April 2, 1963 J. G. HAVEY 3,083,370

ATHLETIC PROTECTIVE PAD AND RETAINING HARNESS THEREFOR

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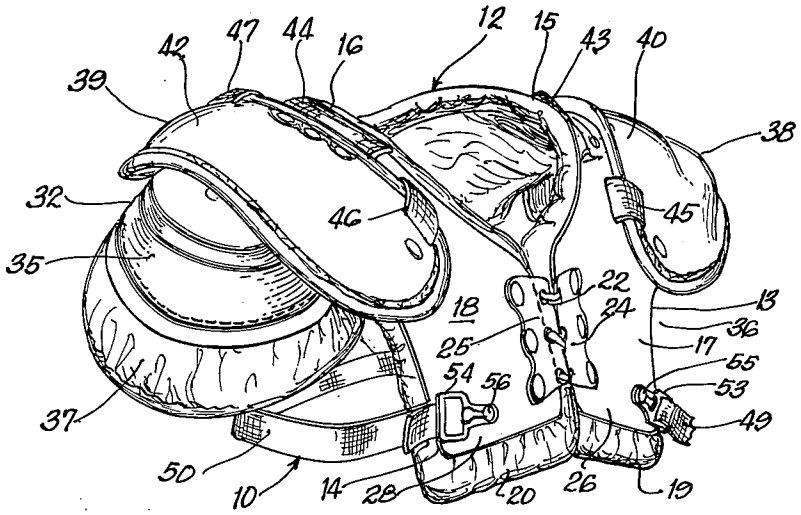

FIG. 1

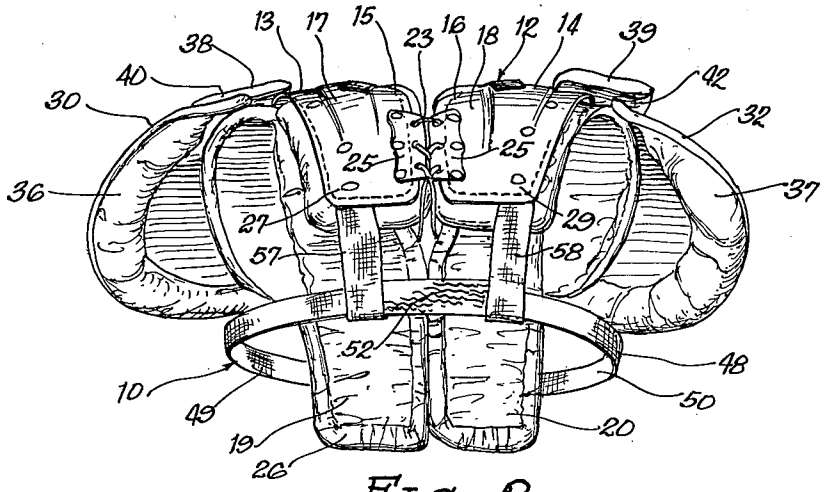

FIG. 2

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ATHLETIC PROTECTIVE PAD AND RETAINING HARNESS THEREFOR

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This invention relates to athletic protective pads and the harness structures by which such pads are held in place, and more particularly to body protective pads used by athletes in contact sports, and to the provision of a more durable, effective and comfortable harness for securing such pads in place on the wearer's body.

One of the general objects of this invention is to provide a body protective pad which is snugly and firmly held in place by a harness which is both durable and comfortable.

Another object of this invention is to provide an anchoring harness for shoulder pads which includes a band for encompassing a large portion of the wearer's rib cage, the opposite side portions of which band are made of non-elastic web strap material, and wherein only the portion thereof which extends across the mid-region of the wearer's back is made of stretchable elastic material.

As another object, this invention comprehends the provision of a shoulder pad anchoring harness of the type herein described and which has end portions of non-elastic web straps releasably connected to front portions of a shoulder pad structure and the opposite ends of the non-elastic web straps connected together through stretchable elastic material and connected to rear portions of the shoulder pad structure through non-elastic web straps on opposite sides of the stretchable elastic material.

Harness for anchoring shoulder pads have formerly been made largely of flexible elastic material and have been connected to the shoulder pad structures at positions in which the anchoring of the pad structure has not been as secure as desirable when the harness was relatively new and in good condition. It is quite generally known that after being used, stretched and worn and after being subjected to moisture and perspiration, stretchable elastic webs not only weaken, but curl laterally, so that they have a tendency to chafe the wearer's body, in addition ot becoming relaxed or failing in their intended purpose.

It is therefore a further object of this invention to provide an anchoring harness for protective pad structures which is largely made of a strong, durable, and relatively non-elastic web material which does not have a tendency to curl laterally as a result of use and wear, and in which harness stretchable elastic material provides the required elasticity and is mounted in a manner and position such that the wear thereon and the possibilities of chafing therefrom are both minimized.

Other objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective view showing the front portion of a shoulder pad structure having a preferred embodiment of my anchoring harness utilized thereon; and

FIG. 2 is a rear perspective view of the shoulder pad and harness depicted in FIG. 1.

Although not limited to the particular form or type of shoulder pad structure illustrated in the drawings, the exemplary embodiment of this invention which is shown for illustrative purposes embodies an anchoring harness 10 and depicts a preferred adaptation of that harness to a shoulder pad structure 12. In general, the illustrated shoulder pad structure 12 is quite similar to that shown

and described in United States Letters Patent of Archibalt J. Turner, No. 2,957,177, issued October 25, 1960 and entitled, "Shoulder Pad."

For the purposes of this application, the disclosed shoulder pad has left and right body protective portions 13 and 14 respectively which have curved mid-regions 15 and 16 which are arched to fit over a wearer's shoulders on opposite sides of the wearer's neck. The body protective portions 13 and 14 include outer shells 17 and 18 of relatively hard and stiff material, such as molded or pressed fiber material and inner padded linings 19 and 20 which cover the inner surfaces of the shells and extend beyond the edges thereof for engagement with the wearer's shoulders and body during use. At the front and back, the body protective portions 13 and 14 are adjustably connected together by thongs 22 and 23 respectively, which thongs are laced through suitable openings in punched lacing strips 24 and 25 secured to the shells 17 and 18 respectively.

In the disclosed structure, the body protective portion 13 has a downwardly extending front portion 26 and a downwardly extending rear portion 27; while the body protective portion 14 has a downwardly extending front portion 28 and a downwardly extending rear portion 29. As disclosed, the downwardly extending front portions 26 and 28 are of substantially the same length and extend to levels below those of the downwardly extending rear portions 27 and 29.

On opposite sides of the adjoined left and right body protective portions 13 and 14, shoulder caps 30 and 32 are hingedly and movably secured to mid-regions of the curved portions of the shells 17 and 18 by flexible means, such as webs (not shown). The shoulder caps 30 and 32 have relatively hard and stiff outer shells, such as 35, which shells are provided with conforming internal pads 36 and 37 which rest against and cover the outer portions of the wearer's shoulders. Epaulets 38 and 39 bridge the outer side portions of the body protective portions and the inner portions of the shoulder caps, and are arched to extend downwardly somewhat to the front and rear of the body protective portions. The epaulets 38 and 39 are made of relatively hard and stiff shells of material, such as molded or pressed fiber and are hingedly and movably connected to the shells of the body protective portions by webs 43 and 44 respectively. Skewing of the epaulets during use is prevented by webs such as 45, 46 and 47 which are anchored to inner end portions of the epaulet shells and to the shells of the shoulder caps.

As may be readily understood, a shoulder pad structure of the type herein disclosed, when in place on a wearer's shoulders, protects the shoulder region and front and back portions of the wearer's body, and still affords relative freedom of movements of the wearer's shoulders and arms. In contact sports, such as football, shoulder pad structures must not only be securely anchored in place on the wearer's body, but should be thus secured in place by means which is extremely durable and does not cause discomfort to the wearer or interfere with the wearer's breathing. Thus, the anchoring harness 10 should include some elasticity, and yet elastic material of the type generally used should not be placed so that they are subjected to undue stretching or deterioration, and at positions in which curling of the elastic material will cause discomfort or chafing to the wearer.

As herein illustrated, the anchoring harness 10 includes a body embracing band 48, opposite side portions 49 and 50 which are made of a rugged and relatively non-elastic material, such as woven web material which will withstand wear and moisture without curling or deteriorating. At the rear, as shown in FIG. 2, the opposite side portions 49 and 50 of the body embracing band are

secured together in aligned relationship through a web 52 of stretchable elastic material. At the front, the ends of the side portions 49 and 50 of the body embracing band are adjustably secured to fastening means, such as buckles, 53 and 54, which buckles are releasably securable to fastening means 55 and 56, such as projecting headed rivets, on the lower ends of the front portions of the shells of the body protective portions. The buckles effect releasable securement of the body embracing band to the front of the shoulder pad structure, at which positions they are readily accessible for ease of release and fastening by the wearer when the shoulder pad structure is put on and taken off. The adjustments of the lengths of the side portion 49 and 50 of the body embracing band relative to the buckles afford compensation for the chest sizes of different wearers and insure that the desired snugness of the band may be attained without undue tightness.

At the rear of the shoulder pad structure, the rear downwardly extending portions of the body protective portions are flexibly secured to the body embracing band 48 of the harness by rugged and durable strips 57 and 58 of relatively non-elastic material, such as woven webs. The strips 57 and 58 are secured to the lower rear end portions of the shells of the body protective portions and to the side portions 48 and 49 of the body embracing band on opposite sides of the stretchable elastic web 52. With this structural arrangement, the flexible strips 57 and 58 provide the required flexibility for expansion and contraction of the body embracing band, and yet serve securely to anchor the rear ends of the body protective portions of the shoulder pad structure to the body embracing band to hold the shoulder pad structure in place. The body embracing band embraces the rear and side portions of the wearer's body at the region of the rib cage and thereby secures the front end portions of the shoulder pad structure firmly against the wearer's chest. The placement of the stretchable elastic material at the back of the body embracing band puts it in a position in which it is not subjected to as much wear as it would be if it extended beneath the wearer's arms, and also places it at a position in which it is not apt to cause any discomfort by chafing the wearer's body.

From the foregoing description and reference to the accompanying drawings, it may be understood that I have provided a harness adapted to use for securing shoulder pads and the like in place on a wearer's body, which harness not only provides improved anchorage and holding force for accomplishing its intended function of holding the shoulder pads tightly in place, but which is also composed of rugged structural elements placed to withstand hard wear under adverse circumstances and to prevent loosening of the harness as a result of weakening, or chafing of the wearer's body as a result of curling and frictional contact therewith.

Having thus described my invention, what is claimed is:

In combination with a football shoulder pad structure including a pair of padded body protecting members having arched and relatively stiff and rugged shells which overlie a wearer's shoulders and each have front and rear portions extending downwardly to different levels for covering regions of the wearer's chest and back, and wherein the front chest protecting portion of each extends to a level below the back portion thereof, a harness for anchoring the shoulder pad structure in place on the wearer's body and comprising a body embracing band for encompassing the back and both sides of the wearer's body at a level spaced below said rear portions and having outer ends aligned with lower end regions of opposite sides of said front portions of the shoulder pad structure, said body embracing band embodying two side segments made of relatively non-elastic flexible material terminating in adjacent and opposed ends, an intervening web of stretchable elastic material connecting said adjacent and opposed ends, said web of stretchable elastic material being located below said rear portions of the shoulder pad structure in position to engage the lateral mid-region of the wearer's back and strips of relatively non-elastic web material securing said body embracing band to the lower ends of said rear portions of the shoulder pad structure at opposite ends of said web of stretchable elastic material, the said outer ends of the body embracing band and said front portions of the shoulder pad structure having releasably engageable fastening means thereon for making firm connections between said outer ends of the body embracing band and said front portions of the shoulder pad structure during use of the shoulder pad structure.

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