

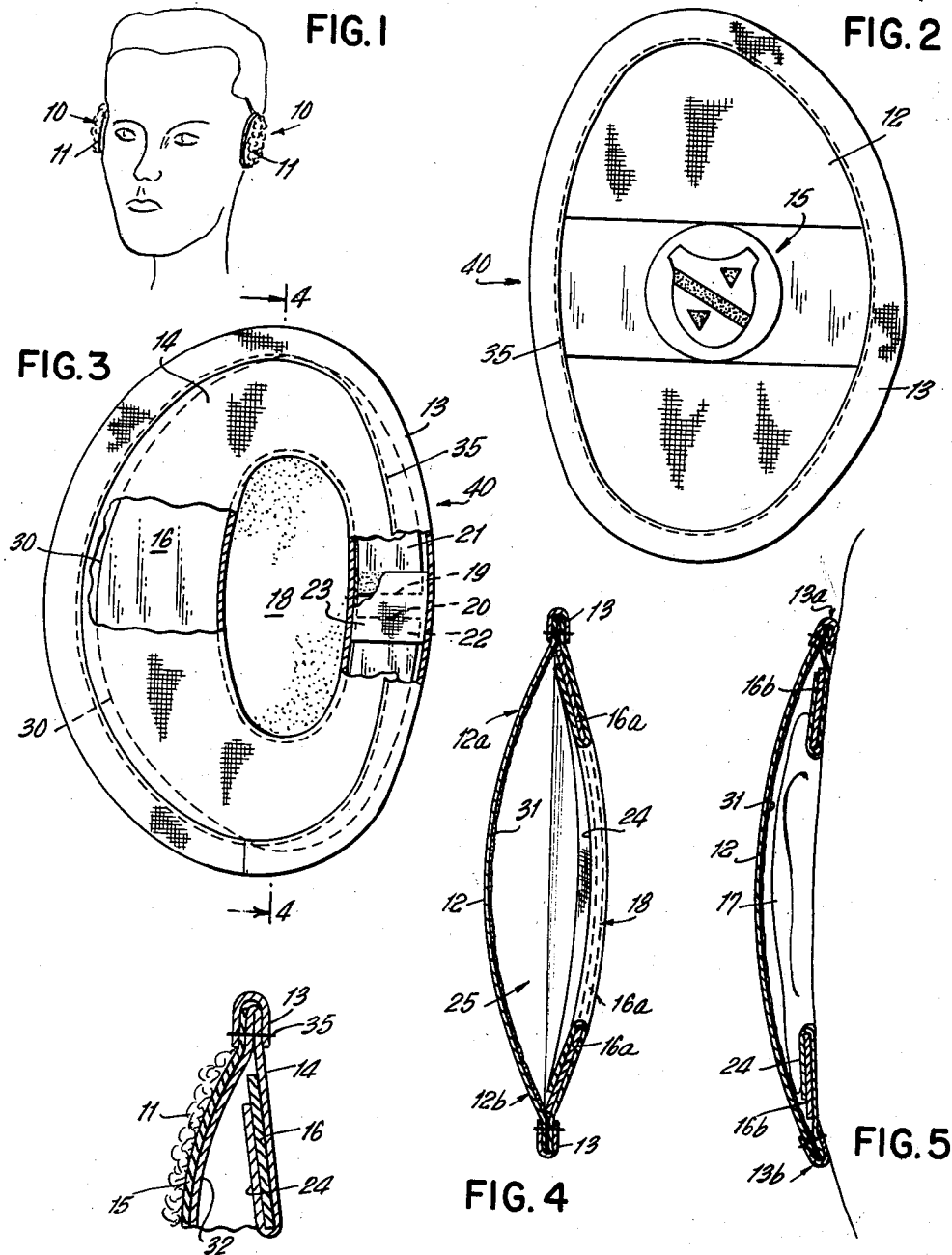
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EAR MUFF

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1

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 EAR MUFF
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This invention relates to ear muffs such as are employed for the protection of the ear against wind, cold, rain and the like.

It is an object of the present invention to provide an improved ear muff which is snappably engageable with the ear of the wearer and which has improved means for accommodating said ear when so engaged.

Another object of the invention is to provide an ear muff of the character described which requires no band or other external appliance for maintaining its engagement with the ear of the wearer.

Another object of the invention is to provide an ear muff of the character described which may be formed with a minimum of stitching operations.

A further object of the invention is to provide an ear muff of the character described which has improved insulation means and which is of simple and economical construction.

Other objects and advantages of the present invention will become apparent from the following discussion as read in connection with the accompanying drawing.

In the drawing:

FIGURE 1 is a perspective view of one embodiment of the present invention employed in its operative position upon the head of a wearer;

FIGURE 2 is a front elevational view of another embodiment of the invention;

FIGURE 3 is a partially cutaway, rear elevational view of the embodiment of the invention depicted in FIGURE 2;

FIGURE 4 is a cross-sectional view taken about the line 4-4 of FIGURE 3 and depicting an open or disengaged position of the form of the invention depicted in FIGURES 2 and 3;

FIGURE 5 is a view similar to that of FIGURE 4 but depicting said embodiment of the invention in a position wherein it is engaged with the ear of the wearer;

FIGURE 6 is an enlarged fragmentary, cross-sectional view showing a portion of the form of the invention depicted in FIGURE 1.

Throughout the various views similar numerals are employed to refer to similar parts of the invention.

The present invention provides for a distortable ear muff which may be snapped on the ear of the wearer and which incorporates means for accommodating said ear so that, regardless of its size, the ear is comfortably enclosed. Thus, as may be seen in FIGURE 1 of the drawing, ear muffs 10 according to the present invention may be engaged with the ears of the wearer, said ear muffs 10 requiring no external band or other appliance to maintain them in said engaged position. It will be noted that the ear muffs 10 depicted in FIGURE 1 are provided with an outer layer of insulating material such as fur 11 which is described hereafter in greater detail.

In another form of the invention depicted in FIGURE 2 of the drawing, an outer cover 12 composed of a knitted fabric, for example, is employed in lieu of the aforesaid fur 11, said cover 12 being secured as by a binding 13 to an inner face 14 (see FIGURE 3). As shown in FIGURE 2, the said outer cover 12 may be provided with any desired insignia 15 as, for example, a coat of arms, crest, college insignia and the like, and said outer cover 12 may also be provided with any desired colours such as those of the college whose insignia is furnished as aforesaid.

2

As may be seen in FIGURE 3, the form of the invention therein depicted employs a distortable core 16 which is preferably composed of a flexible, stretch-resistant plastic material. It is understood, however, that other materials such as a flexible cardboard may also be employed to form the said core 16. The core 16 is generally of an elongated planar conformation and is provided with a generally elliptical aperture 18 adapted to receive the ear of the wearer. Said core 16 is also radially terminated as at 19 and 20 to form two end portions 21, 22 disposed in spaced relation with respect to each other.

These end portions 21, 22 may be pulled towards each other and maintained in tension by a flexible, inelastic tape 23, thereby imparting a curved conformation to the core 16, as depicted in FIGURES 4 and 5, for example, where the core has assumed the curved positions designated by the numerals 16a and 16b.

The inner face 14 is preferably folded around the core 16 to form a flap 24 which is secured to the inner surface of the core 16, as by a suitable adhesive.

It will be noted that the aperture 18 is adapted to receive the ear of the wearer so that said ear may be disposed within the area designated generally in FIGURE 4 by the numeral 25. Such reception may be most easily accomplished when the ear muff is in the open position depicted in said FIGURE 4. However, after the ear is received in the area 25, it is necessary to exert pressure upon the upper and lower portions of the outer cover 12, as at 12a and 12b, for example, thereby urging the upper and lower ends of the ear muff towards the head of the user. Upon such urging, the core 16 will be distorted from the position depicted in FIGURE 4 (herein called its "convex" position) to the position depicted in FIGURE 5 (herein called its "concave" position), the said core 16 snapping from said convex to said concave position.

In the latter position, the ear muff will firmly enclose the ear lobe and said ear lobe will bear against the inner periphery of the outer cover 12. Moreover, the upper and lower ends 13a, 13b of the ear muff will be maintained in contact with the side of the wearer's head so as to prevent access to the encased ear by wind, rain, cold and the like.

In the past, conventional ear muffs have often rendered the encasement of the ear of the wearer extremely uncomfortable by reason of the inelastic nature of the structure employed to contact the ear. However, the present invention overcomes this difficulty and is adapted to receive the ear comfortably and effectively regardless of its variation in size and shape.

Thus, it will be noted that while the outer cover 12 and inner face 14 are united as by the binding 13, they are not anchored continuously around the marginal perimeter of the inner core 16 and substantially overlap its rearward portion 30. Thus, for example, the outer cover 12, inner face 14 and inner core 16 may be united at the forward portion 40 of the ear muff by stitching 35 extending through the binding 13 but said stitching will unite only the outer cover 12, inner face 14 and binding 13 at the rearward portion 30 of the ear muff and will not be anchored to said inner core 16 in the vicinity of said rearward portion 30.

With this arrangement, the outer cover 12 and inner face 14 are free to yieldably conform to the ear when it is received within the area 25, thereby avoiding any undesirable cramping of said ear.

To facilitate such yieldable conformation, the outer cover 12 is preferably provided with a yieldable lining 31 composed of a resilient material such as polyurethane. It will be noted also, that such a material may assume a sponge-like conformation characterized by a very soft texture and excellent heat insulation properties.

3

It will also be noted that while the outer cover 12 and inner face 14 are united by the binding 13, the inner face 14 may be composed of a plastic material which may be heat sealed at its perimeter to the plastic lining 31, thereby obviating the necessity for the binding 13.

In lieu of the plastic lining 31, it may be deemed desirable in some instances to utilize a lining composed of cloth or other material, as at 32 in FIGURE 6, in which event the outer cover 12 and inner face 14 may be united by the binding 13 and stitching 35 or, said outer cover 12 and inner face 14 may be composed of a thermoplastic material which may be joined by a suitably heat sealed bond. Moreover, where the core 16 is composed of a suitable plastic material, any desired anchoring of the outer cover 12 and inner face 14 to the core 16 may also be accomplished by heat sealing.

From the foregoing, it will be seen that the present invention accomplishes an ear muff which is light in weight, compact and easy to manufacture and engage in operative use. Thus, it will be seen that when the ear muff is in the engaged position depicted in FIGURE 5, the yieldability of the lining 31 permits the ear lobe, designated in said FIGURE 5 by the numeral 17, to urge the outer cover 12 away from the head of the wearer without accomplishing disengagement of the ear muff from said ear lobe 17, the pressure exerted by said ear lobe 17 upon said outer cover 12 and lining 31 being insufficient to overcome the stiffness of the core 16 so as to cause the inner face 14 to be displaced from contact with the head of the wearer.

It will also be noted that additional heat insulation or weatherproofing qualities may be afforded to the ear muff as by providing a layer of fur 11 upon the outer cover 12, as shown in FIGURE 6, for example, and that said fur 11 may be conveniently formed, as by die cutting, so as to be congruent with the outer cover 12, thereby facilitating the

4

binding thereof and improving the appearance of the ear muff as a whole.

The embodiments of the invention illustrated and described hereinabove have been selected for the purpose of clearly setting forth the principles involved. It will be apparent, however, that the present invention is susceptible to being modified in respect to details of construction, combination and arrangement of parts which may be resorted to without departure from the spirit and scope of the invention as claimed.

I claim:

An improved ear muff comprising, in combination: an outer cover; an inner face; perimetral means for securing said outer cover to said inner face; a distortable planar core encased between said outer cover and inner face; the said distortable planar core being provided with an elongated aperture; the said inner face being disposed on the marginal perimeter of said elongated aperture; the said elongated aperture being engageable with a human ear lobe disposable between said outer cover and said distortable planar core; the perimeters of said outer cover and inner face being in spaced relation with respect to the rearward edge of said distortable planar core and being yieldably conformable to the said human ear lobe; the said forward edge of said distortable planar core being engaged with the perimeters of said outer cover and inner face; said distortable planar core being interrupted to form a pair of free ends; said distortable planar core being provided with a flexible tape connecting said free ends.

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