

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 45

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SIGFRID D. SOLI and RALPH P. FRAVEL

Appeal No. 2000-1425
Application No. 07/921,508

HEARD: September 17, 2002

Before HAIRSTON, FLEMING, and GROSS, Administrative Patent Judges.
GROSS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 4, 6 through 9, and 11 through 18. Claim 10 is objected to as being dependent upon a rejected base claim, but is otherwise indicated as being allowable.

Appellants' invention relates to an auditory prosthesis with an adaptive filter and user controlled activation means for activating the adaptive filter. Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. An auditory prosthesis adapted to receive environmental sound which contains a selected auditory component and to supply an auditory stimulus which is perceptible to a user, comprising:

a transducer adapted to receive said environmental sound and convert said environmental sound into an electrical input signal

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containing a selected electrical component corresponding to said selected auditory component in said environmental sound;

an adaptive filter receiving said electrical input signal and providing a filtered signal, said adaptive filter having adaptable filtering characteristics based upon a reference and being operable in response to activation to adapt said filtering characteristics using said electrical input signal as said reference to determine said filtering characteristics required to filter said selected electrical component from said electrical input signal, said adaptive filter continuing to provide said filtered signal while adapting said filtering characteristics in response to said activation;

a receiver receiving said filtered signal and converting said filtered signal to said auditory stimulus; and

user-controlled activation means for activating said adaptive filter at a time controlled by said user, whereby said user can initiate adaptation of said filter without changing operating characteristics of said filter other than as a result of said adaptation.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Graupe et al. (Graupe)	4,783,818	Nov. 08, 1988
Harris et al. (Harris)	4,791,390	Dec. 13, 1988
Goodings et al. (Goodings)	5,259,033	Nov. 02, 1993

Widrow and Stearns, Adaptive Signal Processing, 1985, pp. 103-106 and 350 (Widrow)

Claims 1, 4, 6, 12, 14, 15, and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Graupe in view of Goodings.

Claims 7, 9, 11, 13, 16, and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Graupe in view of Goodings and Harris.

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Claim 8 stands rejected under 35 U.S.C. § 103 as being unpatentable over Graupe in view of Goodings, Harris, and Widrow.

Reference is made to the Examiner's Answer (Paper No. 36, mailed March 1, 1999) for the examiner's complete reasoning in support of the rejections, and to appellants' Brief (Paper No. 33, filed September 25, 1998) and Reply Brief (Paper No. 37, filed April 30, 1999) for appellants' arguments thereagainst.

OPINION

We have carefully considered the claims, the applied prior art references, and the respective positions articulated by appellants and the examiner. As a consequence of our review, we will reverse the obviousness rejections of claims 1, 4, 6 through 9, and 11 through 18.

Each of independent claims 1, 12, 14, 15, and 18 includes a user-controlled activation means for activating adaptation of the filter at a time controlled by the user without changing the operating characteristics of the filter except as a result of the adaptation. The examiner (Answer, page 3) refers to Graupe's manual gain change and on-off switch as the claimed user controlled activation means. In Graupe, the switch control means 33 responds to a change in the gain of amplifier component 16 or to a turn-on condition of the amplifier component and moves switches S1 and S2 into their identification configuration state.

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When the user turns on the device, and the switch control means responds to turn-on, the user clearly changes the operating characteristics of the filter. Further, when the switch control means responds to a user's gain change, again the user changes the filter's operating characteristics. Therefore, as asserted by appellants (Brief, page 8), the user's initiation of adaptation of the filter in Graupe changes the operating characteristics of the filter other than simply the adaptation.

Furthermore, during identification configuration the switches prevent an amplified output signal from reaching the receiver; only an unamplified signal produced by the noise generator reaches the speaker. Accordingly, during adaptation, the filter does not continue to provide the filtered signal, as required by all of the claims. Recognizing this deficiency, the examiner turns to Goodings. The examiner states (Answer, page 3) that "Goodings teaches on-line training system in which training is on-line and unobtrusive by virtue of maintaining a significant signal to noise ratio." The examiner further asserts (Answer, pages 3-4) that both Goodings and Graupe recognize "that there are many times when conditions are stable and adaption can be stopped." The examiner concludes (Answer, page 4) that it would have been obvious "to utilize Goodings teachings of on-line adaption to the system of Graupe et al., but only at times when

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needed (ie, unstable conditions or feedback detected either by user or special hardware) as suggested by both Graupe and Goodings."

Goodings, however, discloses (column 7, lines 18-20) continuous adaptation. Thus, Goodings fails to provide the claimed user control. Goodings does teach (column 11, lines 28-53) a user controlled volume control and limiter level. Neither of the user controls, though, controls when the adaptive filter is activated, as the adaptation is continuous. Accordingly, the combination of Graupe and Goodings fails to disclose each and every limitation of the claims. Consequently, we cannot sustain the obviousness rejection of independent claims 1, 12, 14, 15, and 18, nor of their dependents, claims 4 and 6.

Regarding the rejection of claims 7, 9, 11, 13, 16, and 17 over Graupe, Goodings, and Harris, and of claim 8 over Graupe, Goodings, Harris, and Widrow, each of independent claims 7, 13, 16, and 17 includes a user-controlled activation means for controlling the time of activating filter adaptation without changing the filter's operating characteristics except as a result of the adaptation, previously found lacking from Graupe and Goodings. Neither Harris nor Widrow (nor the combination thereof) overcomes the deficiencies of the primary combination of Graupe and Goodings. Accordingly, we cannot sustain the

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obviousness rejections of independent claims 7, 13, 16, and 17,
nor of their dependents, claims 8, 9, and 11.

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CONCLUSION

The decision of the examiner rejecting claims 1, 4, 6 through 9, and 11 through 18 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
MICHAEL R. FLEMING)	APPEALS
Administrative Patent Judge)	AND
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ANITA PELLMAN GROSS)	
Administrative Patent Judge)	

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