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2,148,838

EAR PROTECTOR

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Fig. 1.

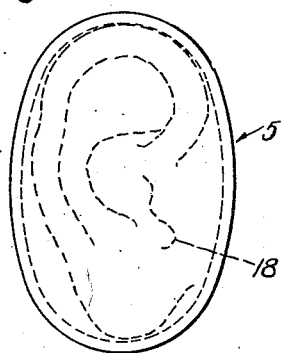


Fig. 2.

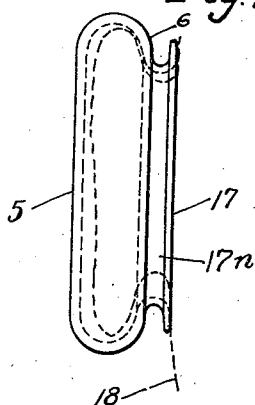


Fig. 3.

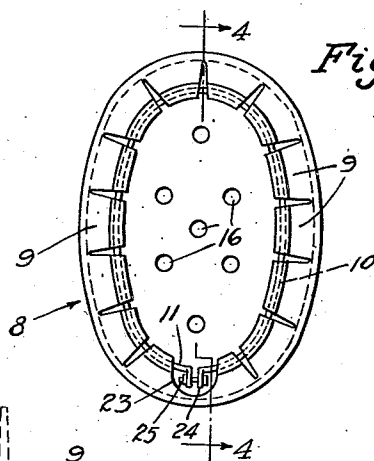


Fig. 4.

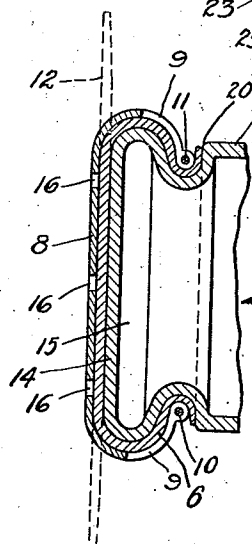
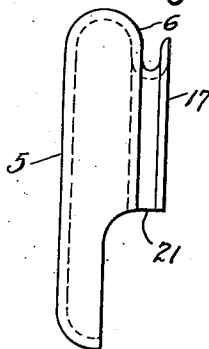


Fig. 5.



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## UNITED STATES PATENT OFFICE

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## EAR PROTECTOR

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2 Claims. (Cl. 132—45)

This invention relates to an ear protector which is constructed to protect the human ear from heat and cold and to guard against the entrance of liquid into the meatus of the ear during tonsorial and beauty culture operations.

The invention also pertains to an article of manufacture.

It is an object of the invention to provide a simplified, self-supporting article which is shaped to fit over the external ear in such a manner as to afford the desired protection to the ear, and which may readily be applied to and removed from the ear. This article may be manufactured from any desired light, durable material. A somewhat stiff sheet material of a waterproof character, or having a waterproofed exterior surface may be used. Celluloid, rubber composition, "Bakelite", or materials made of fibrous paper pulp may be made use of. It is desirable that the material be nonconductive of heat, as well as impervious to water and other liquids.

The article is adapted to keep soap suds out of the ears while the head is being washed; to keep the hot air out of the ears while the blower is being used to dry the hair, and to protect the ears from being accidentally burned by heated parts used to form waves or curls in the hair.

Other objects, advantages and features of the invention may hereinafter appear.

Referring to the accompanying drawing, which illustrates what is at present deemed to be a preferred embodiment of the invention,

Fig. 1 is an outer face view of the article, the ear to which it is to be applied being outlined in dotted lines.

Fig. 2 is a front edge view thereof.

Fig. 3 is an inner face view of the molding cover.

Fig. 4 is a vertical mid-section taken on line 4—4 of Fig. 3, there also being shown in this view the molding core member upon which the article is molded. The dotted lines in this view illustrate the unbent plate or piece of sheet material from which the article is formed.

Fig. 5 is a side view of a modification.

Referring in detail to the drawing, the article is shown made of an elliptically shaped piece of rather heavy sheet material having a body portion 5 with a convex marginal guard flange 6 which surrounds the inner face of the article, but which may be absent from its lower side so as to permit the article to be slipped over the external ear by a downward movement, and as hereinafter described.

A molding plate 8, desirably a rather thick piece of flexible material, is formed with marginal teeth,

or flaps 9, which present a serrated appearance in the unbent plate. These flaps, or teeth, 9 have their end portions lapped over and secured down thus forming a passage 10 through the serrated margin of the plate to receive a soft flexible wire 11 which serves as a "pucker string" in carrying out the method of manufacture illustrated in Fig. 4.

In Fig. 4 is shown a mold member 13 provided with an elliptical, symmetrically disposed head 15, and the article is shown having its flanged portion 6 molded upon and around the peripheral portion of said head. The molding operation will be completed by applying traction to the wire 11, thus drawing the article into close contact with the head 15, and thereafter heat-treating it to cause it to retain its molded form. The head 15 is of a flattened character, having a flat outer surface 14 against which the body portion of the protector blank 12 is abutted.

The flange 6 may be omitted from the lower part of the elliptically shaped blank 12 from which the article is formed, thus after completion it may readily be removed from the head 15, and also be placed on the ears more readily.

The molding plate 8 is desirably furnished with air vents 16. It should be elliptically shaped and of a somewhat greater diameter than the protecting plate 5.

The inner edge of the flange 6 is formed with a ring or face 17 to fit against the side of the human head 18 indicated in dotted lines.

The mold member 13 has an annular shoulder 20 which serves to deflect the flanged part 17. Said part 17 consists of a terminal flange on the inner side of the article and is directed outwardly and in substantial parallelism with the body portion of the protector. The result of this construction is that said flange 17 is caused to form a comfortable contact with the side of the head of the person wearing the device, the neck of the annular recess 17n between the flange 17 and the body portion of the device serving to space said flange from the remainder of the device in such a way as to maintain the ear protecting part thereof at the proper distance from the head of the wearer.

The annular neck or recess portion 17n is of a sufficient width, in combination with the thickness of the housing portion or body part 5 of the device, to keep the inner surface of the outer wall of the housing out of contact with the tissues of the ear of the wearer, as is indicated by the two, spaced apart, broken lines in the left hand portion of Fig. 2. Hence when the outer wall of said

housing becomes heated from a blast of hot air directed thereagainst to dry the hair, the air space between it and the ear protects the ear from being burned. While the flange 17 at the inner side of the neck 17n abuts against the side of the head, the adjacent portion of the housing 5 at the outer side of said neck contacts with the inner side of the external ear and contributes to stabilizing the device in its self-supporting position.

10 In Fig. 5 the flange 6 is shown with its lower part cut away at 21 between adjacent flaps.

In Fig. 3 the molding plate 8 is shown having its edge cut away at 23 and the ends of the wire 11 are provided with eyes 24 secured together 15 by a small pin or bolt 25.

Owing to the resilient character of the article 5 it may be forcibly withdrawn from the head 14 of the mold member after which the flange 6 will spring back into place. If the article is made 20 of "Bakelite" or like material it will be necessary to provide a collapsible mold member.

The device, as shown in Figs. 1 and 2, is of a symmetrical shape, its elliptical form making it applicable to the ear either end up, and also lowering cost of manufacture.

25 I claim:

1. An article of manufacture consisting of a form-maintaining piece of sheet material having a housing furnished with an outer wall and with 30 a marginal flange adapted to engage the external

ear and thereby support the article in an ear-protecting position independently of any other supporting means therefor, said flange having its base portion inwardly deflected and its edge portion deflected laterally outward and in a sufficiently spaced relation to its base part to maintain the outer wall of said housing out of contact with the ear of the wearer, said deflected portions of said flange combining to form an annularly recessed part to fit between the ear and the head 10 and one of them being positioned to contact in a flatwise manner with the head of the person wearing the device.

2. An article of manufacture consisting of a form-maintaining piece of sheet material having 15 a housing furnished with an outer wall and with a marginal flange adapted to engage the external ear and thereby support the article in an ear-protecting position independently of any other supporting means therefor, said flange having its 20 base portion inwardly deflected and its edge portion deflected laterally outward and in a sufficiently spaced relation to its base part to maintain the outer wall of said housing out of contact with the ear of the wearer, said deflected 25 portions of said flange combining to form an annularly recessed part to fit between the ear and the head.

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