United States Patent [19]

Truelove

[11] **3,740,762**

[45] **June 26, 1973**

[54] **PAD INTERLOCKING APPARATUS**

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[22] Filed: **Apr. 22, 1971**

[21] Appl. No.: **136,490**

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

[51] **Int. Cl.** **A41d 13/00**

[58] **Field of Search** ..... 2/2; 24/230 TC, 201 A, 24/221

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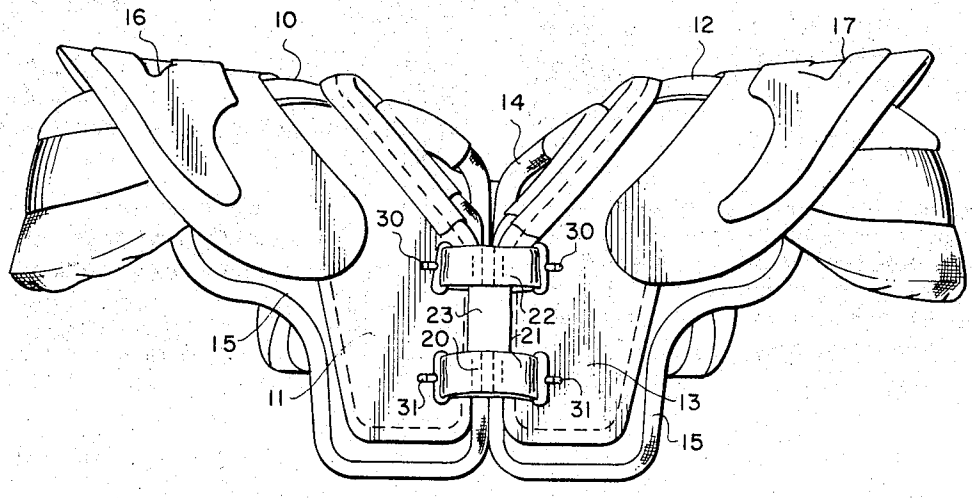
Primary Examiner—Alfred R. Guest

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[57] **ABSTRACT**

Disclosed is an apparatus for interconnecting the opposed U-shaped pad members of football shoulder pads. The interlocking device includes a pair of lugs interconnected by a strap. The lugs have expanded end portions adapted to be inserted and locked into elongated slots in the opposed U-shaped pads.

6 Claims, 3 Drawing Figures



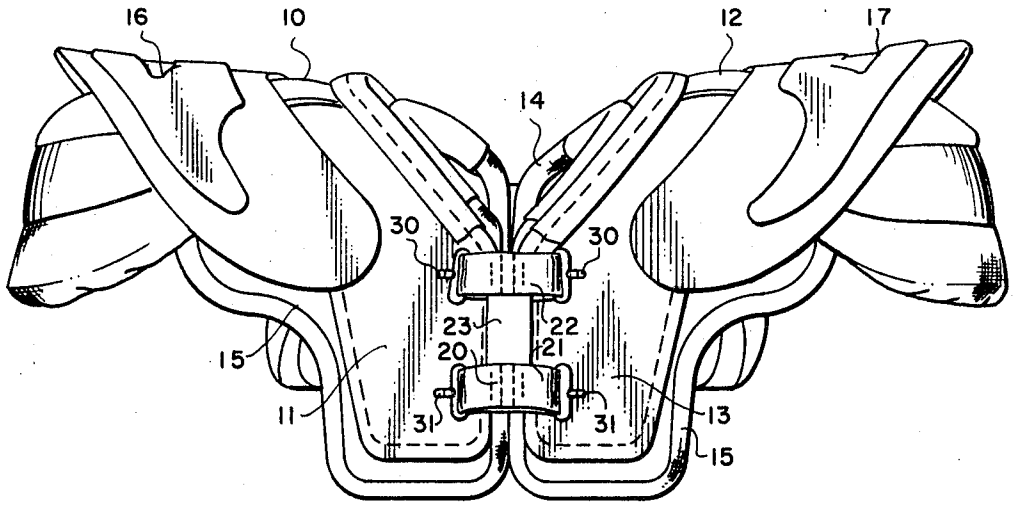


FIG. 1

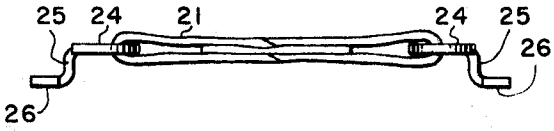


FIG. 3

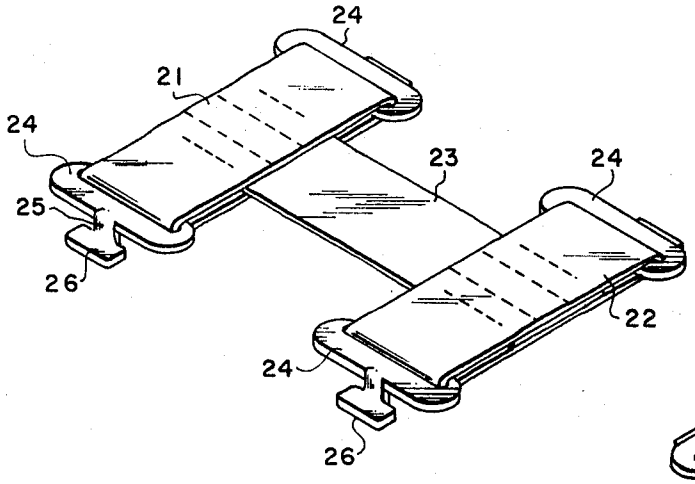


FIG. 2

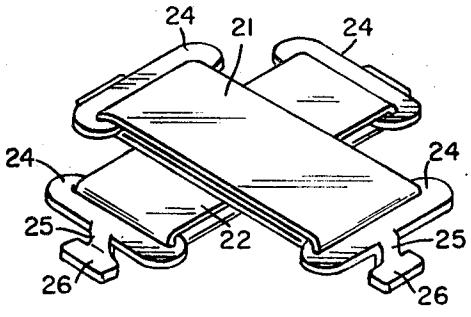


FIG. 4

PAD INTERLOCKING APPARATUS

This invention relates to shoulder pad apparatus. More particularly it relates to apparatus for interlocking individual portions of otherwise conventional shoulder pads together as worn by the user.

Protective padding of various designs is worn by participants in many contact sports. For example, football players conventionally wear a shoulder pad apparatus which generally comprises a pair of opposed U-shaped members adapted to be placed over opposite shoulders of the wearer. These U-shaped members define a central opening therebetween for receiving the neck of the wearer. The front and back portions, comprising the legs of the U, are adapted to cover at least portions of the upper chest and upper back of the wearer. The central portions comprising the base of the U cover the respective shoulders of the wearer.

Conventional football shoulder pads are composed of a plastic hull having resilient padding attached to the underside thereof and moveable epuletts attached at the base of the U to extend over the shoulder of the wearer.

The legs of the U-shaped members are conventionally joined by lacing members or the like passing alternatively through eyelets or other devices on the opposed legs forming a lace in the central front and central back of the wearer. The lacing members allow the wearer to attach the two members to form a unitary shoulder pad when worn but provide means for disengaging the opposed members to allow the device to be removed from the wearer. Furthermore, when the shoulder pad apparatus is in place on the wearer the lacing members allow the individual members to move slightly with respect to each other aiding in the comfort of the apparatus to the wearer and the usefulness of the device.

Conventional lacing members, however, commonly utilize a plurality of eyelets in each member. Accordingly, the lacing member must be alternately inserted and laced through the opposing legs of the device. Such lacing is obviously time consuming and tedious. Furthermore, the laces are frequently broken and must be replaced. Problems are also encountered in attempting to remove the conventional shoulder pads from an injured player since each lacing member must be withdrawn from each eyelet without unduly moving the wearer.

In accordance with the present invention an interlocking device is provided to replace the conventional lacing apparatus. The interconnecting device of this invention basically comprises a pair of horizontally disposed flexible lacing straps each carrying a rigid tongue secured to the opposed ends thereof. The horizontal straps are joined by a vertical strap to form an H-shaped device.

The tongues carry extended end portions disposed in the plane of the strap while at least a portion of the tongue is disposed at an angle of substantially **90°** to the plane of the strap and extended end portion.

A pair of horizontally disposed slots is provided in each leg of the shoulder pad members and adapted to receive the tongue portions. Therefore, when the extended end portion is inserted in the slot in the shoulder pad member and rotated 90° the expanded end portion of the tongue is lodged between the plastic shell and the padding to securely attach the strap to the pad. In this manner the individual members may be readily interlocked by the strap members. However, the strap members may be readily disengaged to remove the pads from the wearer. The interlocking device of this invention may be used to attach the back portions as well as the front portions, thus allowing quick removal of the shoulder pads from an injured player with minimum movement of the player. The interlocking devices, however, are slightly elastic and therefore allow slight movement of the U-shaped pads with respect to each other to provide maximum comfort to the user.

Other features and advantages of the invention will become more readily understood from the following detailed description taken in connection with the appended claims and attached drawings in which:

FIG. **1** is a perspective view of a shoulder pad apparatus employing the interlocking device of the invention;

FIG. **2** is a perspective view of one embodiment of the interlocking lacing apparatus of the invention; and

FIG. **3** is an end view of the apparatus of FIG. **2.**

Referring now to FIG. **1,** there is illustrated a shoulder pad apparatus of the general design conventionally used by football players. The pad comprises opposed U-shaped members **10** and **12.** The legs **11** and **13** of U-shaped members **10** and **12,** respectively, are interconnected by the interlocking device **20** as described further hereinafter.

As shown in FIG. **1,** one leg **11** of the U-shaped member **10** and the opposed leg **13** of the U-shaped member **12** are joined to form a pad covering at least the upper portion of the wearer's chest. The opposite legs of the members **10** and **12** are similarly joined to form a pad covering at least the upper portion of the wearer's back. When joined, the pad members **10** and **12** define an opening **14** to receive the wearer's neck. Such pads are generally formed of a plastic shell which supports a resilient padding material **15.** Hinged epuletts **16** and **17** are conventionally secured to the base portion of the U-shaped members to define pads extending over the shoulders of the wearer.

As shown in FIG. **1,** the individual U-shaped members are interconnected by device **20** which is shown more clearly in FIG. **2.** The interlocking device basically comprises a pair of horizontally disposed straps **21** and **22** joined at their mid section by a vertically disposed strap **23.**

Straps **21** and **22** are preferably formed of strips of webbing material such as nylon or the like sewn to form an endless loop. A rigid lug **24** is secured to each end of each of the straps **21** and **22.** Each lug **24** carries a tongue **25** having an expanded end portion **26.** As more clearly shown in FIG. **3,** lug **24** and expanded end portion **26** are preferably disposed in coplanar relationship joined by the S-shaped portion of tongue **25.**

As shown in FIG. **1,** each of the leg portions of plastic shell **10** and **12** have a pair of apertures **30** and **31.** Apertures **30** and **31** are substantially horizontally disposed on opposed portions of legs **11** and **13.** The width of apertures **30** and **31** is preferably approximately the same width as the S-shaped portion of tongue **25.** Apertures **30** and **31** should be approximately as long as the width of the expanded end portions **26** on tongues **25** or longer. It will thus be observed that expanded end portion **26** of the tongue may be inserted in slot **30** and, when the lug is rotated, the expanded end portion **26** will be locked in the aperture below the plastic shell with the top portion of the lug **25** on the surface of the shell. Likewise, the other lugs may be placed in the

other slots to secure the two legs **11** and **13** together as illustrated in FIG. **1.**

It will be understood that the opposite legs of pad members **10** and **12** may be likewise secured by a similar locking member to firmly attach the two halves into a unitary pad as illustrated in FIG. **1.**

Since the expanded portions **26** are longer than the width of slots **30** and **31,** it will be observed that the expanded portions cannot be withdrawn from the slot until the lug is again rotated to allow the expanded end portion to slide horizontally through the slot. Accordingly, the locking members securely attach to the two pad members **10** and **12** together as illustrated. However, the pads may be readily disassembled as desired.

The strap members may be formed of any suitable material such as nylon web or the like, or preferably may be formed of an elastic material. When one or more of strap members **21, 22** or **23** are formed of elastic members the individual pad members **10** and **12** will be allowed some degree of freedom while still remaining securely locked together.

It will be understood that the interlocking device of the invention need not necessarily take the form shown and described. For example, two parallel straps such as straps **21** and **22** with the associated lugs **24** will function satisfactorily without the interconnecting strap **23.** The interconnecting strap **23,** however, aids in maintaining the relationship between the legs **11** and **13** substantially rigid.

In an alternative embodiment, strap **23** may be eliminated and straps **20** and **21** arranged to form an X. In this embodiment, particularly if the crossed straps are attached to each other at the cross-over, the two halves of the shoulder pad will be even more rigidly secured together.

It is to be understood that although the invention has been described with particular reference to specific embodiments thereof, the forms of the invention shown and described in detail are to be taken as preferred embodiments of same, and that various changes and modifications may be resorted to without departing from the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. Apparatus for interconnecting a pair of substantially U-shaped shell members positioned with the legs thereof in opposed relationship to form shoulder pads comprising:

a. mutually aligned apertures on said opposed legs of said shell members,

b. flexible strap means of sufficient length to span the approximate distance between opposed apertures, and

c. lug means comprising a relatively narrow tongue, the width of said tongue being approximately the width of said elongated apertures, secured to opposite ends of said strap means, each said lug means having an expanded end with a width approximately the length of said elongated apertures, said tongue means being substantially S-shaped, whereby the expanded end is disposed in a plane substantially parallel to the end of the lug secured to said flexible strap means.

2. Apparatus as defined in claim **1** wherein said opposed leges of said U-shaped pad members contain a plurality of mutually aligned pairs of elongated apertures and including a plurality of said flexible strap means disposed horizontally between opposed apertures on adjacent legs.

3. Apparatus as defined in claim **4** wherein said horizontally disposed strap means are joined by a substantially vertically disposed strap means.

4. Apparatus as defined in claim **1** wherein said opposed legs of said U-shaped pad members contain a plurality of mutually aligned elongated apertures and including a pair of said flexible strap means crossing each other and spanning the distance between non-aligned pairs of said apertures.

5. Apparatus as defined in claim **4** wherein said strap means are joined to each other at the point where they cross each other.

6. Apparatus as defined in claim **1** wherein said strap means is elastic.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,740,762 Dated June 26, 1973

Inventor(s) TRUELOVE, JOHN H.

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 2, line 18 should read -- FIG. 3 is an end view of the apparatus of Fig. 2; and FIG. 4 is a perspective view of an alternate embodiment of the interlocking lacing apparatus of the invention. Column 3, line 31 should read -- nated and straps 20 and 21 arranged to form an X as shown in FIG. 4. In -- .

Signed and sealed this 25th day of December 1973.

(SEAL)
Attest:

EDWARD M. FLETCHER,JR.
Attesting Officer

RENE D. TEGTMEYER
Acting Commissioner of Patents

FORM PO-1050 (10-69)

USCOMM-DC 60376-P69
* U.S. GOVERNMENT PRINTING OFFICE : 1969 O—366-334.