

[54] ATHLETIC PROTECTIVE DEVICE

[76] Inventor: **Joseph C. Germain**, 59 Robins Pl.,
Metuchen, N.J. 08840

[22] Filed: **July 28, 1972**

[21] Appl. No.: 276,023

3,497,872 3/1970 Mitchell..... 2/2
3,657,739 4/1972 Holmes..... 2/2

Primary Examiner—Alfred R. Guest

Attorney—Cyrus D. Samuelson et al.

[52] U.S. Cl. 2/2

[51] Int. Cl. A41d 13/00

[58] Field of Search 2/2, 6; 128/133,
128/134, 1 A

[56] **References Cited**

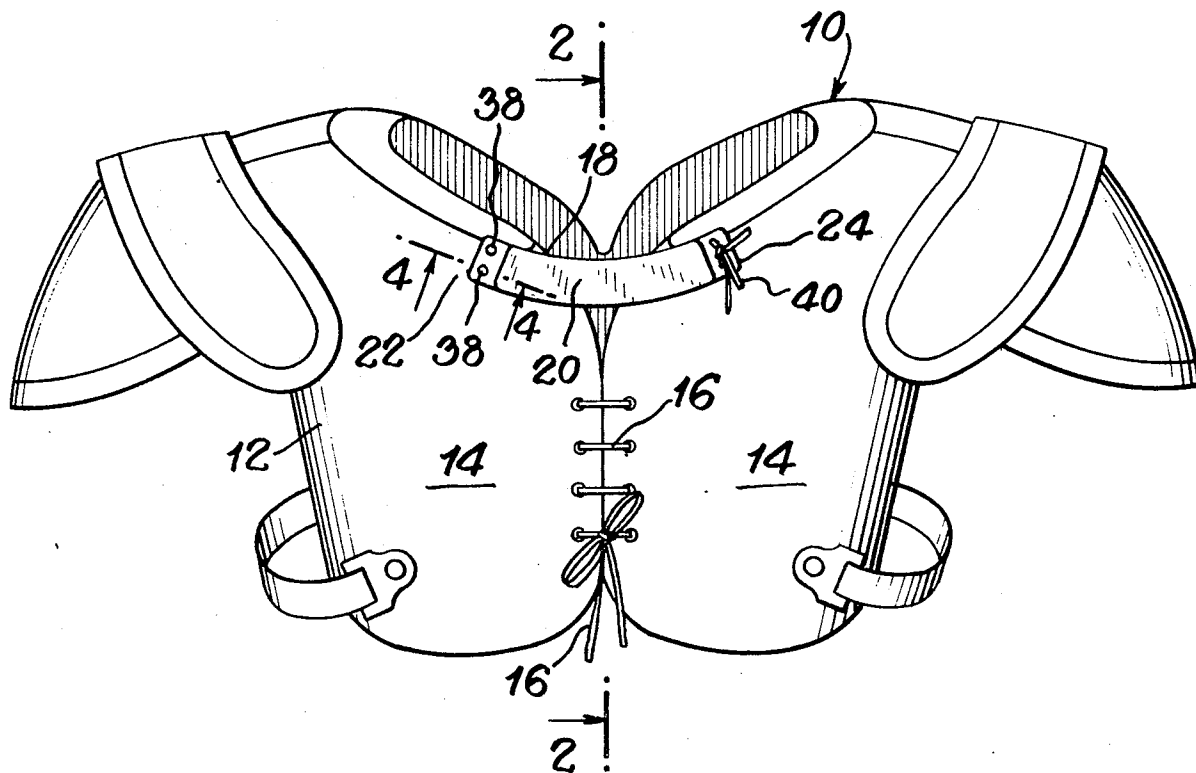
UNITED STATES PATENTS

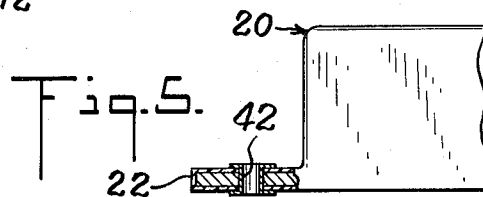
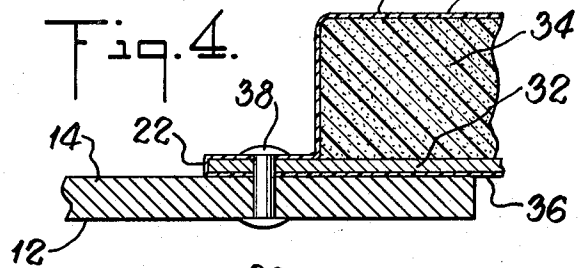
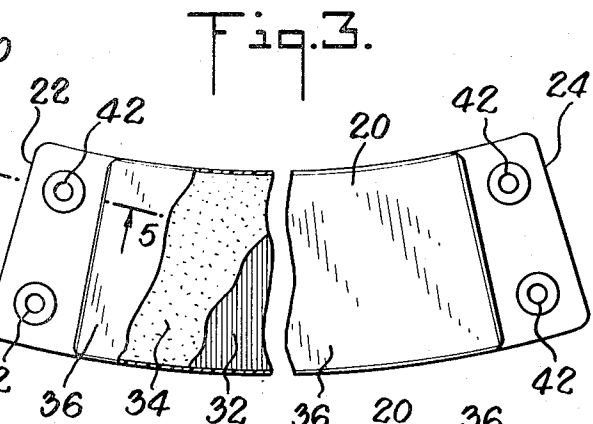
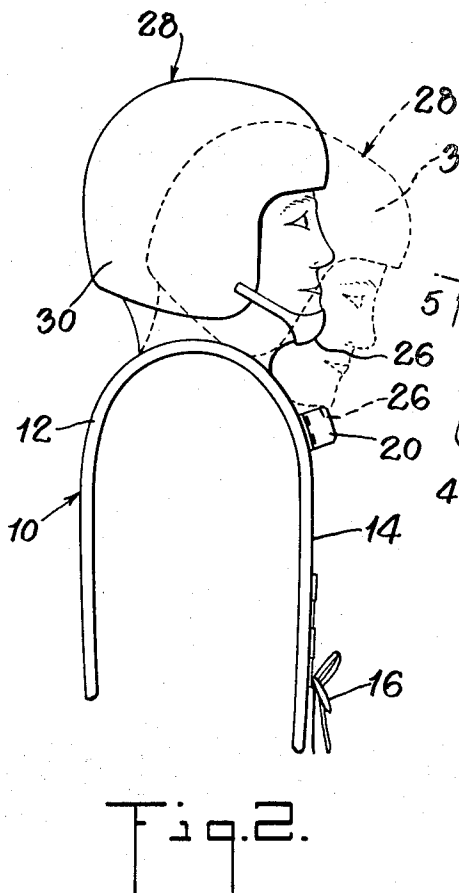
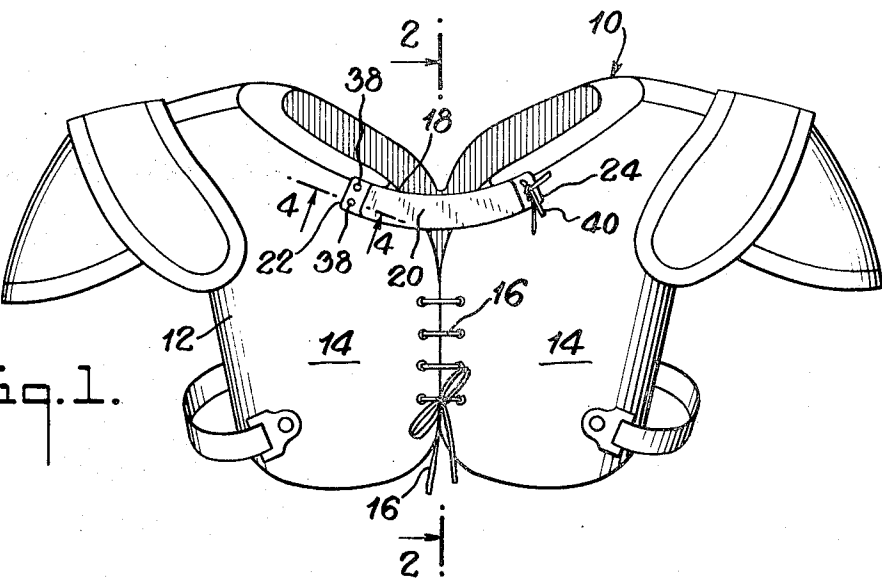
3,645,259 2/1972 Schulman 2/6 X

[57] **ABSTRACT**

A head restraining device for use in connection with an athletic shoulder pad arrangement to protect an athlete against neck injury resulting from forward and downward movement of the head of the athlete beyond a predetermined lowered position.

7 Claims, 5 Drawing Figures





ATHLETIC PROTECTIVE DEVICE

The present invention relates generally to athletic protective devices and pertains, more specifically, to a head restraining device used in athletics in connection with shoulder pads and other such protective equipment.

It has been observed that neck injuries have occurred among football players when the player has lowered his head beyond a predetermined lowered position and subsequently has been dealt a blow to the head during the course of a play in the game. This is particularly true where young players are being taught the game and have not yet learned to keep their heads from being lowered too far.

It is therefore an object of the invention to provide a device which will protect an athlete against neck injury resulting from forward and downward movement of the head of the athlete beyond a predetermined lowered position.

Another object of the invention is to provide a head restraining device which will preclude movement of an athlete's head beyond a predetermined lowered position.

Still another object of the invention is to provide a head restraining device for athletes, and especially for football players, the device being in the form of a pad which bridges the usual opening in the front of a typical shoulder pad arrangement to preclude forward and downward movement of the head beyond a predetermined lowered position.

A further object of the invention is to provide a pad of the type described which either forms a part of or is selectively affixed to a shoulder pad assembly.

A still further object of the invention is to provide a simple yet effective device of the type described which is economical to manufacture and which is compatible with currently available athletic protective equipment.

The above objects, as well as still further objects and advantages, are attained by the invention which may be described briefly as a head restraining device for use in connection with an athletic shoulder pad arrangement or other such protective equipment to protect an athlete against neck injury resulting from forward and downward movement of the head of the athlete beyond a predetermined lowered position, the device comprising a head restraining pad extending between opposite ends, and means for affixing the opposite ends of the pad to the shoulder pad arrangement or other such protective equipment at a location beneath the chin of the athlete to intercept the chin when the head of the athlete is in a prescribed lowered position and thereby restrain forward and downward movement of the head of the athlete beyond the predetermined lowered position. The pad may be affixed to the shoulder pad arrangement or other such protective equipment as an integral part thereof to provide a complete athletic protective assembly.

The invention will be more fully understood, while still further objects and advantages thereof will become apparent, in the following detailed description of preferred embodiments of the invention illustrated in the accompanying drawing, in which:

FIG. 1 is a front elevational view of an athletic protective assembly constructed in accordance with the invention;

FIG. 2 is a side elevational view of the athletic protective assembly of FIG. 1, including a pictorial illustration, generally along line 2—2 of FIG. 1, of the operation of the head restraining pad thereof;

FIG. 3 is an enlarged, front elevational view of a head restraining device constructed in accordance with the invention;

FIG. 4 is an enlarged, cross-sectional view taken along line 4—4 of FIG. 1; and

FIG. 5 is a cross-sectional view taken along line 5—5 of FIG. 3.

Referring now to the drawing, and especially to FIG. 1 thereof, an athletic protective assembly constructed in accordance with the invention is illustrated generally at 10 and includes a shoulder pad arrangement 12. Shoulder pad arrangement 12 is a typical shoulder pad arrangement used by football players and the like. The shoulder pad arrangement includes, inter alia, a pair of breast plates 14 which are ordinarily laced together by lacing 16 after the shoulder pad arrangement 12 is in place upon an athlete. Some freedom of movement is allowed the athlete's head by an opening 18 which extends longitudinally downwardly somewhat between the breast plates 14.

It has been observed that an athlete, when playing the game of football, often will lower his head, either in preparation for the execution of a play or during the play. Such lowering of the head, if carried forwardly and downwardly beyond a predetermined lowered position, can cause injury to the neck of the athlete. In order to prevent such injury, athletic protective assembly 10 is provided with a head restraining device shown in the form of a pad 20 extending laterally across the opening 18. Each of the opposite ends 22 and 24 of the pad 20 is affixed to a corresponding breast plate 14 of the shoulder pad arrangement 12 so that the pad 20 bridges the opening 18 between the breast plates 14.

As best seen in FIG. 2, the pad 20 is affixed to the shoulder pad arrangement 12 at a longitudinal location beneath the chin 26 of the athlete 28 so as to intercept the chin when the head 30 of the athlete 28 is in a prescribed lowered position, the lowered position of the head 30 being illustrated in dashed lines. By thus intercepting the chin of the athlete 28, forward and downward movement of the head 30 beyond the predetermined lowered position is restrained by the pad 20. Thus, injury from excessive forward and downward movement is prevented.

Turning now to FIGS. 3 and 4, the preferable construction of the pad 20 includes a relatively rigid bar 32, which may be fabricated of metal or may be molded of synthetic resin material, and relatively resilient padding material 34 such as, for example, a foamed synthetic resin or an elastomer. In the illustrated embodiments, the padding material 34, such as polyurethane foam, is adhered to the bar 32, which is fabricated of steel, and a protective covering 36 of vinyl or a like material envelops the bar 32 and the padding material 34 to form a complete head restraining device. Alternately, bar 32 may be fabricated of a molded synthetic resin or a like material.

As best seen in FIGS. 1 and 4, one of the ends, in this instance end 22, of the pad 20 may be permanently affixed to a breast plate 14, as by the use of rivets 38, while the other end 24 of the pad 20 is attached to the other breast plate 14 with a selectively detachable fastener means, here shown in the form of a lace 40. In

this manner, the end 24 of the pad 20 may be detached selectively from the corresponding breast plate 14 so that the entire athletic protective assembly 10 may be removed from the athlete in the conventional manner.

In the embodiment illustrated in FIGS. 3 and 5, the pad 20 is provided with grommated apertures 42 at both ends 22 and 24 thereof so that both ends may be detachably affixed to corresponding breast plates through the use of laces or other releasable fastener means. In this manner, the head restraining device may be supplied for use in connection with athletic shoulder pad arrangements which do not already include a pad 20 permanently affixed thereto, as well as for use with other similar athletic protective equipment.

It is to be understood that the above detailed description of preferred embodiments of the invention is provided by way of example only. Various details of design and construction may be modified without departing from the true spirit and scope of the invention as set forth in the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An athletic protective assembly for use in protecting an athlete against neck injury resulting from forward and downward movement of the head of the athlete beyond a predetermined lowered position, said assembly comprising:

a shoulder pad arrangement including a longitudinal opening below the chin of said athlete;
a head restraining pad extending laterally across said opening and having opposite ends; and
means for affixing the opposite ends of the head restraining pad to the shoulder pad arrangement at a longitudinal location beneath said chin to intercept the chin when the head of the athlete is in a prescribed lowered position and thereby restrain forward and downward movement of the head of the athlete beyond said predetermined lowered position.

2. The invention of claim 1 wherein the head restraining pad includes:
a relatively rigid bar; and
relatively resilient padding material, such as a

foamed synthetic resin, affixed to said bar in position to be intercepted by the chin.

3. The invention of claim 2 wherein said means for affixing the opposite ends of the head restraining pad to the shoulder pad arrangement includes a selectively detachable fastener means at at least one of said opposite ends.

4. The invention of claim 3 wherein said means for affixing the opposite ends of the head restraining pad to the shoulder pad arrangement includes means permanently affixing the other of said opposite ends to the shoulder pad arrangement.

5. A head restraining device for use in connection with athletic protective equipment such as a shoulder pad arrangement to protect an athlete against neck injury resulting from forward and downward movement of the head of the athlete beyond a predetermined lowered position, said device comprising:

a head restraining pad extending between opposite ends; and

means for affixing the opposite ends of the head restraining pad to the protective equipment at a longitudinal location beneath the chin of the athlete to intercept the chin when the head of the athlete is in a prescribed lowered position and thereby restrain forward and downward movement of the head of the athlete beyond said predetermined lowered position;

said head restraining pad including

a relatively rigid bar; and

relatively resilient padding material, such as a foamed synthetic resin, affixed to said bar in position to be intercepted by the chin.

6. The invention of claim 5 wherein said means for affixing the opposite ends of the head restraining pad to the protective equipment includes a selectively detachable fastener means at at least one of said opposite ends.

7. The invention of claim 5 wherein said means for affixing the opposite ends of the head restraining pad to the protective equipment includes a selectively detachable fastener means at both of said opposite ends.

* * * * *