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PROTECTIVE DEVICE FOR ATHLETIC WEAR

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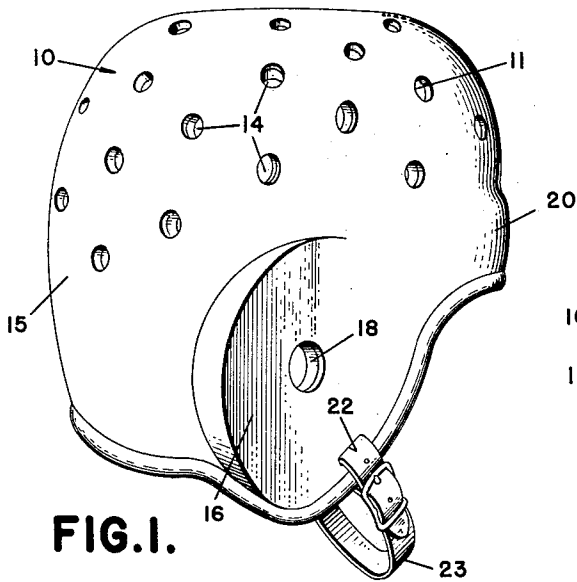


FIG. 1.

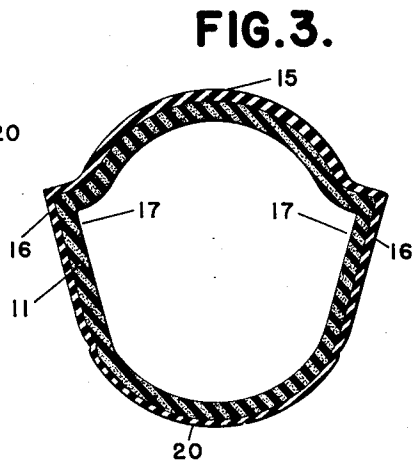


FIG. 3.

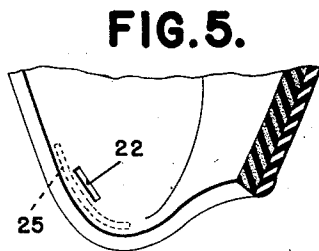


FIG. 5.

FIG. 4.

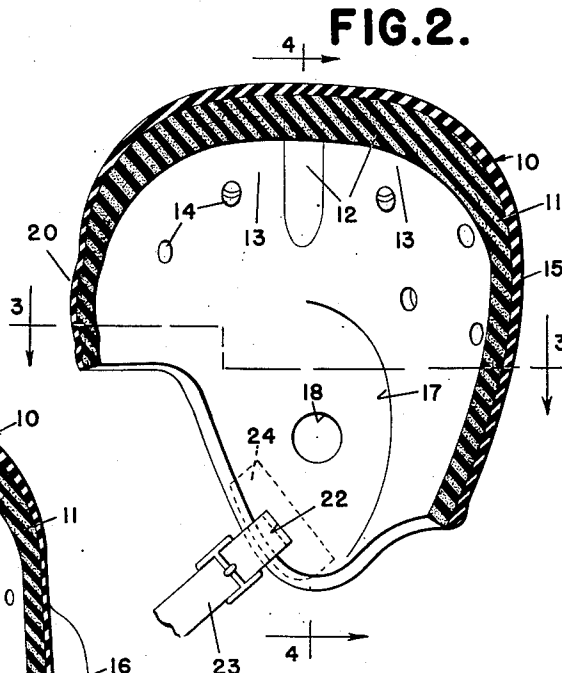
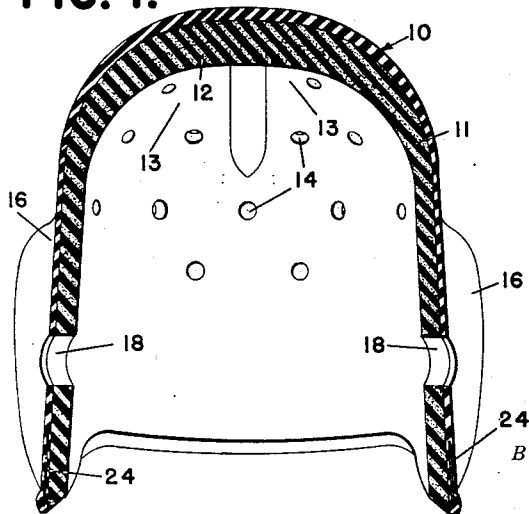


FIG. 2.

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PROTECTIVE DEVICE FOR ATHLETIC WEAR

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3 Claims. (Cl. 2—3)

This invention relates generally to protective wearing apparel and refers more particularly to improvements in headgear of the type employed in connection with athletic wear for protecting the head of the wearer.

One of the principal objects of this invention is to simplify, render more efficient, and improve generally protective wearing apparel by providing a device of relatively light weight constructed to not only afford maximum comfort to the wearer, but to also possess sufficient strength to adequately protect the wearer.

The cost of manufacture of devices of the character set forth is appreciably reduced by forming the body of the device from rubber or some suitable rubber composition molded to the desired shape, and padded or lined with a highly resilient material possessing maximum cushioning qualities, such as sponge rubber. The latter may be readily cemented or otherwise united to the body and is preferably of relatively great thickness, so as to not only effectively absorb shocks imparted to the body, but to also permit the same to readily conform to the outline of the portion of the wearer with which the device is intended to be used.

Although the molded rubber body affords sufficient strength to effectively resist any shocks that may be imparted thereto during normal use, nevertheless, the strength of the body may be greatly increased without appreciably increasing the weight and cost of manufacture, by providing an extra thickness of material on certain portions of the body and by embedding suitable reinforcements in the body.

A further advantageous feature of this invention resides in the provision of a protective helmet constructed in accordance with the foregoing and possessing the further feature of being moisture or waterproof.

The foregoing, as well as other objects, will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawing, wherein:

Figure 1 is a perspective view of the helmet forming the subject matter of this invention;

Figure 2 is a sectional view through the helmet shown in Figure 1;

Figure 3 is a cross sectional view taken on the plane indicated by the line 3—3 of Figure 2;

Figure 4 is a sectional view taken substantially on the plane indicated by the line 4—4 of Figure 2; and

Figure 5 is a fragmentary sectional view showing a slightly modified form of construction.

It will be apparent as this description proceeds, that the present invention may be advantageously employed in association with protective wearing apparel in general, but for the purpose of illustrating the invention I have selected a helmet of the type employed to protect the head of a person. The helmet comprises a crown or body 10 molded to the desired shape from rubber or from a rubber composition and lined with a highly resilient material 11 impervious to moisture. The material also possesses sufficient cushioning qualities to not only effectively absorb shocks imparted to the crown, but to also readily conform to the contour of the head of the wearer. It has been found that a relatively thick padding of sponge rubber is particularly suitable for the above purpose, and this padding may be cemented, sewed, or otherwise united to the inner surface of the crown. In the present instance, the cushioning effect of the device at the top of the head is further increased by the provision of ribs 12 extending in directions transverse to each other and preferably formed of the same material as the padding 11. As a matter of fact, the ribs 12 may be formed integral with the padding or lining 11, and in addition to contributing to the cushioning effect of the lining, provides spaces 13 at the top of the head for the circulation of air through the ventilating holes 14 formed in the top of the crown.

As shown in Figure 1, the crown is provided with a portion 15 designed to extend around the back of the head of the wearer and is also provided with ear protecting portions 16 at opposite sides. As shown in Figure 1, the ear protecting portions 16 are formed by recessing the opposite sides of the helmet to provide pockets 17 of sufficient dimension to receive the ears and suitable openings 18 are formed in the portions 16 opposite the ears so that the hearing of the person wearing the helmet will not be impaired. By reference to Figure 1, it will be noted that the helmet is also provided with a forehead protecting portion 20 adapted to extend down over the forehead of the wearer so as to completely protect the same.

Although the molded rubber crown affords sufficient strength to effectively resist all normal shocks that may be imparted thereto, nevertheless, the strength of the crown may be increased by reinforcing the same. The crown may be effectively reinforced by increasing the thickness of the portions of the body it is desired to strengthen and, in the present instance, the portions reinforced in this manner are clearly shown

in the accompanying drawing. The aforesaid portions of the helmet are predetermined so that the reactions of shocks imparted to the helmet instead of being transmitted directly to the neck of the wearer, are substantially uniformly distributed. In this connection, attention is also directed to the fact that the ear protecting portions 16 are reinforced in the region of the openings 22 for the chin strap 23 by embedding fabric 24 in the portions 16 during the molding operation. If desired, the ear protecting portions may be reinforced by embedding cords 25 in the rubber instead of the fabric mentioned above, and this alternative is shown in Figure 5. Attention is called to the fact at this point, that the foregoing method of reinforcing provides for imparting ample strength to the helmet without resorting to protruding ribs on the exterior surface of the helmet and, as a consequence, this surface may be perfectly smooth, if desired. The elimination of protruding ribs on the exterior surface of the helmet adds materially to the safety of the helmet, since in actual use any protrusions on the helmet have the tendency to interrupt a glancing blow imparted to the helmet and thereby materially amplify the shock. On the other hand, if the surface is smooth, as in the present case, the shock is actually minimized, since the blow merely glances off of the helmet.

Thus from the foregoing, it will be observed that I have provided a helmet molded in one piece from a material containing rubber and comprising a crown having flexible and reinforced portions predetermined to absorb shocks imparted to the helmet, without transmitting the reaction of the shocks directly to the neck of the wearer,

as is the case in many helmets produced in the past. This construction not only affords maximum strength, but at the same time renders it possible to inexpensively manufacture the helmet. It will further be observed that I have provided a crown of the type previously set forth, lined with a highly resilient material, preferably impervious to moisture, such as sponge rubber, capable of readily conforming to the head of the wearer and capable of effectively absorbing the shocks imparted to the crown.

What I claim as my invention is:

1. Protective wearing apparel comprising a molded shock resisting shield of vulcanized rubber composition conforming substantially to the portion of the wearer with which the same is intended to be used, a highly resilient lining of sponge rubber material permanently secured to the shield and having ribs projecting from the inner surface thereof contributing to the resiliency of the lining and forming air spaces.

2. A protective helmet comprising, a molded exterior of vulcanized rubber material, a highly resilient lining of sponge rubber, and ribbing of the same material as the lining extending inwardly from the inner surface of the latter.

3. A protective helmet comprising, a molded one piece crown of vulcanized rubber material, a highly resilient lining of sponge rubber for the crown and transverse ribbing of the same material as the lining extending inwardly from the inner surface of the lining and cooperating to form air spaces communicating with the atmosphere through openings in the crown.

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