

Aug. 23, 1960

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2,949,912

FRACTURE SPLINT COVERING

Filed Nov. 24, 1959

Fig 1

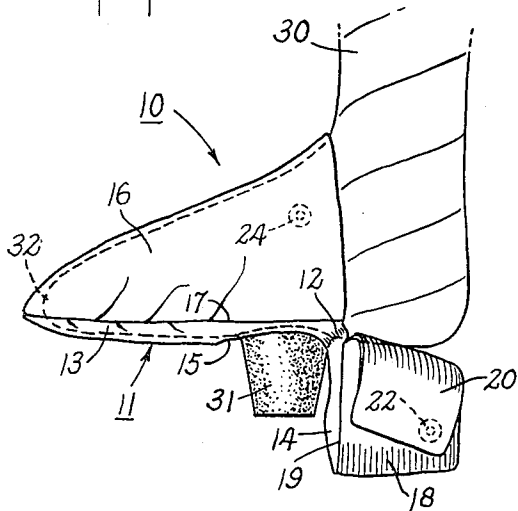


Fig 2

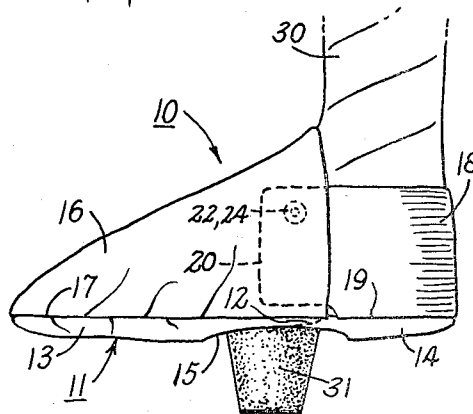


Fig 4

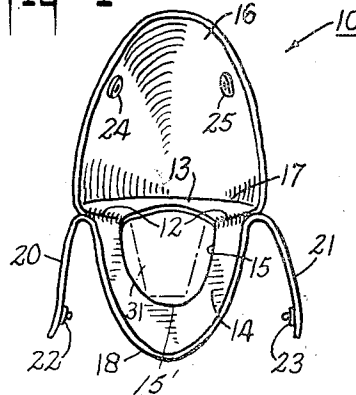


Fig 3

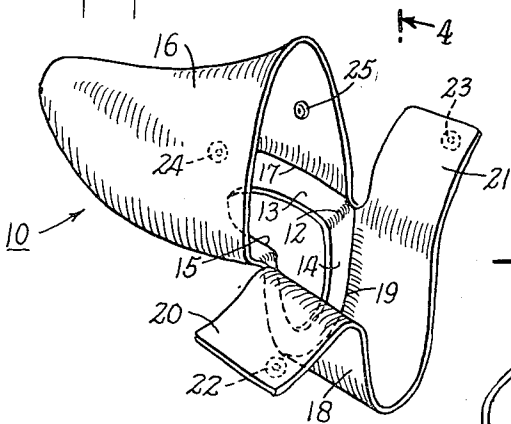


Fig 6

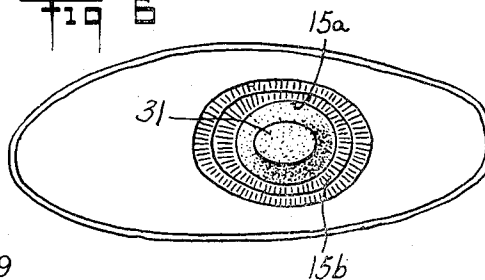
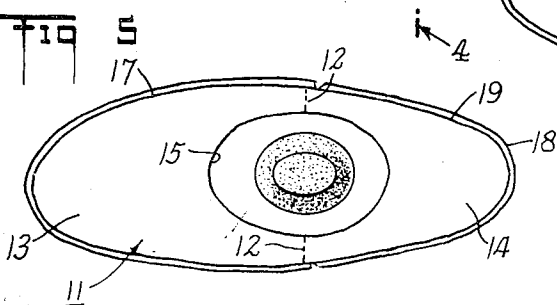


Fig 5



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1

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FRACTURE SPLINT COVERING

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Filed Nov. 24, 1959, Ser. No. 855,211

2 Claims. (Cl. 128—83.5)

This invention relates to a cover or boot for a leg fracture splint or cast. More particularly, this invention relates to a boot intended to be used as a cover for a splint or cast conventionally employed in the treatment of fractured or otherwise injured legs, ankles or feet, to secure the injured parts in predetermined relationship to each other.

Still more particularly, this invention relates to a boot to be used as a cover for a "walking cast," so called because the sole portion of the cast or splint is provided with a depending buffer or lug, permitting the wearer to walk without direct contact between the cast and the ground.

In walking casts of the type described, the cast and buffer members are so applied as to prevent, insofar as possible, the transmission to the injured limb portions of forces produced when body weight is transferred to the buffer. Although such casts or splints are designed to relieve the injured parts of stresses caused by forces applied axially of the cast, they afford relatively little protection against torsional or other non-axially applied forces.

Notwithstanding the fact that casts appear massive and sturdy when first set, the plaster of Paris mixtures of which they are most frequently compounded are subject to deterioration under the influence of direct contact with water, and since the cast frequently does not cover the toes of the wearer and exposes the more absorbent liner, it is desirable, particularly during inclement weather periods, such as the wintertime, to provide some form of cover for the foot portions of the cast, to assure the maintenance of the rigid and form fitting contour effected by the surgeon in setting the limb.

In view of the sensitivity of injured parts protected by such casts to non-axial stresses applied to the cast, as previously noted, it is desirable that any such protective cover be applicable by the wearer with a minimum of effort. Particularly it is desirable for the wearer to be able to apply the cover without tugging, straining or otherwise pulling the latter over the cast, a procedure which would induce a painful reacting non-axial stress in the injured parts.

A further reason for rendering such cover readily applicable by the wearer is the fact that the foot portion of the cast is normally not easily accessible for manipulation due to the weight of the cast and to the immobilizing effect of many casts on the knee joint.

Accordingly, it is an object of this invention to provide a cover or boot for a walking cast or the like which may readily be applied by the wearer over the foot portion of the cast.

It is a further object of this invention to provide a quick-slip cover for the purposes described which may be applied substantially painlessly, without pulling against the cast.

A further object of this invention is to provide a cover

2

of the class described which presents a neat appearance and which resists accidental dislodgment from the cast.

To attain these objects and such further objects as may appear herein or be hereinafter pointed out, reference is made to the accompanying drawings forming a part hereof, in which—

Figure 1 is a side elevation showing the cover partially applied to a cast;

Figure 2 is a view similar to the view of Figure 1, showing a fully applied cover;

Figure 3 is a perspective view of the cover in position to be applied to a cast;

Figure 4 is an end elevation taken in the direction of the arrows 4—4 of Figure 3;

Figure 5 is a bottom plan view of a cast to which the cover has been applied;

Figure 6 is a view similar to the view of Figure 5, showing an embodiment of the cover.

In accordance with my invention, a boot 10 is fabricated, preferably of relatively indistensible sheeted material, such as oil cloth or the like, having a water repellent outer surface coating and a reverse side cloth surfacing which slips readily over the cast surface. The sole 11 of the boot is creased or folded laterally along a fold line 12 to divide the sole portion 11 into a readily hinged forward sole section 13 and rearward sole section 14. An aperture 15 of generally ovoid form is cut out of the sole, to be bisected by the fold line 12 so that part of the aperture 15 is defined by the forward sole section 13 and part by the rearward sole section 14, with the hinge or fold line diametrically directed in relation to the minor axis of the ovoid to secure a displacement of the apex 15' slightly greater than the extreme edge of the buffer to be enveloped.

A vamp member 16 is secured to the forward sole section 13, the vamp and forward sole section being joined at their marginal edges to form the seam 17, the rearmost portions of which seam terminate adjacent the fold line 12.

A counter member 18 is joined to the marginal edges of the rearward sole section 14 along the seam 19, the forwardmost portions of which seam terminate adjacent the fold line 12.

A pair of flaps 20, 21 form a forward extension of the counter member 18 and are provided on their outer faces with fastener elements 22, 23. The inner face of the vamp 16 is provided with laterally spaced-apart fastener elements 24, 25, engageable, respectively, with the elements 22, 23 carried by the flaps 20, 21.

The combined effects of providing a fold line 12, terminating seams 17 and 19 adjacent said fold line, and providing an aperture 15 in spanning relation of the fold line result in a structure which tends to assume the position shown in Figure 1 wherein the rearward sole section 14 is disposed generally normal to the plane described by the forward sole section 13. With the boot thus positioned, as best shown in Figure 4, the portions of aperture 15 defined by the rearward sole section 14 will similarly be disposed normal to the plane of the forward sole section.

To apply the boot over the walking cast 30 having a depending walking buffer or lug 31, it is merely necessary to slide the vamp 16 and forward sole section 13 rearwardly over the forward end 32 of the cast. This part of the applying operation is greatly simplified since the aperture 15, in the course of the sliding movement previously described, will have passed over the buffer 31 due to the tendency above noted of the rearward sole section 14 and the portions of aperture 15 defined thereby to be oriented normal to the forward sole section 13.

With the vamp 16 thus applied to the cast, the counter

3

18 and rearward sole section 14 may be swung upwardly to the heel covering position shown in Figure 2, and the complementary fasteners 22, 24, and 23, 25, respectively, engaged.

It should be noted that by providing a structure in which the flaps 20, 21 are secured between the cast 30 and the vamp 16, there is little or no tendency for the fasteners to become disengaged as by snagging of the flaps in the forward movement of the foot.

In the embodiment shown in Figure 6, the aperture 15a is surrounded by an elastic material 15b, to provide a weatherproof engagement of the aperture about the buffer 31.

The above described boot structure may be applied over a walking cast without tugging or pulling by the wearer by reason of the novel structure which permits the rear sole section and clearance aperture to be slid over the buffer of the cast with minimum manipulation. The described embodiment provides, in addition, a greater measure of weatherproofness and prevents softening of the plaster cast.

By the novel positioning of the fastener members herein described, the boot structure may be securely fastened to a walking cast without substantial tendency to become dislodged, as by snagging.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. For use in conjunction with a leg plaster of Paris or like fracture splint or cast having a depending walking buffer member, a boot covering comprising sheeted ma-

4

terial having a relatively indistensible, flexible sole portion divided into forward and rearward sole covering sections at a lateral fold line, said forward and rearward sole sections being cut out to define an aperture spanning said fold line, a vamp portion secured to the marginal edges of said forward sole section to a point adjacent said fold line, a counter member secured about the marginal edges of said rearward sole section to a point adjacent said fold line, a pair of forwardly extending flaps forming continuations of said counter member, a first pair of fastener members secured at laterally oppositely spaced points on the inner face of said vamp and a complementary pair of fastener members to said first pair secured to the outer face of said flaps whereby said boot may be secured over the foot portion of a leg fracture splint, with said buffer member of said splint extending through said aperture and said flaps secured to said vamp, with said flaps lying between said splint and said vamp.

2. A boot structure in accordance with claim 1 wherein the portions of said forward and rearward sole sections defining said aperture comprise elastic material, whereby upon application of said boot structure to said fracture splint, said aperture will form a sealing fit about said buffer member.

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