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2,053,995

EAR PLUG

Original Filed Jan. 16, 1934

Fig. 1.

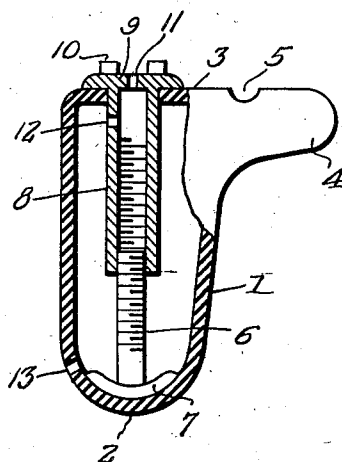
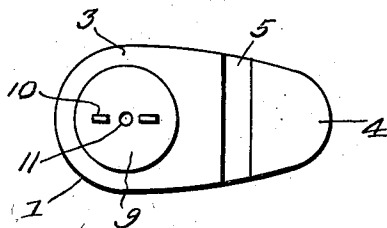


Fig. 2.



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UNITED STATES PATENT OFFICE

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EAR PLUG

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Original application January 16, 1934, Serial No. 706,886. Divided and this application January 17, 1935, Serial No. 2,258

4 Claims. (Cl. 128—152)

This invention relates to an ear plug, the general object of the invention being to provide a plug which can be expanded to increase the circumference thereof so as to make a snug fit with the walls of the ear opening and to provide means whereby air can pass through the device to equalize the pressure within and without the ear and inside the plug.

The present application is a division of an application filed by me on January 16, 1934, Serial No. 706,886 and allowed September 24, 1934 and which has matured into Patent Number 1,997,931.

This invention also consists in certain other features of construction and in the combination and arrangement of several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Fig. 1 is a longitudinal sectional view through the invention with parts shown in elevation.

Fig. 2 is a view looking towards the outer end of the device.

In this drawing, the numeral 1 indicates a hollow body formed of rubber or the like and of suitable elongated shape so that it can be conveniently inserted into the ear. The inner end of the body is rounded as shown at 2 and the outer end is substantially flat as shown at 3 and this end has a laterally extending lug 4 thereon, having a groove 5 in its outer face so that the plug can be used with the holding means shown in the above mentioned application. This lug also acts as a stop element and prevents the plug from being inserted too far into the ear. The plug is of expansible and contractible form so that after it is inserted in the ear, it may be expanded to snugly fit the ear opening. A threaded stud 6 has a rounded head 7 which is suitably fastened to the inner face of the rounded end 2 of the plug. A hollow sleeve 8 has a head 9 at one end thereof, the sleeve passing through a hole in the end 3 of the plug with the head engaging the outer face of said end. The head 9 is formed with the projections 10 for facilitating turning of the sleeve which is internally screw-threaded to receive the threaded part of the stud 6 and as will be understood by turning the sleeve the stud will be drawn thereinto, which shortens the plug and expands the same so that the circumference will be increased. Of course, by turning the sleeve 8 in an opposite direction, the parts will move

away from each other so as to elongate the plug and permit it to be removed from the ear opening or inserted therein.

A hole 11 is formed in the head 9 and opens into the interior of the sleeve and a second hole 12 is formed in the sleeve for permitting air entering the sleeve through the hole 11 to enter the plug and the curved end of the plug is formed with a hole 13. Thus, these holes permit the passage of air so that the pressure within the ear will be the same as atmospheric pressure as will be the air within the plug. The device is so formed that it does not extend beyond the ear and the device may be colored so that it will be hardly noticeable in the ear and as will be seen, there is nothing about the device which can become detached and remain in the ear. The flexibility of the device will cause the same to absorb vibrations before they reach the inner ear and thus the device will effectively keep out noises.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

I claim:

1. An ear plug comprising an elongated hollow body having one end rounded for fitting in the ear canal and its other end substantially flat, said flat end having a hole therein, an internally threaded sleeve frictionally passing through the hole and having a head at its outer end engaging the outer face of the flat part, lugs on the outer face of the head for enabling the sleeve to be rotated, a threaded stud fitting in the sleeve and having a rounded head fastened to the inner face of the rounded end of the body, said body being formed of resilient material which will cause the plug to increase in diameter when the sleeve is turned to shorten the plug, the plug decreasing in diameter when the sleeve is turned in an opposite direction to increase the length of the plug.

2. An ear plug comprising an elongated hollow body having one end rounded for fitting in the ear canal and its other end substantially flat, said flat end having a hole therein, an internally threaded sleeve frictionally passing through the hole and having a head at its outer end engaging the outer face of the flat part, lugs on the outer face of the head for enabling the sleeve to be rotated, a threaded stud fitting in

to the inner face of the rounded end of the body, said body being formed of resilient material which will cause the plug to increase in diameter when the sleeve is turned to shorten the plug, the plug decreasing in diameter when the sleeve is turned in an opposite direction to increase the length of the plug, said sleeve and the rounded end of the body having holes therein for the passage of air through the device.

3. An ear plug comprising an elongated hollow body having one end rounded for fitting in the ear canal and the other end flattened, said body being formed of material which will cause the body to increase in diameter when the body is shortened and to decrease in diameter when the body is lengthened, a threaded member in the body having a rounded head connected with the inner face of the rounded end of the body, a second threaded member frictionally passing through a hole in the flat end of the body, means whereby the second member can be rotated in the body, the two members telescoping whereby movement of the second member in one direction will cause the first threaded member to shorten the body the sleeve and having a rounded head fastened

and movement of the second member in an opposite direction will cause the first threaded member to lengthen the body.

4. An ear plug comprising an elongated hollow body having one end rounded for fitting in the ear canal and the other end flattened, said body being formed of material which will cause the body to increase in diameter when the body is shortened and to decrease in diameter when the body is lengthened, a threaded member in the body having a rounded head connected with the inner face of the rounded end of the body, a second threaded member frictionally passing through a hole in the flat end of the body, means whereby the second member can be rotated, the two members telescoping whereby movement of the second member in one direction will cause the first threaded member to shorten the body and movement of the second member in an opposite direction will cause the first threaded member to lengthen the body, and means whereby air can enter the body at one end and escape from the other end.

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