March 20, 1973 D. ALESSIO 3,721,237

HEEL AND ANKLE PROTECTOR

Filed July 13, 1970 2 Sheets-Sheet 1

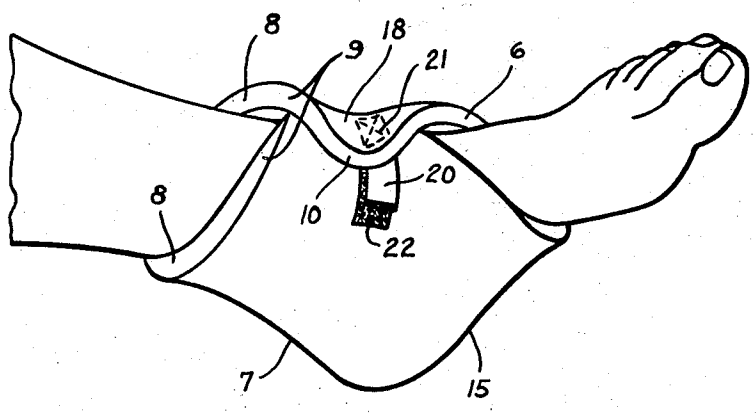


Fig. 1.

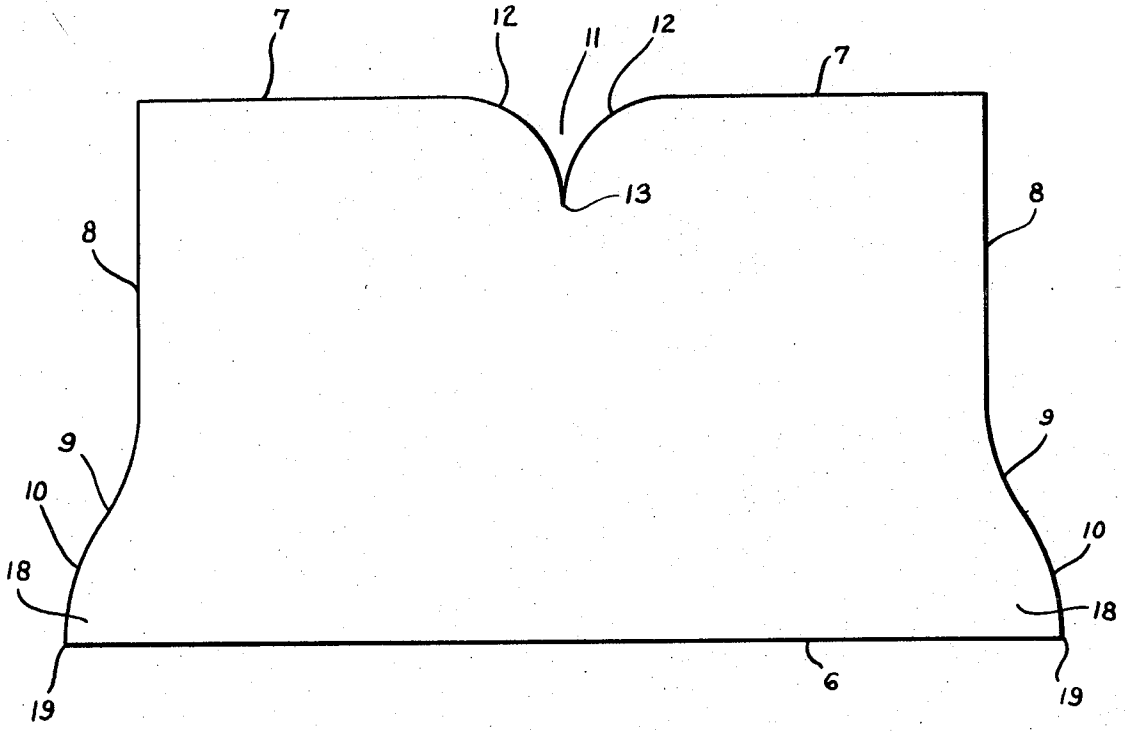


Fig. 2.

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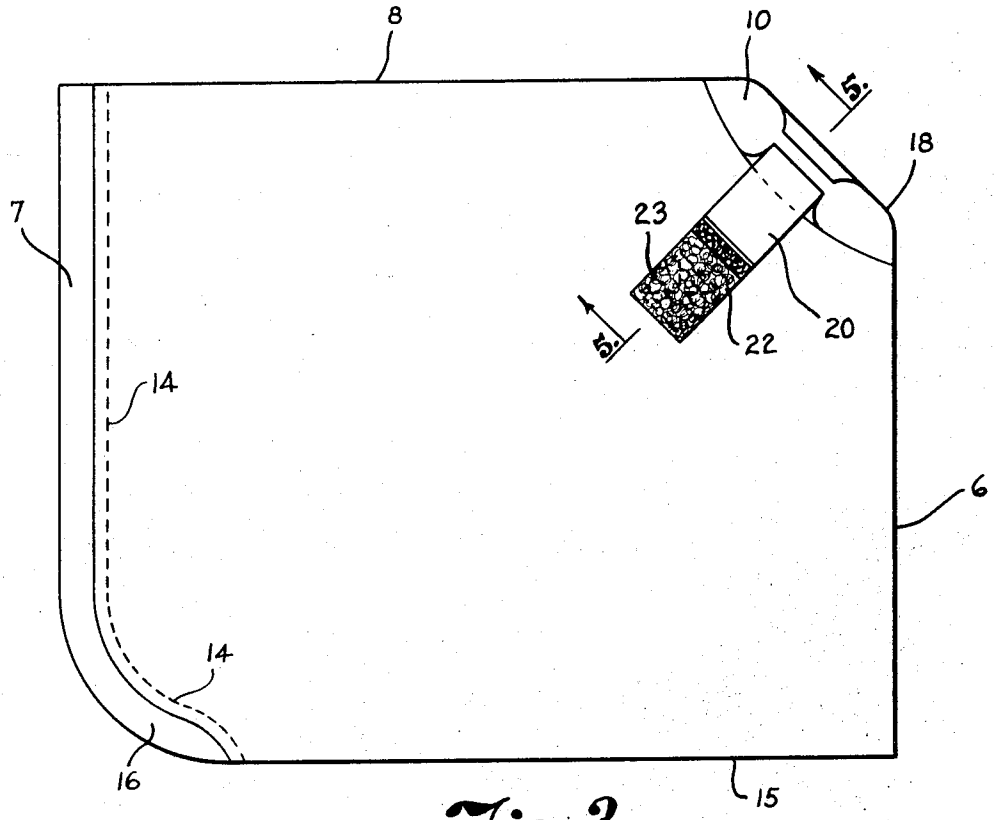


Fig. 3.

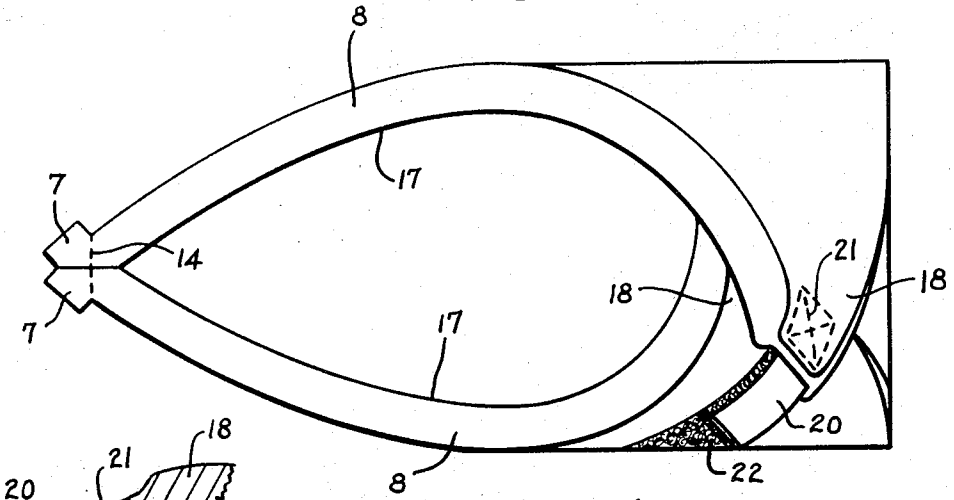


Fig. 4.

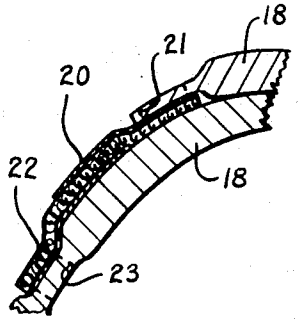


Fig. 5.

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3,721,237

HEEL AND ANKLE PROTECTOR

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Int. Cl. A61b 19/00
U.S. Cl. 128—149 4 Claims

ABSTRACT OF THE DISCLOSURE

A heel and ankle protector of sheet polyurethane of sufficient thickness to have a cushioning action, which has a body portion made of a single ply of polyurethane. The body portion is generally rectangular except for a slightly widened portion at one end for mounting Velcro fasteners thereon, and a side edge straight throughout the major portion of its length, with a central notch of modified V shape. The notch has curved edges secured together to form a socket for receiving the heel. The straight edge portions are fastened together so that a pocket is formed to enclose the ankle and heel when the two portions of the Velcro fastener are secured together to overlap the corners of the body portion at its wider end.

It is the principal purpose of my protector to prevent heel and ankle ulcers in bed ridden patients by keeping these portions of the foot out of contact with the bedding, the protector being so made and of such flexibility and lightness that it will not be annoying or burdensome to the patient wearing the same.

It is a purpose of my invention to provide a heel and ankle protector which is relatively inexpensive, which is light in weight, cool, and non-allergic.

It is a further purpose of my invention to provide a heel and ankle protector that is of such a contour that it will reach up high enough on the leg so as to provide extra protection for the ankle, which is made of one piece of material and has lapped over portions that extend across the top of the foot when the heel and ankle protector is in position on the foot, to give extra protection at the top of the foot.

It is a further purpose of my invention to provide a heel and ankle protector that is disposable, but which can be rinsed to clean the same, should this be desirable or necessary. It is so constructed and arranged that it can be easily put in place on the foot and is easily removed therefrom, and it can be adjusted over a wide range, so that a single size thereof will fit any foot closely enough to provide the desired protection without causing any binding action.

Other objects and advantages of my invention will appear as the description of the drawings proceeds. I desire to have it understood, however, that I do not intend to limit myself to the particular details shown or described except as defined in the claims.

In the drawings:

FIG. 1 is a perspective view showing the heel and ankle protector in position on the foot.

FIG. 2 is a plan view of the blank from which the body portion of the heel and ankle protector is made.

FIG. 3 is a side elevation of the heel and ankle protector detached.

FIG. 4 is a plan view thereof, and

FIG. 5 is a fragmentary detail sectional view taken on the line 5—5 of FIG. 3.

Referring in detail to the drawings, the blank shown in FIG. 2 is cut from a sheet of cellular plastic material such as urethane which is of sufficient thickness to serve as cushioning means and yet not of such thickness as to make the device bulky. The preferred thickness of the

sheet from which the blank is cut is about one-half inch. As will be evident from FIG. 2, the blank is of a generally rectangular character having a straight end edge 6 and a pair of straight end edge portions 7 extending over the major portion of the opposite end to the edge 6. Side edges extend perpendicularly to the end edge portions 7 from the opposite ends thereof, the side edges having the straight edge portions 8 and curved edge portions 9 extending therefrom which are concavely curved and convexly curved end portions 10 extend from the concavely portions 9 and terminate at the opposite ends of the end edge 6. The end edge that has the straight edge portions 7 is provided with a generally V-shaped notch 11, centrally thereof, which has a pair of convexly curved side edge portions 12, the curved edges 12 meeting at a central point 13.

In forming the heel and ankle protector from the blank shown in FIG. 2, the blank is folded along the middle thereof, that is, midway between the side edge portions 8, and the two straight edge portions 7 are stitched to each other, as are the convexly curved edges 12. As a result a pocket is formed which has a closed end wall formed by means of the stitched together straight edge portions 7, the stitching being indicated at 14, and a closed bottom wall 15 that extends substantially perpendicularly to the end wall formed by the stitched together edges 7, between which a heel socket portion 16 is provided by the stitching together of the convexly curved edges 12 by means of the stitching 14. The straight edge portions 8 are now located opposite the closed bottom portion 15 and the blank will assume a curvature generally as shown in FIG. 4, such curved portions being indicated by the numeral 17 in FIG. 4, when the wider end portions of the blank having the curved edges 9 and 10 are brought into overlapping relationship, as shown in FIG. 4. If found desirable other means than stitching could be used to secure together the edge portions 7 and 12.

When the heel and ankle protector is placed around the foot, with the widened end portions above referred to forming the latterly extending ears 18 overlapped, there will be a pair of body member receiving openings created in the heel and ankle protector. One of said openings is formed at the edge potrion 6, as shown in FIG. 1, and receives the instep portion of the foot, and the other is formed at the edge portions 8, and receives the leg slightly above the ankle.

While the blank is of greater transverse dimension from one straight edge portion 8 to the other straight edge portion 8, the longer edge 6 has been referred to as an end edge, because it is at the one end of the heel and ankle protector when it is in position on the foot. While the seam formed by stitching together the two edge portions 7 and the two edge portions 12, is shown at the rear of the foot, in the position of the protector shown in FIG. 1, it may be desirable to use the heel and ankle protector with the seamed portion at the bottom, or under the sole of the foot, if a person is bedfast and will not walk on the seam.

It will be noted that sharp corners 19 exist at the junction of the straight edge 6 and the curved edges 10. The fastening elements provided are arranged so that they would have a longitudinal center line substantially intersecting these corner portions 19. Preferably, a Velcro fastener is used and one portion 20 thereof is secured to the one ear portion 18 with a major portion thereof extending beyond the corner 19, being secured by stitching 21 closely adjacent said corner. Preferably this is the portion of the Velcro fastener that has a multiplicity of minature loops formed thereon. The companion Velcro fastener 22 is set back from the corner 19 so as to pro-

vide a space that includes most of the ear **18**, being secured to the body portion by stitching **23**.

In the arrangement shown in the drawings the ear **18**, that carries the Velcro fastener portion **20**, is put in position to overlap the ear **18** at the other corner of the forward end of the heel and ankle protector. The amount of overlap of the portions **18** would depend upon the size of the foot to which the apparatus is applied, the fastening element **20** being moved lengthwise of the fastening element **22**, and secured in such adjusted position that the body portion of the device will fit the foot snugly without exerting pressure on the foot. With the ear portions **18** in such overlapped relationship the heel socket portion **16** will receive the heel of the foot therein so that it will be properly seated therein to aid in holding the device in position against slipping or twisting on the foot. With the ear portions **18** overlapped, the instep is protected against chafing. If an ulcer already exists at the ankle bone at the time the heel and ankle protector is put into use, it may be found desirable to keep the ulcer exposed to the air. Under such a condition an opening can be readily cut in the material of the protector in the portion thereof over the area of the ulcer.

What I claim is:

1. A heel and ankle protector comprising a single ply one piece body portion of cellular plastic sheet material having opposite exposed faces, said body portion having a foot receiving pocket having closed bottom and end walls, one of said walls having convexly curved edge portions secured together to provide a concave heel receiving socket at the junction of said bottom and end walls, said body portion having a pair of free side edges and a straight free end edge extending transversely to said free side edges to provide corner portions at the junctions of said side edges with said end edge, and adjustable fastening elements mounted on said body portion in position to detachably connect said corner portions in overlapping relation to provide a pair of body member receiving openings leading into said pocket.

2. The heel and ankle protector claimed in claim **1** in which said fastening elements are a pair of Velcro fasteners one of which extends obliquely beyond one of said corner portions and the other of which is mounted back from the other corner portion and extends obliquely to said end edge.

3. The heel and ankle protector claimed in claim **1** in which said end edge is longer than said side edges and said side edges have straight portions extending over the major portion of their length and portions that curve outwardly toward the ends thereof that join said end edge to form a pair of ears on said body portion at said overlappingly related corner portions, said straight portions of said side edges and said end edge extending perpendicularly to each other.

4. The heel and ankle protector claimed in claim **1** in which the end edge of said body portion opposite said free end edge has straight portions spaced by a central notch having convexly curved side edges, said straight portions are secured together to form one of said closed walls and said convexly curved edges are secured together to form said heel receiving socket.

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U.S. Cl. X.R.

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