

UNITED STATES PATENT OFFICE

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ATHLETIC SHOULDER PROTECTOR

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My invention relates to the construction of devices used in such games as football, hockey, lacrosse, and other sports for protecting the participant's shoulders, chest, collar bone, shoulder joints, upper arm and upper chest and back from injuries resulting from contact with other players or such obstacles as may be met in playing the game.

Such protective devices are customarily composed of body pieces partially covering the chest and back, and placed on the body over the head, there being portions which pass over the shoulders. Ordinarily there are two halves of such covering or rigid material laced together at the front and hinged or laced together in some manner down the back, with adjustments at the sides, usually by straps which may be adjustable as to length. In order to protect the outer portions of the shoulder where it connects with the upper arm, epaulets or shoulder caps are normally attached by lacing or a flexible hinge to the lateral top margins of the main protective covering. In order to protect the line of juncture between the epaulets or shoulder caps and the main covering collar bone, protector flaps are hinged on the main covering on flexible tabs which lie along the neck line. Padding is used to line the composite structure to cushion blows which may be inflicted.

This structure, as customarily used, is cumbersome and annoying to the user, and the epaulets and collar bone protector flaps get torn away, as well as chafe against the sweater or jersey used on top of the harness, causing it to wear.

This structure also fails to protect the wearer in a very essential respect, to-wit: against a blow on the shoulder cap or epaulet which causes it to tip into the shoulder due to the flexible strip which is used to attach it in a hinged manner to the shoulder.

It is the object of my invention to do away with the collar bone protector flaps altogether, since there is no need in my construction to protect the joint between the shoulder caps or epaulets and the main body protectors of the device. In connection with the shoulder epaulets, I so mount them that they are free to swing but yet have a socket relation maintained by rigid material at all times so that there is no space into which the epaulets can be tipped, thus bruising and pinch-

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ing the wearer and often imparting the direct force of a blow.

I accomplish my object by that certain construction and arrangement of parts, several examples of which will be illustrated in the drawings and described in detail. The inventive novelty inherent in the disclosure will be set forth in the appended claims to which reference is hereby made.

Figure 1 is a perspective view showing the right half of the complete protective device and illustrating my improved construction.

Figure 2 is a sectional view taken along the line 2-2 of Figure 1.

Figure 3 is a front elevational view of the protective device as worn by a participant.

Figure 4 is a fragmentary sectional view illustrating an alternative construction.

Figure 5 is a view similar to Fig. 4, showing a further alternative construction.

The protective device is formed, as is normal in such construction, of two halves, a right half 1 and the left half 2, formed of rigid fiber or like material that can be molded as a base material. These half portions are each shaped to cover the upper chest to extend over the shoulder between the neck and the tip of the shoulder and down the back. There are lacing holes at 1a at the front of the two halves and lacing holes 2a at the back of the two halves. Also, desirably, webbing 3 extends across between the lower outer margin at the rear. Thus, the head is thrust between the two halves, and the arms thrust in above the webbing, whereupon the two halves lie over the upper chest, collar bones, shoulders, and upper back.

Desirably, the inside of the two halves is heavily padded as by tubular fabric pieces filled with sponge rubber material or other resilient padding material, these tubular pieces outlining the two halves on the inside along their margins, and slightly lapping them. So far, the structure is of standard type and does not involve my new departure. It might be added that hinged cushion shoulder pads 4 may be secured with the tubular padding near the neck line of each of the two halves and project thence out over the shoulder, as indicated.

It should be noted that the protector as so far described may vary, such as being made in one

piece, being padded internally in various fashions, being held in place by elastic rather than lacing. While the best material is molded stiff fiber, for the bodies of the two protector halves, this is not the only material which may be employed to provide a relatively unyielding structure which serves to spread the effect of any blow over a considerable area of the body.

Where the chest, shoulder and back protecting pieces are formed of one piece of molded fiber, my new departure requires a special construction at the ends of the shoulder covering portions. Here the fiber is molded to present a depending wall 5 across the shoulder which is then turned outwardly as at 6 and if desired, somewhat upwardly to form a socket as a part of said shoulder covering portion. This socket, in the preferred construction, is provided with lacing holes 5a which are in or close to the depending wall.

The epaulets 7, one for each shoulder and upper arm, are of the standard cup shaped construction, best formed of molded fiber which is rigid, with their lower edges faced on the inside with sponge rubber housed in fabric, or padding of various kinds, as indicated at 8. In the preferred construction, the fiber is extended somewhat at the top of the epaulet to form a tongue 9, which has lacing holes 9a in it, all being a part of the epaulet fiber.

When mounted in place the tongue 9 is set over the ledge 6, and laces 10 used to connect hingedly the holes 5a and the holes 9a. Thus the upper edges of the epaulets rest directly on the ledges projecting from the shoulder portion of the body protectors. The lacing will not be so tight but that the epaulets may rock upwardly, thus giving freedom for arm movement. But at all times the socket-like relation of the tops of the epaulets and the outer edges of the main bodies of the protector will be retained.

Thus any blow against the shoulder epaulets will be transmitted to the main body portions and thus spread out over a much larger area than the blow itself, and there will be no possibility of the epaulets being rocked by a blow into a position of gouging directly into the shoulder or upper arm of the wearer.

Where the portions 5 and 6 are arranged to present an upwardly facing channel, as results if the portion 6 is curved upwardly, then the tongues on the epaulets will be shaped to fit into and rock in said channels. This will be evident without special illustration.

It is not necessary to have the collar bone protective flaps overlie the joint between the shoulder and upper arm protective epaulets, or caps, as in previous structures, and the body of the protector, because there is no point where the connection of the epaulets is not protected by the seating of the rigid epaulet tongues on a projection from the rigid fiber of the shoulder of the main body sections.

By means of this hinged seating of the shoulder cap or epaulets into the grooved rigid fiber of the shoulder portion of the main body portion, there is no unprotected part, or exposed part that will not absorb the shock of body contact that is so prevalent in the game of football or similar sports.

The inside shoulder pads 4 lie under the construction and extend out well past the seat between the epaulets and the body portion on the inside of the harness.

As alternative forms, I have shown in Figure 5 a construction in which the body portions of the

protective device do not have the unitary projections at the shoulder line but instead a channel-like piece 11 is riveted in place at the shoulder line to accomplish the same purpose.

Again, as shown in Figure 4, it may be practical to form the shoulder of the body portion with the tongue, as indicated at 15, and form the fiber of the epaulet so as to project upwardly at 16 and then outwardly at 17 to overlie the tongue. Laces 18 will then be placed between the tongue 15 and the overlying portion 17 of the epaulet structure, resulting in a hinge which functions as does the first one described, forming a socket for the hinging of the epaulet, which at all times is located above a projecting fiber portion that is rigid with the main body portion of the structure. In this modification there is no downward projection at the shoulder tips of the body portion, which is an advantage, but the first form is believed to be the stronger for general use.

There are other modifications which will occur to the builder of such constructions for athletic protection, and it is not intended by noting certain possible modifications to exclude others which will occur to the manufacturer.

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

1. A protective device for the upper body comprising relatively rigid portions passing over the shoulders, epaulets hinged thereto, said epaulets including relatively rigid material, a socket element formed in the lateral margins of the rigid portions at the shoulders, and a cooperating element to overlie said socket portion formed in the rigid portion of the epaulets, and flexible means connecting the two rigid portions so arranged as to permit rocking and freedom of movement of the epaulets on the shoulder portions, but to prevent the movement of the epaulet portions away from said overlying position.

2. The combination of claim 1 in which the rigid portions of the shoulder and the rigid portions of the epaulets are integrally molded to form said socket and overlying portions.

3. The combination of claim 1 in which the flexible connection consists of lacing, said shoulder portions and epaulet portions having apertured parts to receive the lacing.

4. In combination a shoulder portion for a protective device for the upper body including a relatively rigid portion, an epaulet to hang over the upper arm at the shoulder having a relatively rigid portion, and means for hingedly connecting the epaulet to the shoulder portion comprising an overlying relatively rigid portion on the epaulet and an underlying relatively rigid portion on the shoulder portion together forming a socket and a cooperating element for the purpose described.

5. In a protective device comprising a relatively rigid portion passing over the shoulders of the wearer, an epaulet to be hingedly connected to said relatively rigid portion comprising a member on the margin of the rigid portion of the shoulder which is first bent downwardly and then outwardly, and a rigid portion of the epaulet which extends across the outward portion at the margin of the shoulder thus forming a socket, said interengaging portions of the shoulder and epaulet having lacing holes therein, for hingedly securing the epaulet to the shoulder.

6. In a protective device comprising a relatively rigid portion passing over the shoulder of the

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wearer, an epaulet to be hingedly connected to said relatively rigid portion comprising an outwardly extending relatively rigid portion at the margin of the shoulder, and an upwardly and outwardly formed relatively rigid portion at the margin of the epaulet to overlie the portion at the margin of the shoulder, and lacing holes in said marginal portions of both for hingedly securing the epaulet to the shoulder.

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