Only those arguments actually made by Appellant have been considered in this decision. Arguments that Appellant could have made but chose not to make in the brief have not been considered. We deem such arguments to be waived by Appellant (37 C.F.R. § 41.37(c)(1)(vii)). Appellant has for purposes of this appeal presented arguments as to the following claims:

Independent claim 1 (dependent claims 2-4, 28, and 33 stand or fall together with claim 1 as Group I);

Independent claim 5 (dependent claims 29 and 34 stand or fall together with claim 5 as Group II);

¹ Appellant filed an appeal brief on April 14, 2005. Appellant filed a reply brief on September 22, 2005. The Examiner mailed an Examiner's Answer on July 25, 2005.

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Independent claim 13 (dependent claims 30 and 35 stand or fall together with claim 13 as Group III);

Independent claim 32 and dependent claim 31 (depends from claim 1) (Group IV);

Dependent claims 36-38 (Group V); and

Dependent claims 39-41 (Group VI).

See pages 7-20 of the brief and pages 2-12 of the reply brief. We will, thereby, consider Appellant's claims as standing or falling together in the six groups noted above, and we will treat:

Claim 1 as a representative claim of Group I;

Claim 5 as a representative claim of Group II;

Claim 13 as a representative claim of Group III;

Claim 31 as a representative claim of Group IV;

Claim 36 as a representative claim of Group V; and

Claim 39 as a representative claim of Group VI.

I. Whether the Rejection of Claims 1-4, 28, and 33 Under 35 U.S.C. § 103 is proper?

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in

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the art the invention as set forth in claims 1-4, 28, and 33.
Accordingly, we affirm.

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a **prima facie** case of obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). **See also In re Piasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. **In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellant. **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and argument." **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings

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are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

With respect to independent claim 1, Appellant argues at page 7-9 of the brief, that the method proposed by the Examiner in the combination of Bartlett and Murayama would be time consuming to adjust and would produce inferior results (distortions and noise). Appellant contrasts this to their simpler invention that produces superior results. We find Appellant's arguments unpersuasive.

Appellant does not point to any limitation in claim 1 that corresponds to either the simpler invention or the superior results. Our review of claim 1 finds no limitation that is missing from the combination of the references. That the combination produces an inferior result to Appellant's disclosed invention is of no relevance. Our focus must begin and remain on the claims. "[T]he name of the game is the claim." **In re Hiniker Co.**, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998).

In the reply brief at pages 8-9, Appellant also points to the need for use of an analyzer (or improved result from using) in Bartlett. As above, we find no limitation in claim 1 that precludes an analyzer. Appellant is arguing a limitation that is not claimed.

In the brief at page 14, Appellant argues, "the fixed position of the present invention must be accurate within tolerances of less than one inch." As above, we find no such limitation in claim 1. Thus, Appellant is arguing a limitation that is not claimed.

In the brief at page 14, Appellant argues, Bartlett fails to teach an equalizer. We find this argument unpersuasive. Bartlett teaches equalization and Murayama describes an equalizer. The Examiner used the combination of Bartlett and Murayama to show obviousness. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. **See In re Keller**, 642 F.2d 413, 426, 208 USPQ 871, 882 (CCPA 1981); **In re Merck & Co.**, 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986).

At page 16 of the brief, Appellant implies that because Bartlett is "entirely directed to using existing devices," it teaches away from "construction of new or specialized (or any) devices." We find this argument unpersuasive. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference...would be led in a direction divergent from the path that was taken by the applicant." **In re Haruna**, 249 F.3d 1327, 58USPQ2d 1517 (Fed. Cir. 2001). We do not find this to be the situation before this Board. At most it can be

argued that Bartlett is silent on the use of new (future) devices.

At page 16, Appellant argues that "design and construction" is a separate domain from the teachings of Bartlett. We disagree. Appellant points to no evidence to show that the "research" of Bartlett is a separate domain from "design and construction." Without more, Appellant has not shown how the Examiner erred in the rejection of claim 1.

At page 16 of the brief, Appellant argues, Murayama fails to teach the circumstance for use of an equalizer. We find this argument unpersuasive. Bartlett teaches equalization (the use) and Murayama describes an equalizer. The Examiner used the combination of Bartlett and Murayama to show obviousness. As previously noted, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

At page 17, Appellant argues that "Murayama notes that a filter element can be designed to compensate for some difference over some frequency range, but there is nothing [in Murayama] to imply an advantage to doing so for the circumstances of the present invention." Again, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. Bartlett explicitly states at

page 733, "the equalization required varies from note to note."

This necessarily means several key things:

- (1) the equalization required varies from frequency to frequency because inherently each note is a different frequency;
- (2) the frequency-bandwidth of the equalization required varies from note to note because inherently the distance (in hertz) between notes increases as one moves across the musical scales.

Bartlett also teaches at figure 4 that there are significantly different responses at different frequencies (notes). Thus, equalization will require different gains at different frequencies (notes) to compensate. As the Examiner pointed out, Murayama teaches that a graphic equalizer is extensively used to split the frequency spectrum into plural bands and to change the gain in each band. Again, Appellant has not shown how the Examiner erred in the rejection of claim 1.

Therefore, for the reasons above, we will sustain the Examiner's rejection under 35 U.S.C. § 103.

**II. Whether the Rejection of Claims 5, 29, and 34 Under
35 U.S.C. § 103 is proper?**

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the invention as set forth in claims 5, 29, and 34. Accordingly, we affirm.

With respect to independent claim 5, at pages 9-10 of the brief, Appellant disagrees with the Examiner's statement that "Bartlett runs his experiment with different embodiments of an acoustic guitar." Appellant then does on to explain why Bartlett's nylon and steel string guitars are in fact different (thus confirming the Examiner's statement).

Therefore, we find Appellant's argument unpersuasive and we will sustain the Examiner's rejection under 35 U.S.C. § 103.

**III. Whether the Rejection of Claims 13, 30, and 35 Under
35 U.S.C. § 103 is proper?**

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the invention as set forth in claims 13, 30, and 35. Accordingly, we affirm.

With respect to independent claim 13, Appellant argues at pages 11-13 of the brief, that Bartlett fails to teach, "determining **a selected location** proximate to an acoustical generator" or "a microphone element adapted to be placed at a specified location proximate to the acoustical generator." As to the first limitation, it is not found in claim 13. As to the second limitation, claim 13 is a system (apparatus) claim and Appellant's argument does not address how the recited limitation "adapted to be placed at a specified selected location proximate to the acoustical generator" structurally or functionally distinguishes the claimed microphone from the prior art microphone. Without more, Appellant has not shown how the Examiner erred in the rejection of claim 13.

Therefore, we will sustain the Examiner's rejection under 35 U.S.C. § 103.

Returning to the first limitation, we find the limitation in claims 1, 5 and 32. However, we find no explanation in Appellant's argument as to what meaning he is giving the words in this limitation that would distinguish the claimed limitation from what is described in Bartlett. We note that at the next to last line of page 12 of the brief, Appellant uses the term "fixed location." However, at the oral hearing, Appellant stated that the use of this term does not imply any further limitation than

the language of the claims. Without more, Appellant has not shown how the Examiner erred in the rejection of claims 1, 5, and 32.

**IV. Whether the Rejection of Claims 31 and 32 Under
35 U.S.C. § 103 is proper?**

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the invention as set forth in claims 31 and 32. Accordingly, we affirm.

With respect to independent claim 31, Appellant argues at pages 17-18 of the brief, the range of gain values in figure 2 of Murayama are arbitrarily chosen and there is no basis to change this as equalizers are not designed with a specific goal in mind.

We find this argument unpersuasive. While it is correct that the equalizer in Murayama does not limit the gains differently for different ranges, the proper question is whether the combination of references suggests such a modification. We find such a suggestion in figure 4 of Bartlett. At each given frequency (note) the response falls at a different specific value. Thus, different gain values are needed for each frequency and only a limited range of gain values would be useful to the equalization of a given frequency. This is more than a

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sufficient suggestion to limit the variability range of the gain to only what is needed.

Therefore, we will sustain the Examiner's rejection under 35 U.S.C. § 103.

V. Whether the Rejection of Claims 36-38 Under 35 U.S.C. § 103 is proper?

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the invention as set forth in claims 36-38. Accordingly, we affirm.

With respect to independent claim 36, as we discussed above, figure 4 of Bartlett shows that a given frequency (note) the response falls at a different specific value. Thus, different gain values are needed for each frequency and only a limited range of gain values would be useful to the equalization of that given frequency.

Therefore, we will sustain the Examiner's rejection under 35 U.S.C. § 103.

**VI. Whether the Rejection of Claims 39-41 Under
35 U.S.C. § 103 is proper?**

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the invention as set forth in claims 39-41. Accordingly, we affirm.

With respect to dependent claim 39, as we discussed above, Bartlett shows that the frequency-bandwidth of the equalization required varies from note to note because the distance (in hertz) between notes increases as one moves across the musical scales.

Therefore, we will sustain the Examiner's rejection under 35 U.S.C. § 103.

Conclusion

In view of the foregoing discussion, we have sustained the rejection under 35 U.S.C. § 103 of claims 1-5, 13-15, 28-32, and 36-41.

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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)(1)(iv).

AFFIRMED

JERRY SMITH)	
Administrative Patent Judge)	
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