June 22, 1965 K. CHASE 3,189,919

CUSHIONED PROTECTOR

Filed Dec. 5, 1963

FIG. 1

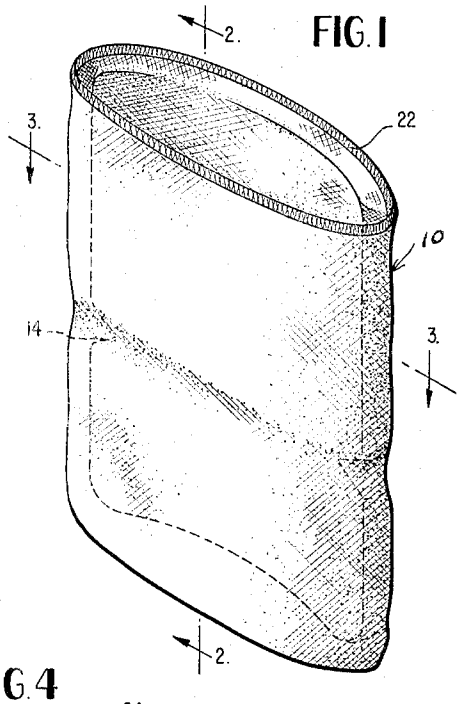


FIG. 2

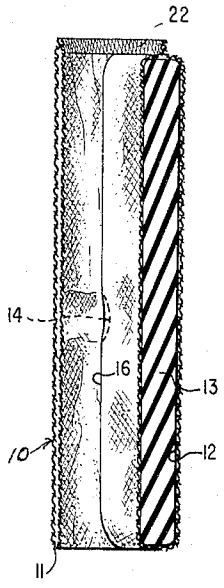


FIG. 3

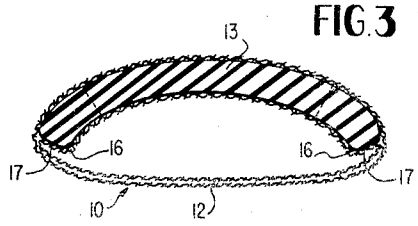


FIG. 4

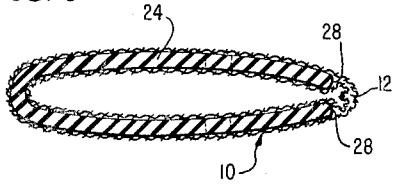


FIG. 5

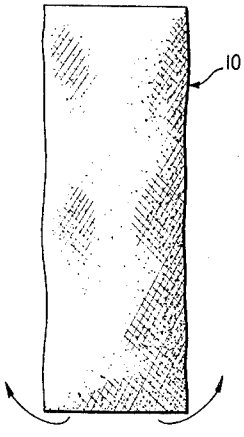


FIG. 6

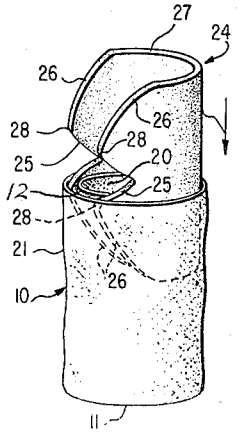


FIG. 7

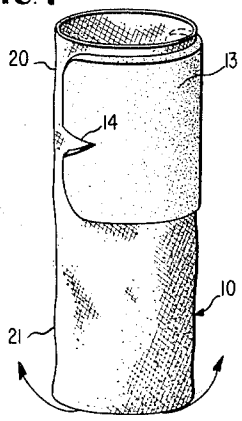
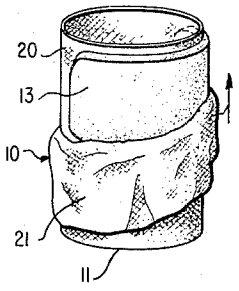


FIG. 8



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3,189,919

CUSHIONED PROTECTOR

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2 Claims. (Cl. 2—16)

This invention relates to a protector and method of making the same, and more particularly to a resilient protective device to be worn around shins, elbows, knees, forearms or other body portions to prevent injury, for example while engaging in sports such as basketball and the like.

Resilient protectors of this kind used previously generally consisted of three elements, namely, a tubular inner body, a protective layer of foam rubber or the like and an outer cover. It was the common practice to form and close a pocket between the cover and the tubular inner body by stitching the cover to the tubular body transversely along the top and bottom edges of the device and longitudinally along the side edges. The side stitched seams created areas of strain since the stitching reduced the elasticity of the knitted fabric of which the body and cover of the device were made, and often cut the rubber pads.

An important object of the present invention is to provide a simplified form of protector in which the number of main elements is reduced to two and in which the longitudinal side seam stitching and the stitching at one end are eliminated.

A further object is to provide such a device wherein an elastic tubular body is folded back on itself intermediate its ends to form a pocket closed at one end and around the sides of the material of the body and in which pocket the resilient cushion is arranged, the layers of the body at the open end of the pocket being stitched transversely to close the pocket.

A further object is to provide a device of the character referred to wherein the cutting of the rubber by side stitching and the reduction in the longitudinal elasticity of the device by such side stitching is eliminated, resulting in the formation of a rugged, longer-lasting and more resilient protective device.

A further object is to provide a device of the character referred to wherein the elasticity of the body material causes it to overlie the side edges of the resilient pad to maintain it in position without stitching or any other fastening means engaging the pad itself.

A further object is to provide a method of making a protector of the type referred to wherein an elastic tubular body is cut to a length approximately twice the length of the finished article and wherein one end of the body is doubled back upon the other end, either internally or externally thereof, to form a closed-end pocket, placing a rubber pad in the pocket either before or after the doubling back of the body, and finally stitching the substantially contiguous free ends of the body at the open end of the pocket to close the pocket.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawing I have shown two embodiments of the invention. In this showing:

FIGURE 1 is a perspective view of a finished protective device according to the invention;

FIGURE 2 is a longitudinal vertical sectional view on the line 2—2 of FIGURE 1;

FIGURE 3 is a transverse section on the line 3—3 of FIGURE 1;

FIGURE 4 is a view similar to FIGURE 3, but showing a modified form of resilient filler or pad;

FIGURE 5 is a side elevation of the knitted resilient body of the device in its original form;

FIGURE 6 is a perspective view showing the insertion of a resilient pad or cushion into a preformed body pocket;

FIGURE 7 is a perspective view showing the pad in position on the body before the doubling back thereof, and involving a different method of placing the pad or cushion in position; and

FIGURE 8 is a perspective view showing the relative positions of the parts when the lower part of the body shown in FIGURE 7 has been partly doubled back over the pad.

Referring to the drawings, and firstly to FIGURE 5, the numeral 10 designates a length of preferably knitted elastic tubular fabric which forms the body of the finished device and which is initially approximately twice as long as the finished device. Intermediate its ends, the body is folded back on itself as at 11 to form a pocket 12 which, before final assembly, is closed at the bottom by the fold at 11 and is open at the top. The pocket 12 extends circumferentially around the doubled-back body and is adapted to receive a suitable resilient pad, for example, the pad 13 in FIGURES 2, 3, 7 and 8. This pad may be notched intermediate its length as at 14 to facilitate the bending of the knee or elbow when the device is worn, and may extend circumferentially substantially half way around the body 10 as shown in FIGURE 3.

It will be apparent that the material of the body may have its lower end, as viewed in FIGURE 5, doubled back upon its upper end either internally or externally thereof to form the pocket 12. Due to the elasticity of the material of the body, the inner layer thereof stretches inwardly over and conforms to the edges of the cushion 13 at 16 as shown in FIGURE 3, the material thus extending along the longitudinal edges of the pad or cushion 13 as at 17. This portion 17 of the body at each side of the device maintains the cushion 13 in position against circumferential displacement in the body.

In FIGURES 7 and 8, the steps in one method of assembling the device are illustrated. With the body 10 in the position shown in FIGURE 7, the cushion 13 is arranged around approximately one-half the circumferential extent of the upper end 20 of the body, whereupon the lower end 21 is doubled back upon the upper end 20 outwardly thereof as shown in FIGURE 8, to cover the cushion or pad 13. In FIGURE 8, the fold 11 has been formed, but the free end portion of the lower end 21 has not been pulled upwardly entirely to the edge of the upper end 20. The lower end of the pocket 12, formed between the ends 20 and 21, will be closed by the fold of the material at 11. The upper end of the pocket will be open, with the upper extremities of the material extending above the upper limit of the pad 13. These extremities are then stitched together as at 22 (FIGURES 1 and 2), whereupon the device will be completely assembled.

A somewhat different method using a somewhat different pad or cushion 13 is shown in FIGURE 6. In this form of the invention, the doubling back of the body 10 is effected prior to placing the pad 24 in the position indicated in FIGURE 6. The pad shown in FIGURE 6 is notched as at 25 in its edges, and above and below the notches the edges of the pad curve toward the pad ends as at 26. The upper and lower ends 27 of the pad are substantially semi-circular, while the pad, at its widest point indicated at 28, extends throughout the greater portion of the circumference of the tubular body, as shown in FIGURE 4.

In one method of forming the device shown in FIGURE 6, the material of the body is doubled back upon it-

self to form the pocket 12, whereupon the pad 24 is slipped downwardly into the pre-formed pocket. The upper extremities of the inner and outer portions of the body will be contiguous and slightly above the top edge 27 of the cushion 24, and will be stitched together at 22.

By way of brief review of two representative methods of assembling the protective device, and referring firstly to FIGURES 1, 2, 3, 5, 7 and 8, a blank 10 of tubular knitted stock is cut to a predetermined length as shown in FIGURE 5, and the pad 13 is then placed around about one-half of the circumferential extent of the blank upper end 20, as shown in FIGURE 7. The blank lower end 21 is doubled back on the blank upper end 20 according to FIGURE 8, and the contiguous upper edges of the blank 10 are then stitched together at 22.

In an alternative method, according to FIGURE 6, the blank 10 is doubled back upon itself to form an open top pocket 12, after which the pad 24 is inserted into the pre-formed pocket and the upper edges of the blank, at the open top of the pocket, are stitched together.

As distinguished from prior constructions, the device comprises only two elements, namely, the body 10 and a resilient pad. Only one stitching operation is required, and this around the free edges of the body at 22. The absence of side stitching not only eliminates two stitching operations but preserves the natural elasticity of the body 10, thus preventing a local strain and permitting freer movement of, e.g. the elbow or knee of the wearer.

From the foregoing it will be apparent that the present device is characterized by simplicity both as to structure and assembly. It is not necessary to maintain a separate cover element in position, the pocket 12 receiving and positioning the pad without the use of any retaining cover element and its disadvantages. In either form of the invention, the elasticity of the body material causes it to shape itself around the side edges of the pad, thus preventing displacement thereof.

It is to be understood that the steps in the method and the details of construction of the device as the invention has been illustrated or described are only exemplary, and that changes may be made in the steps of the method and in the details of construction of the device without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A cushioned protector comprising an elastic elongated body having inner and outer portions continuous transversely of said body and integrally joined at one end thereof to form a pocket, a cushion member arranged between said portions of the body and having longitudinal edges notched intermediate their lengths, the extremities of said inner and outer portions at the other end of said body being substantially contiguous, and stitching extending through said extremities to close said other end of the body to retain said cushion member in position.

2. A cushioned protector comprising an elastic elongated body having inner and outer portions continuous transversely of said body and integrally joined at one end thereof to form a pocket, a cushion member arranged between said portions of the body and having longitudinal edges notched intermediate their lengths, said edges curving away from the notches therein toward the top and bottom of said cushion member, the extremities of said inenr and outer portions at the other end of said body being substantially contiguous, and stitching extending through said extremities to close said other end of the body to retain said cushion member in position.

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