

Jan. 16, 1951

M. J. THOMAS

2,538,339

EARPLUG

Filed Sept. 15, 1949

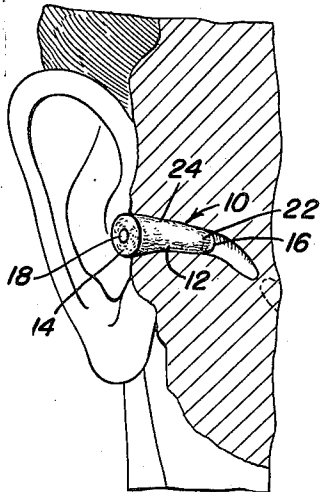


Fig. 1.

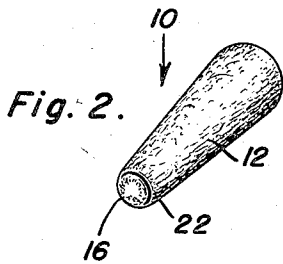


Fig. 2.

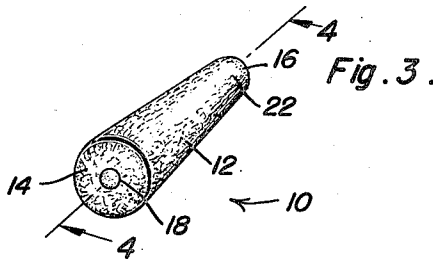


Fig. 3.

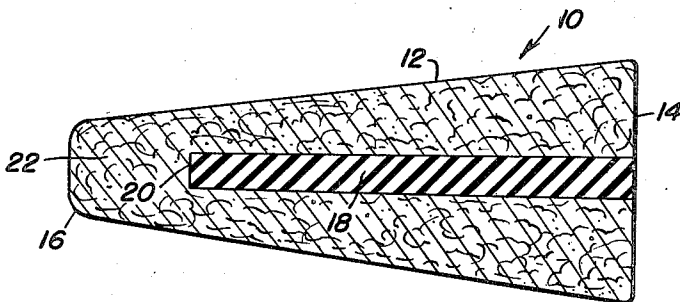


Fig. 4.

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UNITED STATES PATENT OFFICE

2,538,339

EARPLUG

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Application September 15, 1949, Serial No. 115,827

2 Claims. (Cl. 128—151)

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This invention relates to improvements in ear plugs, and the principal object of the invention is to protect the auditory canal against discomfort or injury resulting from the presence of water, dust, noise, etc.

This object is achieved by the provision of the instant ear plug which is adapted for insertion into the auditory canal, an important feature of the invention being the formation of the main body portion of the plug from resiliently expansible and contractible material which, by virtue of its resiliency, may be readily inserted into the canal and permitted to contract or expand therein so as to conform accurately to the configuration of the canal and eliminate any possibility of unfilled space through which water, dust, noise, etc. could penetrate.

Another feature of the invention is the flexible core in the resilient main body portion of the plug, this core being stiffer than the body portion and lending sufficient stiffness to the plug so as to facilitate convenient and expeditious insertion thereof into the auditory canal.

With the above more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially in the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a fragmentary cross-sectional view of the auditory canal showing the device disposed therein;

Figure 2 is a perspective view of the device, this view being taken from the smaller end;

Figure 3 is a perspective view, similar to that shown in Figure 2, but taken from the larger end; and

Figure 4 is a longitudinal sectional view, taken substantially in the plane of the line 4—4 in Figure 3.

Referring now to the accompanying drawings in detail, the invention consists of an ear plug designated generally by the reference character 10, the same embodying in its construction an elongated body 12 of a shape similar to a frustum of a cone which is formed from resiliently expansible and contractible material such as sponge rubber, the larger end of this body being substantially flat as indicated at 14, while its smaller end is provided with a rounded marginal edge 16, as is best shown in Figure 4.

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An elongated, substantially cylindrical core 18 of flexible material which is stiff relative to the material of the body 12, is embedded in the body 12, this core preferably consisting of hard rubber and extending from the large end 14 of the body to the inner wall 20 of a passage in the body 12, whereby the small end portion of the body is coreless and constitutes a resilient pilot head 22.

When the device is placed in use, the plug is inserted into the auditory canal 24 of the user, small end first, during which action the resilient pilot head 22, together with the outwardly tapered configuration of the body 12, will substantially facilitate the insertion, while the relatively stiff core 18 will assure that the body 12 is not subjected to excessive lateral bending or distortion. However, once the plug is installed, the resiliently expansible and contractible nature of the soft material from which the body 12 is formed will assure that the plug completely fills every cavity or space of the auditory canal, and will thus assure adequate protection against leakage or penetration of water, noise, dust, etc. into the ear.

Having described the invention, what is claimed as new is:

1. An ear plug comprising an elongated body in the shape of a frustum of a cone with uninterrupted walls from end to end and formed from resiliently expansible and contractible material, a flexible and solid core embedded in said body, said core extending axially from the larger end to a point spaced from the smaller end of the body, so that the smaller end portion of the body constitutes a coreless pilot head.

2. The combination of claim 1 and said body having a passage therein which opens through the larger end of said body, and said core being disposed in said passage and terminating at its outer end flush with the surface of said larger end.

MARY J. THOMAS.

REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
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