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H. E. SMITH
FOOTBALL PLAYER'S EQUIPMENT
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Fig. 1

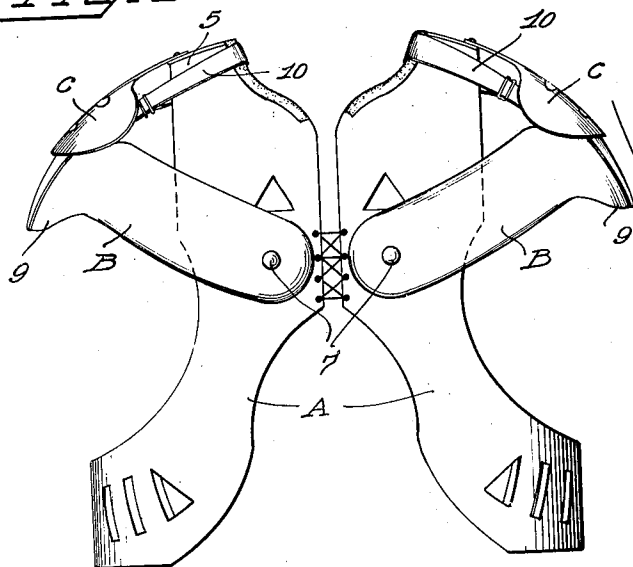


Fig. 2

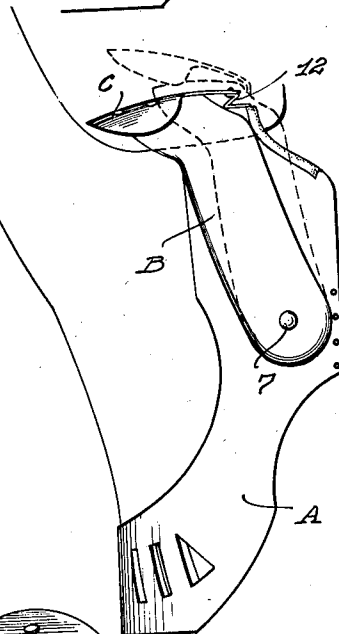


Fig. 4

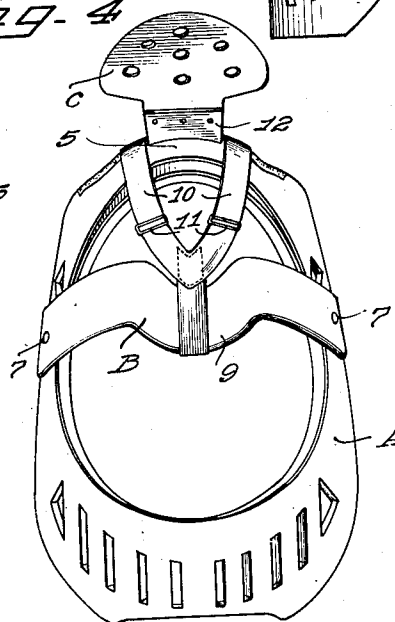
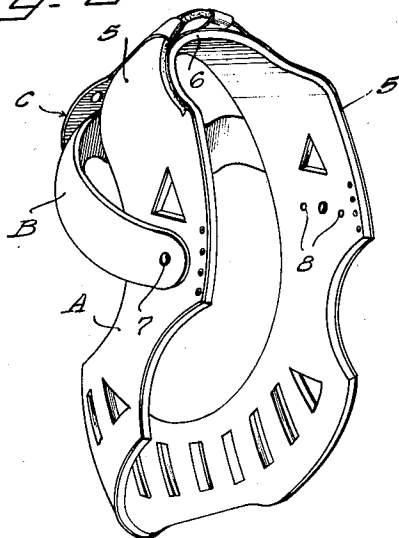


Fig. 3



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FOOTBALL PLAYER'S EQUIPMENT

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4 Claims. (Cl. 2—2)

This invention has reference to protective equipment for football players and has for its principal object to supply an equipment which affords maximum protection to the wearer's shoulder, collar-bone and ribs, in case of impact with another player, or in case of a fall, and which minimizes both the liability of injury and also the injury to other players in cases of collision.

Another object of the invention is to provide an equipment of the character specified above, which causes minimum interference with the wearer's movements, permitting the unencumbered use of his members (his arms particularly) in all the ordinary actions and incidents of football play.

A further object of the invention is to supply to football players a protective equipment of less bulk and weight, less cumbersome, easier to put on and off, and relatively less costly in construction, than equipments now available which are intended to serve the same purpose.

Other objects and advantages of the invention will appear in the course of the description hereinafter given of what is at present regarded as the preferred embodiment of the invention. Preliminarily it may be observed that, according to this invention the above stated and other advantageous objects are accomplished by the particular construction of the several parts or members of the equipment and by the manner in which they are assembled together in co-operative relationship to form a one-piece protective equipment, as hereinafter described; the result being a protective unit which guards shoulders, chest and ribs, rendering unnecessary the use of separate shoulder pads, rib-protectors, chest-protectors, special injury pads, and the like.

Further it is appropriate to state preliminarily that a particularly useful and valuable feature of the protective equipment herein described is that the wearer's shoulder does not come into direct contact with any part of the equipment except the band beneath the shoulder piece, which contact is inconsequential. Therefore, all blows, regardless of their force or direction and regardless of the position of the wearer's body and arms, are instantly distributed over a wide area of his person and are thereby rendered relatively harmless. It is believed that this feature of the invention will prevent many of the fractures of the shoulder and collar-bone, which are now so common and so serious.

In the accompanying drawing—

Fig. 1 is a front elevation of one embodiment of my invention;

Fig. 2 is a like view of the right half of the protector, the wearer's arm being extended upwardly;

Fig. 3 is a perspective view of the right half of the protector; and

Fig. 4 is a side view thereof, the shoulder cap being thrown back.

The protector comprises three principal parts: (1) a body-piece, comprising right and left parts, A, A, which are identical in construction; (2) a pivoted guard member B, for each body part; and (3) a shoulder cap C, for each shoulder. In order to simplify the description and drawing only the right half of the protector with its three parts is shown complete in Figs. 2, 3 and 4.

Body-piece or member A is preferably made of molded fiber, which is light, tough and sufficiently resilient to serve the important purpose of distributing the force of an impact over a wide area of the wearer's body. Member A has an extension 5 of the same material, which connects the front and back of member A and fits over the wearer's shoulder, but preferably does not rest thereon, even through an intervening cushion; but, as shown in Fig. 3, an intervening band 6 may be interposed, similar to what is known as the cantilever band, which is detached and separated from part 5 directly above the shoulder, there being a free space between, as shown in Fig. 3.

The body-piece A, including part 5, is preferably lined with a suitable padding, such as commonly used in equipment of this character; as for example, the material known commercially as French foam rubber covered with airplane cloth. The shoulder band 6 may be made of the same or of any light padding material suitable for the purpose.

Guard arm B is formed of a strip or band approximately semi-circular in shape of suitable resilient metal, such as duraluminum, and suitably cushioned or padded as is well understood. Near each extremity of this guard arm or member is a pivot hole 7, for pivotal attachment of the guard member at each end to body piece A; the latter being provided, front and back, with three complementary pivot holes 8 (Fig. 3), so that guard B may be adjusted to fit wearers of different sizes.

It is important for the purposes of this invention that the guard member B should be pivoted to the body A at a point which, when the equipment is in use, is at a level considerably below the wearer's armpit; the position of the pivot being such that the arc described by the mid-section 9

of guard member B is about the same distance always from the wearer's person. As best shown in Fig. 4 the mid-section 9 of guard B is curved downwardly out of the general line of the band or strip which constitutes said guard. This deflecting curve in the upper or inner edge of the guard provides a wide clearance between it and the adjacent edge of the extension 5 of body-piece A. This is considered an important feature of the invention, because it contributes materially to the accomplishment of the objects thereof, as will be explained below.

Straps 10 attached at one end to body-piece A and at the other to guard B, limit the downward movement of the latter, holding it in the desired position, which may be varied by buckles 11, or other adjusting means.

Shoulder cap C may be made of the same metal as guard member B and may be covered with soft leather or other suitable material. It is attached to part 5 by means of a short flexible leather strap 12, which serves as a hinge.

By reason of the construction of the members A, B and C, and their positions relative to each other when assembled to form a unitary protector as described, guard member B is normally (i. e. when the wearer's arms above the elbow are hanging down) out of contact with the wearer's person. Shoulder cap C is likewise out of contact with the wearer, for its is attached at one edge by means of flexible strip 12 to the extension 5 of member A, and its opposite edge overlaps slightly the mid-section 9 of guard arm B. It follows that the force of a blow upon shoulder cap C, when the parts are in this position, is completely warded off from the shoulder and collar-bone, thus minimizing the likelihood of fracture of those parts and is instantly transmitted through guard-arm B and pivots 7 to body member A, by which it is widely distributed over the wearer's torso.

When, however, the wearer's upper arm is extended, it makes contact with the curved mid-section 9 of guard arm B, causing it to swing upwardly on its pivots 7. This movement is practically unimpeded, since the mid-section 9 of the guard arm slides freely under cap C until arm B reaches the position shown in Fig. 2. During this movement the guard arm B is out of contact with the wearer, and its mid-section 9 is always about the same distance from the wearer's shoulder. Therefore the parts maintain the same operative positions and cooperate to afford the same protection as when in their normal positions. It will be observed that, when the parts are in the respective positions shown in Fig. 2, the mid-section of arm B is directly under cap C, and therefore will receive the full force of a blow falling upon said cap. As will be evident from Fig. 1, all blows directed towards the wearer's shoulder, from whatever direction they may come, will be instantly transmitted, via guard arm B, to body-piece A, because cap C, which receives all blows except those whose direction is horizontal or nearly so (which are

received by arm B) rests directly and freely upon said arm, and because arm B and cap C are entirely out of contact with the wearer's body. Furthermore, the construction and relationship of said parts A, B and C are such that the wearer's arm movements are unimpeded and his shoulder is equally protected when his arm is uplifted (as in Fig. 2) or in an intermediate position.

When the conventional injury pad is worn with a standard shoulder pad, as is usual, they combine to impede the movement of the player's arms; it being impossible in that case to raise the arm over the head, as necessary (or very desirable) in receiving forward passes. And when the conventional injury pad is used without a shoulder pad, its proximate edge is about at the level of the player's ear when his arm is extended upwards. Moreover, the ordinary injury pad and standard shoulder pad, when used together, constitute an equipment so heavy and cumbersome as to impede greatly the wearer's movements and impair correspondingly his efficiency as a player.

When, in using the equipment of the present invention, the wearer's arm is extended further in the direction of the vertical, shoulder cap C will continue to permit freedom of arm movement, assuming the position shown in dotted lines, Fig. 2. In this position of the equipment the inwardly curved edge of the mid-section 9 of arm B makes possible the desired movement of the player's arm towards and over his head.

Thus it will be seen that by the present invention is provided a protective equipment comprising several members assembled to form a unitary structure, which members cooperate to protect the wearer's shoulder, chest and ribs, each member being dependent upon the others for its perfect function, and the whole being substantially lighter, less cumbersome and less costly than the devices now available for the same purpose.

What is claimed is:

1. A protective equipment composed of two sections, each section comprising a body-piece of stiff resilient material adapted to envelop a part of the wearer's torso, a guard arm of rigid material swiveled front and rear to said body-piece, and a ringed shoulder cap which overlies and rests freely upon said guard arm.

2. A protective equipment as specified in claim 1, in which said guard arm is pivoted to said body-piece at a point below the wearer's armpits so that the arc described by its midsection is always about the same distance from the wearer's shoulders.

3. A protective equipment as specified in claim 1, in which the midsection of said guard arm is deflected out of the general line thereof in a direction away from the wearer's body.

4. A protective equipment as specified in claim 1, having adjusting means whereby said guard arm may be adjusted to different positions relative to said body-piece.

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