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ROTARY FOOTBALL HELMET

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Fig. 1

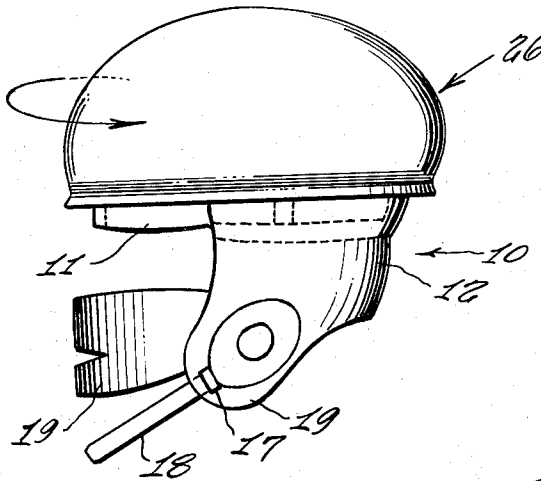


Fig. 3

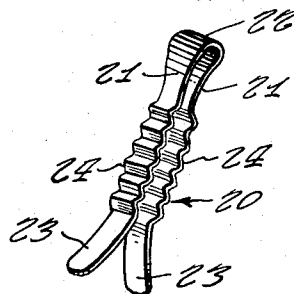
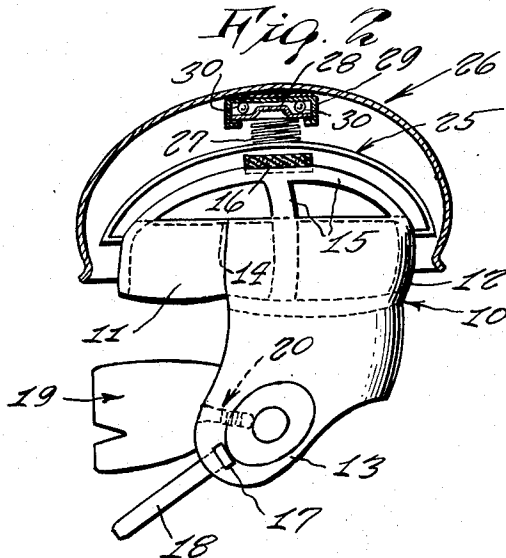


Fig. 2



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ROTARY FOOTBALL HELMET

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2 Claims. (Cl. 2—3)

This invention relates to head protectors and more particularly to football or crash helmets.

As is generally known, crash helmets at the present time are adaptations of football helmets. However, the evolution of such headgear started during ancient times when warriors required head protection from rocks and stones that were hurled at them. These ancient head protectors were heavy leather hats which fitted snug on a warriors head to prevent a skull from splitting and being pierced. Early football head gear were similarly made and ear flaps were added.

Later modifications included padding, a back drape between the ear flaps to protect the base of the skull, and then a resilient or elastic sling between the padded leather helmet and the head of the wearer. The sling does not necessarily contour to the particular shape of the wearer's head. With the advent of plastics, leather was replaced. Plastic cases are more reasonable to manufacture, stronger and can be permanently colored. However, plastic helmets are known to break laying the wearer open to injury. Thus, plastic helmets did not alleviate all head injuries suffered by wearers of leather helmets which were weaker than those of plastic.

Accordingly, an object of this invention is to provide a football type helmet of the plastic variety which remains intact after a severe shock.

Another object of this invention is to provide a football type helmet which is a resiliently connected case portion which resists breakage when struck.

Another object of this invention is to provide a strong and rigid head protector which resists breaking when struck and has resilient means for absorbing the force of impact.

Another object of this invention is to provide snugness and adaptation to fit to the contour of the wearer's head and yet maintain space between the head and the outer case.

Another object of this invention is to provide a means for release of the face guard when it is grabbed or pulled to avoid resultant whip lash of the neck caused when the face guard and helmet are integral.

These and other objects and advantages will become more apparent by referring to the following description and the accompanying drawings, wherein:

FIGURE 1 is a side elevation of a helmet made in accordance with the invention;

FIGURE 2 is an elevational view similar to FIGURE 1 with portions of the novel helmet shown diagrammatically in section,

FIGURE 3 is a perspective view of a clip for connecting a face protector to the helmet.

Referring now to the drawings, a helmet constructed in accordance with the invention is comprised for four main protecting parts in addition to interconnections. These are the inner helmet 10, a face guard 19, a super structure or intermediate frame 25, and an outer shell 26.

The inner helmet 10 is similar to a normal football

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helmet with the crown removed, and is separated or cut at the forehead, the back of the head and at the temple areas to provide a pair of frontal portions 11 and a pair of back portions 12 that include ear flaps and skirt 13. Elastic strips 14 connect to the inside of and hold the portions 11 and 12, 13 together.

The inner helmet portions are made of hard plastic shells which are adequately padded on the inside. A pair of semi-elastic cross straps 15 are connected to portions 11 and 12 and support a resilient pad 16 connected thereto at their intersection. The semi-elastic cross straps form a head cradle.

Two intermediate members 25 (one is not shown) are connected to or are integral with the plastic shells of portions 11 and 12 and are relatively rigid. The outside intermediate member 25 provides a platform for mounting the outer shell 26.

A coil spring 27 is connected centrally to the intermediate structure 25 and has a plate 28 connected to its upper end. Plate 28 has a centrally bulged portion and is retained in a cup member 29 that is attached to the inside of the outer shell 26. A series of balls 30 are disposed inbetween the cup 29 and the plate 28 that encircle the central plate bulge to form an anti-friction bearing between the intermediate structure 25 and the outer shell 26. Thus, spring 27 permits displacement of the outer shell 26 without transmitting the displacing force to the rest of the helmet while the bearing formed by the plate 28, the cup 29 and the balls 30 permit rotation of the shell 26.

The novel helmet is held on the wearers head by a conventional chin strap that is inserted in slots 17 in the earflaps 13. A face guard or protector 19 is also connected to the inner helmet 10 by clips 20, as shown in detail of FIGURE 3, inserted in the ear flaps 13.

The clip 20 has a central bend 22 to provide a pair of legs 21 one leg having side walls to effect a box like structure (open at one end) which have diverging tips 23 and intermediate convoluted portions 24 for gripping correspondingly deformed parts of the face piece 19. The clips 20 provide an impositive connection which permits the face piece 19 to separate from the ear flaps 13 when grabbed.

While the construction and arrangement of the improved rotary football helmet is that of a generally preferred form, obviously modifications and changes may be made without departing from the spirit of the invention or the scope of the claims.

Having thus described my invention, what I claim is new and desire to secure by Letters Patent is:

1. A football helmet comprising an inner open crown member adapted to be placed on the head of a wearer, ear flaps and a skirt connected to each other and said helmet for protecting the base of such wearer's skull, cross straps adapted to receive a wearer's head being connected to the inner portion of and disposed across the open crown member, an intermediate structure connected to the inner crown member being substantially rigid and spaced from the cross straps, an outer shell connected to the intermediate structure being spaced therefrom to surround the open crown and overlap the inner crown member, a coil spring connected at one end to said intermediate member, and a bearing having two portions rotatable relative to one another, one of said

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rotatable portions being connected to the end of said spring and the other being connected to said outer shell so said spring and said bearing cooperate to resiliently and rotatively connect the outer shell to the rest of the helmet.

2. A football helmet according to claim 1 and a cushion connected to the straps at their intersection and disposed between the straps and the intermediate structure for shock absorption when the intermediate structure is displaced toward the wearer's head.

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