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SURGICAL CAST AND ORTHOPEDIC TOE PROTECTING SOCK

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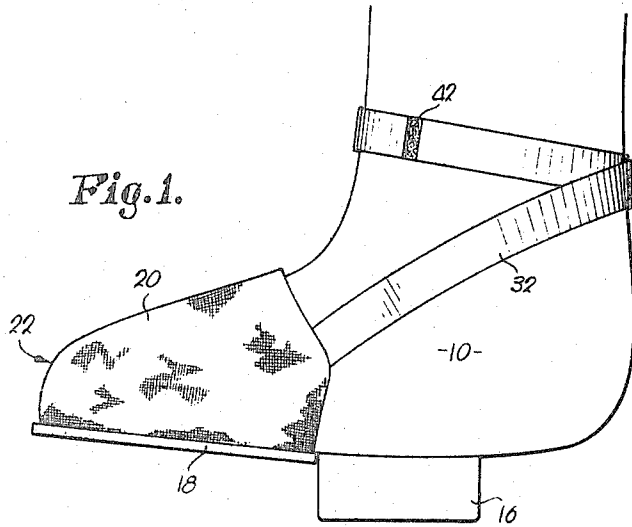


Fig. 1.

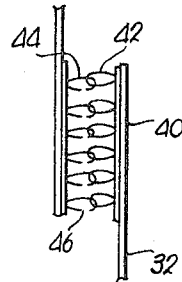


Fig. 5.

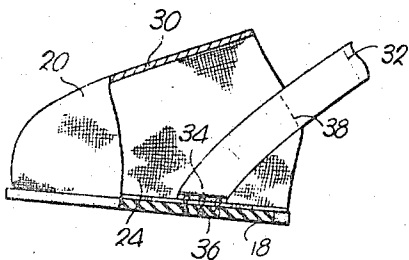


Fig. 4.

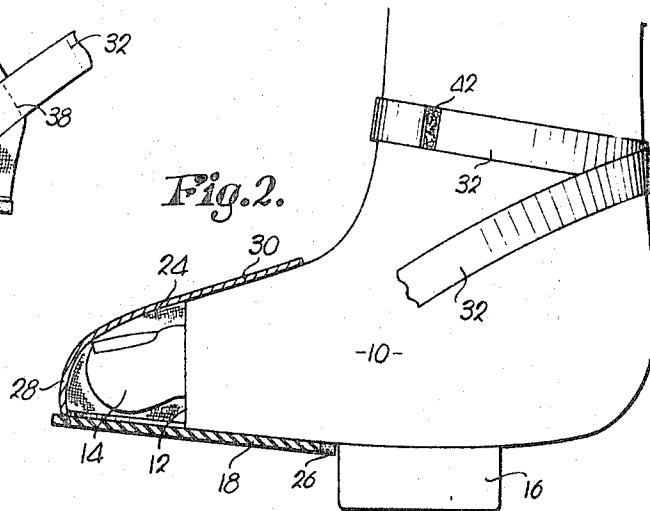
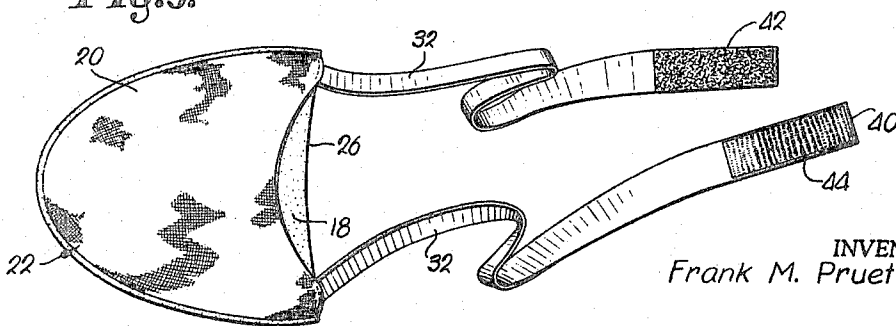


Fig. 2.

Fig. 3.



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**SURGICAL CAST AND ORTHOPEDIC TOE  
PROTECTING SOCK**

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Continuation of application Ser. No. 617,287, Feb. 20, 1967. This application May 5, 1969, Ser. No. 822,057

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U.S. Cl. 128-83.5

3 Claims

**ABSTRACT OF THE DISCLOSURE**

An orthopedic sock having a sole and a cover secured thereto to form a toe-receiving pocket for fitting over the exposed toes extending from a conventional foot cast. Flexible strap means is secured to the sole and includes hook and loop fastening structure for snugly holding the sock on the cast.

This application is a continuation of application Ser. No. 617,287, filed Feb. 20, 1967, now abandoned.

This invention relates to an orthopedic sock for a foot cast and, more particularly, to a covering means for protecting and concealing a patient's toes which extend from the cast.

A person having a broken leg or ankle normally has a cast formed about the leg to protect the latter while the reset bones are healing. The cast usually extends along the foot and terminates in an opening adjacent the toes, leaving the latter exposed. The projecting toes do not present a pleasing appearance and often become dirty and unsightly and, additionally, may be injured while walking with the cast.

Accordingly, it is the primary object of this invention to provide an orthopedic sock in combination with a cast of the aforementioned character wherein the sock covers the toes to conceal and protect the same.

It is an important object of the instant invention to provide a sock and cast combination as above described wherein the sock is uniquely configured to give added support when the patient is walking with the cast, and also suitably clearing the toes to avoid cramping thereof.

It is another object of the present invention to provide an orthopedic sock wherein the means for securing the sock is novelly designed to assure snug fitting of the sock on the cast and thereby effectively maintain the sock in the desired position.

Other objects include details of construction which will become apparent from the following description and accompanying drawing, wherein:

FIGURE 1 is a fragmentary, side elevational view of the invention showing the sock secured to a cast;

FIGURE 2 is a view similar to FIGURE 1, parts thereof being broken away and shown in section for clarity;

FIGURE 3 is a plan view of the sock;

FIGURE 4 is a fragmentary, side elevational view thereof, parts being broken away and in section to reveal details of construction; and

FIGURE 5 is an enlarged, diagrammatical view of the interlocking structure for the sock-securing means.

The orthopedic sock of the present invention is adapted to be secured to a cast such as that formed from a rigid dressing of gauze impregnated with plaster of paris for immobilizing a diseased or broken part of the foot or leg. The conventional cast includes a foot portion 10 extending from the ankle of the patient along the metatarsus part of the foot and terminates in an opening 12 exposing the toes 14 of the patient's foot. The cast may be provided with a rigid heel 16 extending downwardly from the lowermost face thereof to aid the patient in walking.

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The orthopedic sock includes a sole 18 having a cover 20 secured to its outer edge to form a cap member 22 having a toe-receiving pocket 24 therewithin. Sole 18 underlies toes 14 and cast portion 10 and has a planar configuration such as is conventional on the sole of a shoe. A cutaway portion 26 is formed in the rear edge of the sole for clearing heel 16 as shown in FIGURE 3.

Cover 20 is formed from a self-sustaining material whereby to form a generally vertical side panel 28 adjacent sole 18 for clearing toes 14, there being an upwardly inclined, top panel 30 extending from side panel 28 in spaced, overlying relationship to sole 18. Top panel 30 will, of course, correspond to the normal configuration of the upper metatarsal portion of the cast. The material forming cover 20 may also be sufficiently elastic to permit slight stretching thereof for fitting on casts of varying sizes.

A pair of opposed straps 32 are secured at one end 34 thereof to the inner surface of sole 18 at the junction of the latter with opposed portions of side panel 28. Each strap 32 is sewed or otherwise secured to sole 18 as shown at 36, the strap 32 also being secured to cover 20 adjacent the intersection of side panel 28 and top panel 30 as shown by stitching 38 (FIG. 4). Ends 34 of straps 32 are preferably secured to the sole at a point rearwardly of the center of inertia of the sole for a purpose to be hereinafter described.

The free ends 40 of straps 32 are provided with corresponding fastening means whereby the straps may be wrapped about the ankle and joined at ends 40 to secure the sock in position on the cast. A desirable fastening means would be of an interlocking hook and loop type as shown in FIG 5, wherein planar strips of textile material are secured to ends 40, one of the strips comprising a plurality of loop members 42 extending outwardly from the plane of strap 32. The threads 44 forming the other textile strip are formed with openings 46 in an otherwise closed loop to present hooks as illustrated in FIG 5. Threads 46 may be formed from a synthetic resin material which is relatively stiff, yet yieldable, to permit the threads 44 to straighten when sufficient force is applied. Thus, when loop members 42 are pressed against the hooks of threads 44, the textile strips interengage to latch the ends 40 of straps 32 as shown in FIGS. 1 and 2. This interlocking hook and loop structure provides a quick means for fastening the straps and thereby facilitates fitting of the orthopedic sock on the cast.

Preferably, straps 32 are formed from a resiliently extendible material so that the straps require stretching to interlock the fastening means therefor. Thus, the cover 20 and sole 18 will be drawn snugly into position against foot portion 10 and thereby firmly maintain the sock in the desired position. The slight stretching of cover 20 as it is drawn into engagement with foot portion 10 of the cast, causes the cover 20 to resiliently engage the cast and thereby effect a substantial total closing of pocket 24. Since ends 34 of straps 32 are secured rearwardly of the center of inertia of sole 18, the rear edge of the latter will be drawn snugly against the lower face of foot portion 10 rather than tending to hang in spaced relationship to the cast.

Therefore, it will be appreciated that the specific structural details of the sock cooperate to effect an optimum fitting on the cast for concealing and protecting toes 14. Also, in cold weather, the sock serves to aid in keeping the toes warm. Additionally, the generally vertical disposition of side panel 28 permits clearing of toes 14, thereby precluding cramping of the latter.

Sole 18 gives added support to the cast during walking therewith in that it extends the effective length of foot portion 10. The material forming sole 18 should have a

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coefficient of friction to give maximum traction and, therefore, should be formed from a rubber composition material or the like.

As seen by viewing FIG. 3, sole 18 and cover 20 have a semielliptical plan configuration corresponding essentially to the shape of the forward portion of the foot. This plan configuration is substantially symmetrical whereby the sock is suited for use on either the left or right foot of the patient.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In combination with a surgical cast having a foot portion terminating at its forward end in an opening exposing the toes of the wearer, an orthopedic sock comprising:

a generally planar, relatively rigid sole of frictionable material partially underlying said foot portion and having a generally semielliptical plan configuration, presenting a curved frontal outer edge segment joined by a rear outer edge segment crossing beneath said foot portion;

a stretchable, self-sustaining cover secured to said frontal edge segment and presenting with said sole, a cap member telescoped over the forward end of said foot portion in closing relationship to said opening,

said cover having an upright side panel adjacent said sole and an upwardly inclined top panel extending from said side panel over said sole in spaced relationship thereto,

said sole and said cover projecting forwardly from said opening to define a pocket in front of said opening for receiving the wearer's toes;

strap means secured to said sole and said cover for drawing the cap member into said telescoped relationship to the forward end of said foot portion to tightly interengage the sole and the bottom of said foot portion, and to simultaneously stretch said cover to effect snug, resilient engagement of the cover with said foot portion to close said pocket; and

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fastening means on said strap means for releasably securing the strap means with respect to said cast with the sole and the cover in said engagement with said foot portion.

2. The combination as claimed in claim 1, said foot portion having a rigid walking heel depending therefrom,

said rear edge segment of the sole substantially abutting said heel to present an essentially continuous walking surface from the forward extremity of the frontal edge segment to the rear of said heel.

3. The combination as claimed in claim 2, said strap means being secured to said sole rearwardly of the center thereof.

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