

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 11

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte WILLIAM B. CUSHMAN

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Appeal No. 1998-2610  
Application No. 08/451,950

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ON BRIEF

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Before FLEMING, HAIRSTON, and BARRY, Administrative Patent Judges.

BARRY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the rejection of claims 18 and 19. We reverse.

BACKGROUND

The invention at issue in this appeal relates to earplugs to protect hearing. The need for hearing protection in noisy environments has long been recognized. Besides providing such protection, however, an earplug ideally should be detectable

by machine so that if it should, for example, fall into a batch of cereal at a processing plant, the earplug can be easily retrieved. The appellant's earplug is embedded with very small metallic particles to enable such detection.

Claim 18, which is representative for our purposes, follows:

18. A hearing protection earplug comprised of materials with embedded metallic particles whereby said hearing protection earplug may be easily machine detectable.

The references relied on in rejecting the claims follow:

Yoshii 1987	4,652,702	Mar. 24,
Yoshimi	5,396,563	Mar. 7, 1995
Tokarz	5,207,827	May 4, 1993.

Claim 18 stands rejected under 35 U.S.C. § 102(b) as anticipated by Yoshii. Claims 18 and 19 stand rejected under 35 U.S.C. § 102(a) as anticipated by Yoshimi and under § 102(b) as anticipated by Tokarz. Rather than repeat the arguments of the appellant or examiner in toto, we refer the

reader to the brief<sup>1</sup> and answer for the respective details thereof.

OPINION

In deciding this appeal, we considered the subject matter on appeal and the rejection advanced by the examiner. Furthermore, we duly considered the arguments and evidence of the appellant and examiner. After considering the totality of the record, we are persuaded that the examiner erred in rejecting claims 18 and 19. Accordingly, we reverse.

We begin by noting the following principles from Rowe v. Dror, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997).

A prior art reference anticipates a claim only if the reference discloses, either expressly or inherently, every limitation of the claim. See Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "[A]bsence from the reference of any claimed element

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<sup>1</sup>We rely on and refer to the amended appeal brief, (Paper No. 9), in lieu of the original appeal brief, (Paper No. 7), because the latter was defective. (Paper No. 8.)

negates anticipation." Kloster Speedsteel AB v. Crucible, Inc., 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

With these principles in mind, we consider each rejection. We start with the rejection relying on Yoshii.

Rejection relying on Yoshii

The examiner asserts, "the coil spring (6) or the metallic sleeve (12) in Yoshii ... are [sic] inherently formed of the metallic particles. These metallic particles of the metallic coil or sleeve or plate in Yoshii ... are embedded in the earplug." (Examiner's Answer at 4.) The appellant argues, "a coil spring, a metal mesh sleeve ... are all parts, not particles ...." (Appeal Br. at 4.)

"[W]hen interpreting a claim, words of the claim are generally given their ordinary and accustomed meaning, unless it appears from the specification or the file history that they were used differently by the inventor." In re Paulsen, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (citing Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.,

15 F.3d 1573, 1577, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993)). Here, claim 18 specifies in pertinent part the following limitations: "[a] hearing protection earplug comprised of materials with embedded metallic particles ...." The ordinary and accustomed meaning of a "particle" is "[a] very small portion of something material ...." Webster's Third New International Dictionary 1646 (1971) (copy attached). In view of this meaning, the limitations require pieces of metal that are very small in relation to the earplug in which the pieces are embedded.

The examiner fails to show a disclosure of the limitations in the Yoshii. The reference teaches "a displacement type ear microphone ...." Col. 1, ll. 9-10. Although the ear microphone includes "a coil spring of metallic or plastic material," col. 3, l. 16, or "a fibrous sleeve **12** formed of mesh of metallic or glass fibers," col. 6, ll. 51-53, neither the spring nor the sleeve is very small vis-à-vis the microphone. To the contrary, the coil spring is large enough in diameter to be "fastened to a projection **1a** of

a support member 1" col. 3, ll. 16-17, of the ear microphone, and large enough "to surround the periphery of an electroacoustic transducer element 2," id. at ll. 19-20, of the microphone. Furthermore, the spring 6 is shown as longer than the support member 1. Fig. 4.

Similarly, the fibrous sleeve is large enough in diameter to "enclos[e] the electroacoustic transducer element ...." Col. 6, ll. 50-51. Furthermore, the sleeve 12 is shown as longer than and having a diameter almost as great as that of the support member 1. Fig. 12. Because Yoshii's coil spring and fibrous sleeve are large enough to enclose the reference's electroacoustic transducer element and longer than Yoshii's support member, we are not persuaded that the reference discloses the limitations of "[a] hearing protection earplug comprised of materials with embedded metallic particles ...." Therefore, we reverse the rejection of claim 18 as anticipated by Yoshii. We next consider the examiner's rejection relying on Yoshimi.

Rejection relying on Yoshimi

The examiner asserts, "the metallic plate (8 or 6) in Yoshimi are [sic] inherently formed of the metallic particles. These metallic particles of the metallic coil or sleeve or plate in ... Yoshimi are embedded in the earplug."  
(Examiner's Answer at 4.) The appellant argues, "a circular vibratory plate are all parts, not particles ...." (Appeal Br. at 4.)

As mentioned regarding the rejection over Yoshii, claim 18 requires pieces of metal that are very small in relation to the earplug in which the pieces are embedded. Because it depends from independent claim 18, claim 19 includes the limitations of the independent claim. See 37 C.F.R. § 1.75(c)(2000). Accordingly, claims 18 and 19 require pieces of metal that are very small in relation to the earplug in which the pieces are embedded.

The examiner fails to show a disclosure of the limitations in Yoshimi. The reference teaches several embodiments of "an earphone ...." Col.1, l. 9. One

embodiment of the earphone "comprises a cylindrical or rod-shaped earplug **4** that can be inserted into the external auditory meatus **2** of an ear **1**, and a cylindrical exciter **5** (elastic vibration generator) coupled to an outer end of the earplug **4** for generating and applying an elastic wave  $V_E$  directly to the earplug **4**. Col. 4, l. 66 - col. 5, l. 3.

"The earplug **4** ... is made of a sound insulating material such as an elastic foamed polymer, e.g., urethane foam ...."

Id. at ll. 4-8.

"The exciter **5** is in the form of a vibrator for generating elastic vibration on a vibratory surface **8**. The exciter **5** may comprise a dynamic exciter **5** as shown in FIG. 4 or a magnetic exciter **5** as shown in FIG. 5." Id. at ll. 27-30. Although the dynamic exciter has "a circular vibratory plate **8** of metal or magnetic material such as iron mounted on the open axial end," id. at ll. 33-35, the plate is not very small vis-à-vis the earplug. To the contrary, both of the figures cited by the examiner, (Examiner's Answer at 4), show

the plate 8 as having a diameter greater that of the earplug 4. Figs. 28 and 29.

Another embodiment of the earphone "comprises an earplug 4 and an exciter 5M which are held out of contact with each other." Col. 12, ll. 19-21. "The earplug 4 is in the shape of a rod or cylinder, and made of a sound insulating material such as an elastic foamed polymer, e.g., urethane foam." Id. at ll. 24-26.

"The earplug 4 includes a circular vibratory plate 6 attached to its outer end remote from the inner end to be inserted in the external auditory meatus of an ear ...." Id. at ll. 29-32. Although [t]he vibratory plate 6 is made of a metal or magnetic material such as iron," id. at ll. 32-34, the plate is not very small vis-à-vis the earplug. To the contrary, "the vibratory plate 6 ha[s] a diameter which is substantially the same as that of the earplug 4." Id. at ll. 31-32.

Because Yoshimi's vibratory plates have a diameter that is greater or the same as that of the reference's earplug, we are not persuaded that the reference discloses the limitations of "[a] hearing protection earplug comprised of materials with embedded metallic particles . . . ." Therefore, we reverse the rejection of claims 18 and 19 as anticipated by Yoshimi. We next, and last, consider the examiner's rejection relying on Tokarz.

Rejections relying on Tokarz

The examiner asserts, "Tokarz teaches a hearing protection earplug which is comprised of materials . . . ." (Examiner's Answer at 3.) She further asserts, "salt based on iron is included [sic] metallic particles. These metallic particles are embedded with other materials for forming the earplug." (Id. at 4.) The appellant argues, "[a] metallic salt is not a metal . . . ." (Appeal Br. at 5.)

As implied regarding the rejection over Yoshimi, claims 18 and 19 specify in pertinent part the following limitations:

"[a] hearing protection earplug comprised of materials with embedded metallic particles ...." Accordingly, the limitations require pieces of metal embedded in an earplug.

The examiner fails to show a disclosure of the limitations in Tokarz. The reference teaches an "ear plug composition ...." Col. 1, l. 50. "The ear plug composition is preferably made of about 14.62% Soya Lecithin, 14.62% yellow Beeswax, 69.51% starch and trace amounts of vitamins A, C, and E and a biocidally effective amount of Grapefruit Seed Extract." Id. at ll. 50-54. "The starch for the composition should be a starch based ester of a dicarboxylic acid with Aluminum Starch Octenylsuccinate being preferred." Id. at ll. 58-60. "Other water soluble salts of starches could be used, an Aluminum based salt is not exclusive. Other salts may be based on copper, mercury, zirconium, calcium, iron, chromium, tin, barium and strontium." Col. 2, ll. 2-6.

Although the salts are based on metals, the salts are not metals. Because Tokarz's salts are not metals, we are not persuaded that the reference discloses the limitations of "[a]

hearing protection earplug comprised of materials with embedded metallic particles ...." Therefore, we reverse the rejection of claims 18 and 19 as anticipated by Tokarz.

CONCLUSION

In summary, the rejection of claim 18 under 35 U.S.C. § 102(b) as anticipated by Yoshii is reversed. The rejections of claims 18 and 19 under § 102(b) as anticipated by Tokarz and under 35 U.S.C. § 102(a) as anticipated by Yoshimi are also reversed.

REVERSED

MICHAEL R. FLEMING	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
KENNETH W. HAIRSTON	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
LANCE LEONARD BARRY	)	
Administrative Patent Judge	)	

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BARRY

APPEAL NO. 1998-2610 - JUDGE

APPLICATION NO. 08/451,950

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APJ FLEMING

APJ HAIRSTON

DECISION: **REVERSED**

Prepared By: APJ BARRY

**DRAFT SUBMITTED:** 24 Aug 01

**FINAL TYPED:**

Team 3:

I have typed almost all of this opinion.

Please provide insertions where needed including the mailing address.

Please check spelling, cites, and quotes.

**Do NOT change matters of form or style.**

**Please prepare PTO 892 for attached reference.**