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OTHER REFERENCES

Shaar. Elastic Traction Splint in Jour. A.M.A., June 22, 1929 (Vol. 92 No. 25) pp. 2084—2085

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[54] DOUBLE ARM-SLING JACKET 1 Claim, 7 Drawing Figs.

[52] U.S. Cl. 128/94,
 2/94
 [51] Int. Cl. A61f 5/40,
 A41d 3/02
 [50] Field of Search 128/94;
 224/6; 2/94

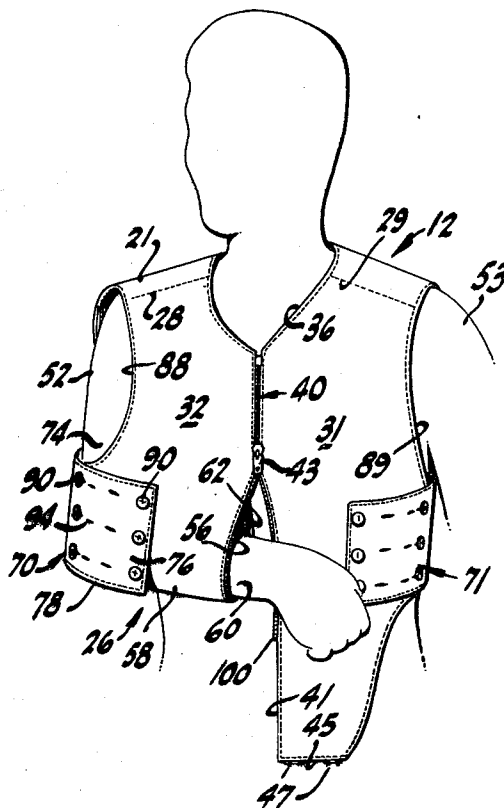
[56] References Cited UNITED STATES PATENTS

2,260,427	10/1941	Bailey.....	2/94
2,560,243	7/1951	Peterson.....	128/94
2,598,853	6/1952	Stanton.....	128/94
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ABSTRACT: A piece of washable fabric material is formed into a jacketlike garment which is roughly X-shaped in developed condition, the center portion of the device forming a combined back panel and shoulder yoke. A pair of diverging wing panels depends from the shoulder yoke to form a pair of front panels when worn by the user, each of the wing panels including cooperating fasteners to shape the wing panels into forearm supporting pouches. A pair of flaps extending laterally from the back panel is flexed around the adjacent elbow and upper arm portion of the wearer and selectively secured to the front panel to afford a snug fit for the elbow and upper arm. A central zipper selectively joins together the facing front edges of the wing panels and can be used to enclose completely the wearer's forearms.



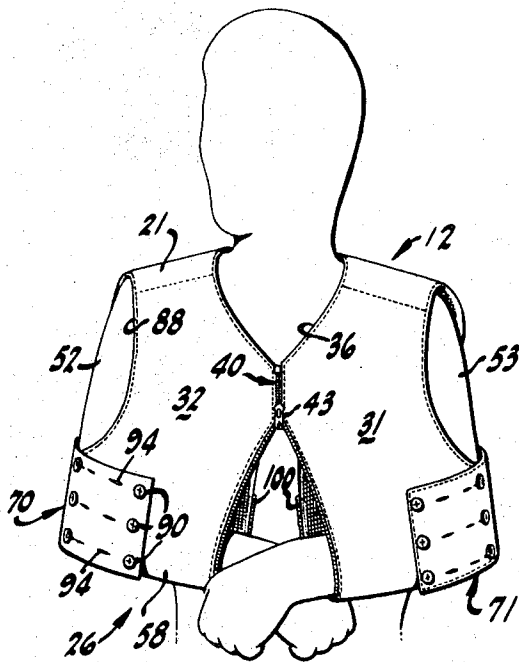


FIG. 3

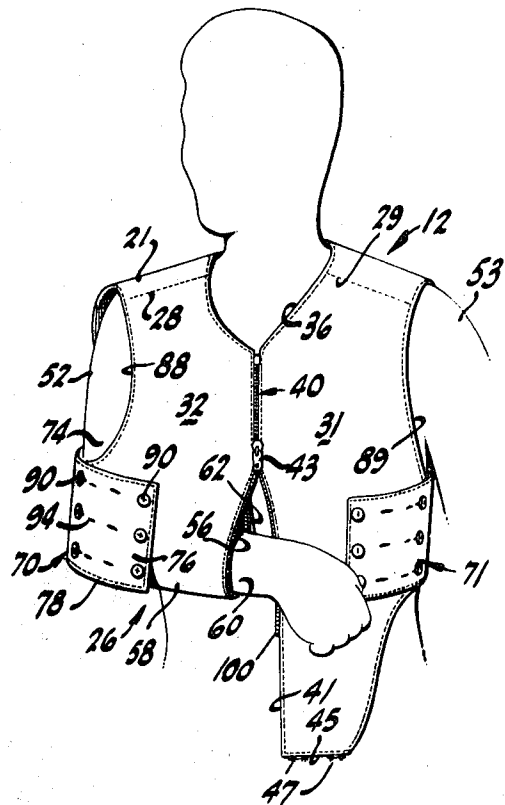


FIG. 1

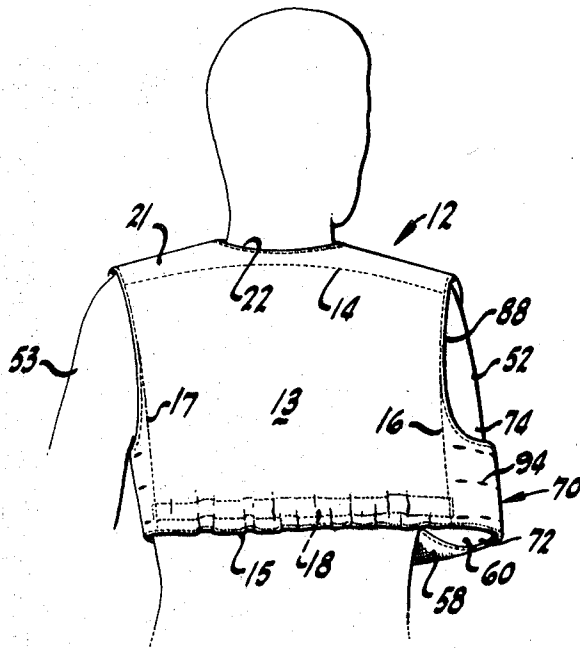


FIG. 2

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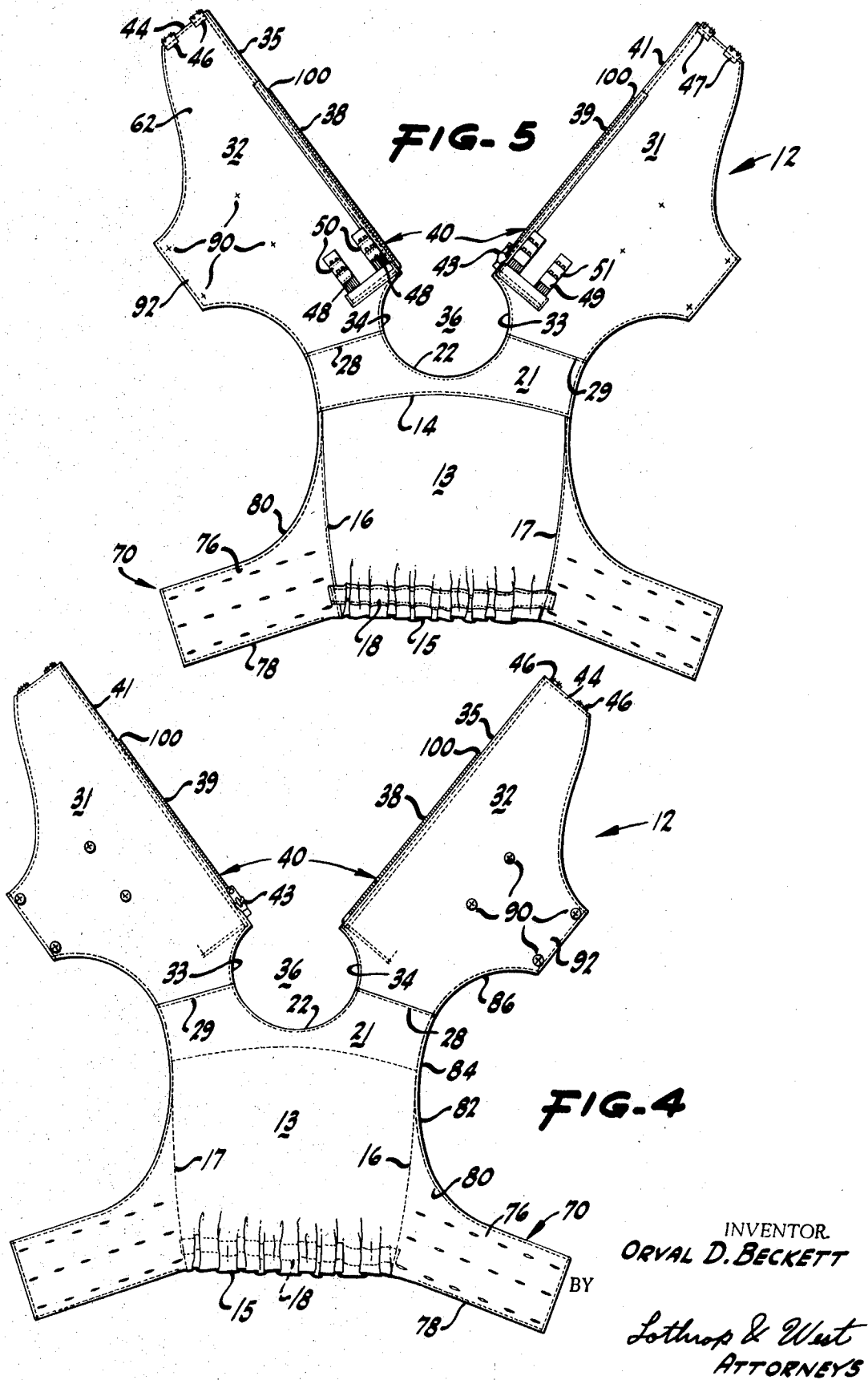


FIG. 6

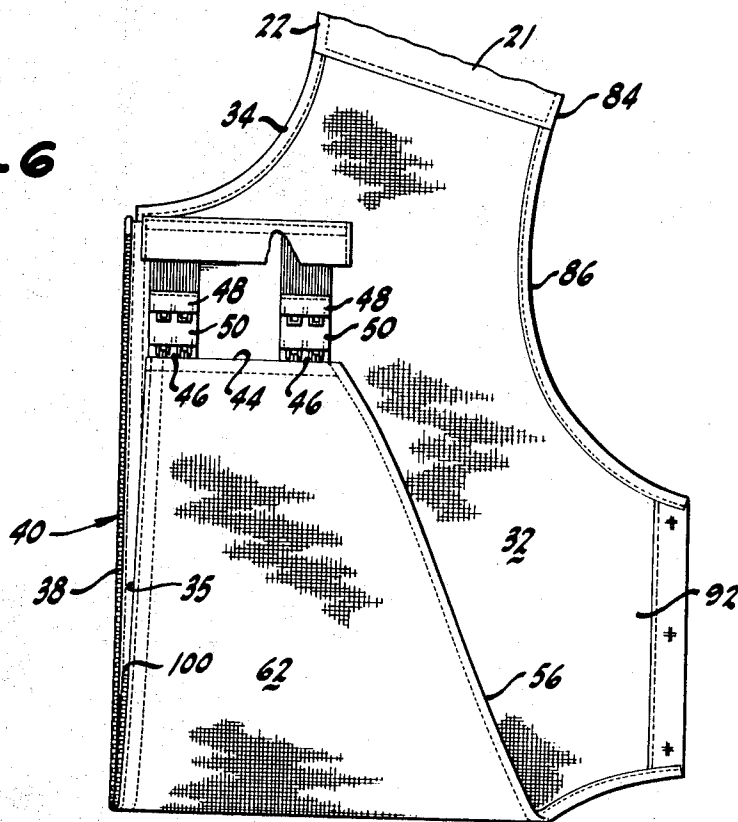
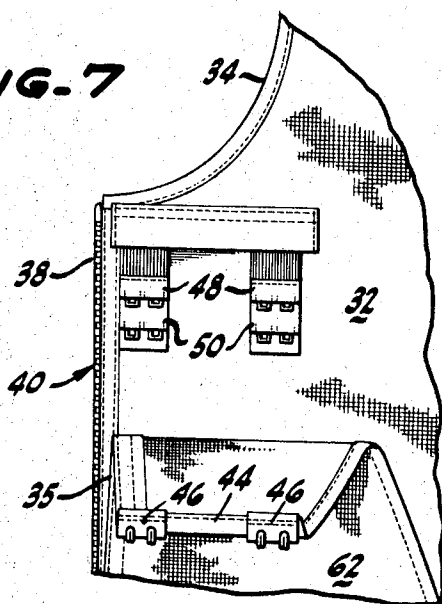


FIG. 7



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DOUBLE ARM-SLING JACKET

The invention relates to improvements in arm slings of the jacket, or vest, type.

Numerous varieties of arm slings of the vest or jacket type have in times past put in their appearance; and, for the most part, have served their purpose moderately well, one of these being disclosed, for example, in M.C. Peterson Pat. No. 2,560,243 dated Jul. 10, 1951 for Shoulder Rest Double-Arm Sling.

Another somewhat related example is the well-recognized orthopedic accessory known as a Velpeau dressing. The Velpeau dressing has, for a long time, been a necessary tool in orthopedics; however, it has been quite cumbersome.

It is therefore an object of the invention to provide a jacket type of sling which is readily applied to the wearer and which is also conveniently removed.

It is another object of the invention to provide an orthopedic device which can advantageously be used after any reconstructive procedure on the shoulder, and which is especially useful after repair for a chronic dislocating shoulder, as well as after certain types of fractures in and about the shoulder.

It is a further object of the invention to provide a sling which is not only comfortable but which also does not become loosened or otherwise changed from the initial application.

It is yet a further object of the invention to provide a sling which is very flexible and versatile in use and which is readily adaptable to provide support to either or both arms in a comfortable and beneficial attitude, and with the proper degree of snugness.

It is still a further object of the invention to provide an arm sling which is relatively economical and which can readily be laundered and stored in a small space.

It is an additional object of the invention to provide an arm sling which affords the user a comforting sense of security in that it firmly supports the forearm from below and firmly encompasses the elbow and adjacent upper arm from the side.

It is another object of the invention to provide a generally improved arm sling.

Other objects, together with the foregoing, are attained in the embodiment described in the following description and shown in the accompanying drawings in which:

FIG. 1 is a front perspective view of the sling arranged to receive the wearer's right arm, and showing the opposite wing panel in depending condition preparatory to being folded up out of the way and fastened;

FIG. 2 is a rear perspective view;

FIG. 3 is a front perspective view, showing both arms being supported by the sling;

FIG. 4 is a developed view of the outside of the sling;

FIG. 5 is a developed view of the inside of the sling;

FIG. 6 is a fragmentary elevational view of the inside of the right wing panel showing the lower portion of the wing panel folded upwardly and fastened to the upper portion of the wing to provide a supporting pouch for the wearer's right arm; and,

FIG. 7 is a view comparable to FIG. 6 but with the fastening members unhooked from each other.

While the sling device of the invention is susceptible of numerous physical embodiments, depending upon the environment and requirements of use, substantial numbers of the herein shown and described embodiment have been made, tested and used under medical supervision, and all have performed their purpose in an eminently satisfactory manner.

The sling of the invention, generally designated by the reference numeral 12, resembles in some ways a vest, or jacket, when worn (see FIGS. 1-3) although when laid flat is roughly X-shaped in outline (see FIGS. 4 and 5) and is constructed, for the most part, of a washable fabric material.

At approximately the center of the X-shaped structure there is provided a back panel 13 which is roughly square in outline and is defined by a top margin 14, a bottom margin 15 and a pair of side margins 16 and 17.

The bottom margin 15 is normally located, when the sling is applied, at or slightly above the wearer's waist; and there is provided an elastic belt 18 along the inner surface of the panel adjacent the bottom margin 15 to afford a comfortable degree of snugness to the vest.

A shoulder yoke member 21 is stitched along the top margin 14 of the back panel 13 and is formed with an arcuate opening 22 to receive the back of the wearer's neck. It is the shoulder yoke which bears the major portion of the load, and consequently the yoke is made plentiful in size so that the wearer's shoulders are not overly burdened.

The front or vest portion 26 of the sling is formed by a pair of diverging wing panels 31 and 32 stitched to the yoke 21 along the margins 28 and 29, the wings being formed with arcuate cutouts 33 and 34, respectively, merging with the arcuate recess 22 in the yoke to afford a neck opening 36.

Each of the wing panels is in mirror symmetry with respect to the other, a description of one therefore serving, except where noted, to describe the other.

Referring, for example, to wing panel 32 it will be seen that from the neck opening 34 the wing extends linearly along the margin 35 and carries a first portion 38 of a zipper type of closure 40, the second zipper portion 39 being carried along the linear margin 41 of the wing 31, the second portion 39 of the zipper being provided with the customary closure traveller 43.

The wing's linear margin 35 terminates at a corner intersection with an end 44 removed from the neck opening, the end 44 carrying a pair of double-hook members 46 arranged to cooperate with corresponding pairs of eye-carrying tabs 48 and 50. As appears most clearly in FIGS. 6 and 7 the eye-pair tabs 48 and 50 are vertically spaced when the sling is applied, and by selecting one or the other tab pairs for engagement with the hook pairs 46, the desired degree of adjustment can readily be attained to suit the wearer.

In other words, if breast be assumed that only the wearer's right arm 52 is to be supported (see FIGS. 1 and 2), the sling 12 is applied by first placing the yoke 21 on the wearer's shoulders with the outer surfaces of the jacket exposed as in FIG. 4. The wings 31 and 32 are then allowed to drape downwardly, covering the wearer's left breast and right breast respectively.

The lower tip 44 of the wing 32 is thereupon turned inwardly and upwardly and conducted into engagement with the desired one of the eye fasteners 48 or 50.

By so fastening the wing tip 44, a loop 56, or tubular pouch, is formed, the tube 56 receiving the lower portion of the wearer's right arm 52, with the bottom 58 of the pouch supporting the right forearm 60 (see FIG. 1).

The upwardly recurved portion 62 of the wing 32, in other words, serves not only to support but also snugly to hold the forearm 60 in the desired location against the user's upper abdomen. Further security is afforded by the closure member 40, and in this connection it is to be noted that by moving the traveller 43 downwardly from the position shown in FIG. 1 to a location quite near the right wrist, a very snug retention is afforded.

One of the major contributions of the present sling resides in the elbow confining structure 70, serving to limit the extent of lateral and rearward movement of the elbow 72 and adjacent upper arm portion 74 relative to the forearm supporting structure 58.

The elbow confining member 70 comprises a flap 76 mounted on the lateral margin 16 of the back panel 13. The lower margin 78 of the flap 76 is oriented so that when the flap 76 is flexed around the elbow, as in FIGS. 1-3, the margin 78 is approximately horizontal. The upper margin 80 of the flap 76, however, sweeps in an arc 82 which merges with an arcuate edge portion 84 of the yoke 21 and an arcuate cutout portion 86 of the wing panel 32, the three arcs forming in combination the margins of an armhole 88 of the sling vest 12, or jacket. As appears in FIG. 1, the user's left arm 53 extends through an armhole 89 corresponding in all respects to the above-described armhole 88 for the right arm 52.

In order selectively to secure the elbow confining flap 70 to the vest panel 32, a plurality of cooperating fasteners is provided. In the embodiment illustrated herein, the fasteners are buttons 90, mounted on a button carrying portion 92 of the wing panel 32, and buttonholes 94 on the flap 70. As will be realized, other suitable fasteners could be substituted for the buttons. Exemplary of such substitutions are "Velcro" fasteners, hook and eye fasteners and snap fasteners.

Where, as in FIG. 1, only the right arm 52 is to be supported, the lower end 45 of the wing panel 31 can be allowed to depend loosely, as shown. However, for neatness of appearance, the usual wearer of the sling would wish to lift the lower tip 45, bend it inwardly and upwardly and fasten the pair of end hooks 47 either to the eye pair 49 or the eye pair 51 on the inside of the vest panel 31. In comparable fashion, the flap 71 would customarily be flexed around to the front and neatly buttoned as shown in FIG. 1, even though serving no functional purpose.

Where the circumstances make it desirable to apply the sling to both arms 52 and 53, the components are arranged as appears most clearly in FIG. 3. With this arrangement it is possible to provide for an even greater degree of immobility for the arms. That is to say, by placing both hands and wrists of the wearer inside the pouches, the closure traveller 43 can be moved downwardly as by a second person taking hold of it, passing it under the wrists and up the insides of the folded panels encompassing the wrists until the end 100 of the zipper is reached (see FIG. 3). The forearms, wrists and hands of the wearer are thereby completely enclosed, a situation which might sometimes be desired in that it affords not only a greater degree of immobility, but also greater warmth.

It can therefore be seen that by suspending the sling from a

shoulder yoke of substantial surface area, and forming it in into the shape of a vest or modified jacket, a comfortable, sturdy and efficient orthopedic device is provided, the device also affording, owing to its elbow encompassing feature, a highly desirable degree of security and of freedom from the common tendency of slings to become loosened.

I claim:

1. A double arm-sling jacket comprising:

- a. a back panel of flexible material extending longitudinally between a top margin having a neck opening and a bottom margin, and transversely between a left hand edge and a right hand edge;
- b. a pair of flexible wing panels integral with the top margin on each side of the neck opening and extending downwardly therefrom in laterally spaced relation facing said back panel, each of said wing panels having on the side thereof facing the back panel mating pairs of fastening members which interengage when the lower ends of the wing panels are each recurved inwardly to form a forearm-receiving pouch having a smooth outer surface, said wing panels further including on their adjacent edges cooperating slide fastener elements for detachably securing together said adjacent edges including the edges of the recurved portions of said pouches;
- c. a pair of laterally extending flexible flaps mounted on said left hand edge and said right hand edge; and
- d. means on said wing panels and said flaps for selectively attaching each of said flaps to a corresponding one of said wing panels with said flaps being flexed snugly to encompass the wearer's elbow and adjacent upper arm portion.

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