March 2, 1943. H. D. FIENE 2,312,534

ACOUSTIC DEVICE

Filed Feb. 11, 1942

Fig. 1.

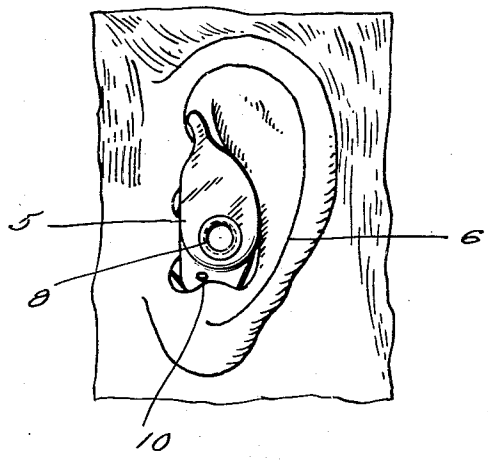


Fig. 2.

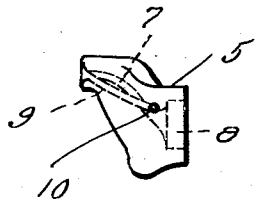
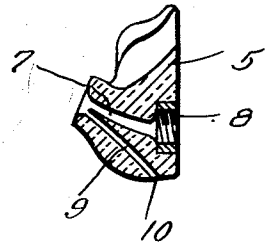


Fig. 3.



Inventor

Henry D. Fiene

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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ACOUSTIC DEVICE

Henry D. Fiene, Aurora, Ill.

Application February 11, 1942, Serial No. 430,448

2 Claims. (Cl. 181—23)

The present invention relates to acoustic devices adapted particularly for use by persons having impaired hearing and has for its primary object to provide a device of this character in the form of a plug adapted for conformably fitting in the orifice of the ear and embodying means for attaching a conventional form of hearing aid receiver communicating with a passage extending through the plug together with a ventilating passage also extending through the plug to provide atmospheric communication with the ear at a point inwardly of the plug to provide air circulation therefor, to prevent the formation of a vacuum within the ear and to reduce pressure therein, to prevent the formation of vapors caused by excessive pressure and perspiration of the body and to further improve the efficiency and comfort of the device.

A further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in performance, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming part hereof, wherein like numerals refer to like parts throughout and in which:

Figure 1 is a fragmentary side elevational view of a person's head showing the ear with the device in position therein.

Figure 2 is a bottom plan view of the device, and

Figure 3 is a vertical sectional view therethrough.

Referring now to the drawing in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates a plug member adapted for conformably fitting in the orifice of a person's ear designated at 6, the plug having a sound passage 7 extending therethrough from the front face to the rear face thereof, the front end of the passage being formed with a threaded socket 8 adapted for attaching a conventional form of hearing aid receiver thereto. It will be understood that the socket member 8 may be secured in the plug in any suitable manner.

The bottom of the plug is designated at 9 and partially protrudes from the orifice of the ear and the plug, beneath the passage 5 is also formed with a ventilating passage 10 which has one end terminating in the bottom of the plug, adjacent its outer surface, to provide atmospheric communication, the inner end of the passage 10 communicating with the passage 7 substantially at its inner terminus.

The passage 10 thus provides atmospheric communication with the passage of the ear and preferably extends downwardly from its inner end to a drain moisture which might accumulate at the inner end of the plug to prevent the same from entering and clogging the passage 7.

The provision of the ventilating passage 10 also permits air to circulate into the ear passages and thus reduces internal pressure and prevents vacuum from becoming created therein.

The passage 10 also enables sound waves to enter the ear through the plug in addition to those entering the passage 7 through the usual hearing aid receiver.

It is believed the details of construction, advantages and manner of use of the device will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention what I claim is:

1. An acoustic device of the class described comprising a plug adapted to conformably fit within the orifice of a person's ear, said plug having a passage therein adapted for attaching a hearing aid device thereto and a ventilating passage also extending through the plug to provide atmospheric communication for the interior of the ear, said passages communicating with each other at a point adjacent the inner end of the plug.

2. An acoustic device of the class described comprising a plug adapted to conformably fit within the orifice of a person's ear, said plug having a passage therein adapted for attaching a hearing aid device thereto and a ventilating passage also extending through the plug to provide atmospheric communication for the interior of the ear, said ventilating passage being inclined downwardly toward its outer end, and said passages communicating with each other at a point adjacent their inner ends.

HENRY D. FIENE.