

Jan. 31, 1961

P. REDDIG

2,969,790

SURGICAL TRACTION BOOT

Filed Feb. 12, 1960

2 Sheets-Sheet 1

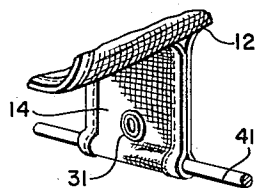
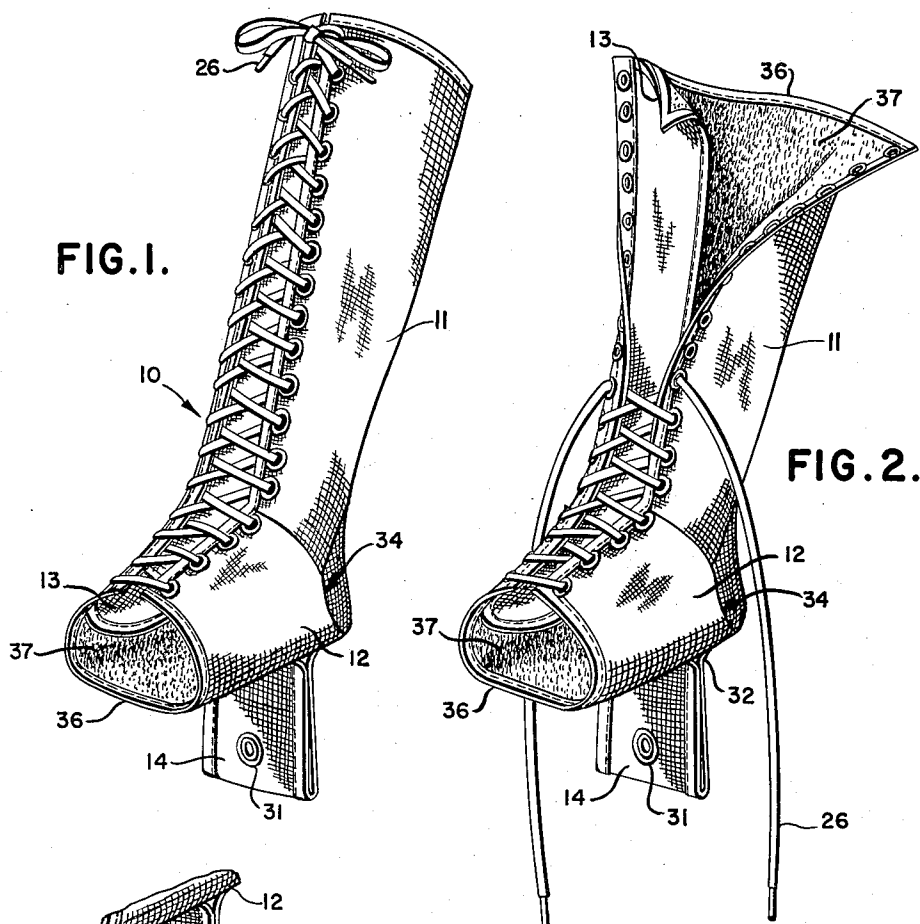


FIG. 8.

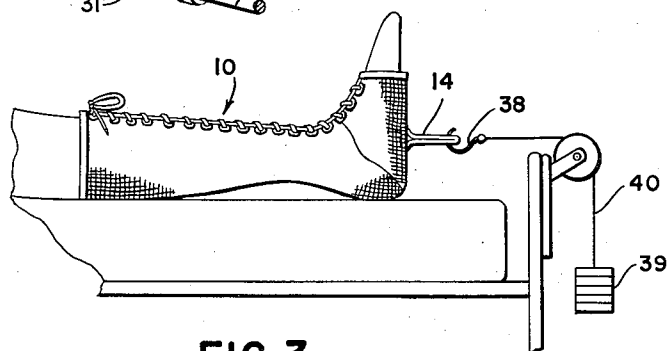


FIG. 3.

BY

INVENTOR
Phyllis Reddig

Beale and Jones
ATTORNEYS

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2 Sheets-Sheet 2

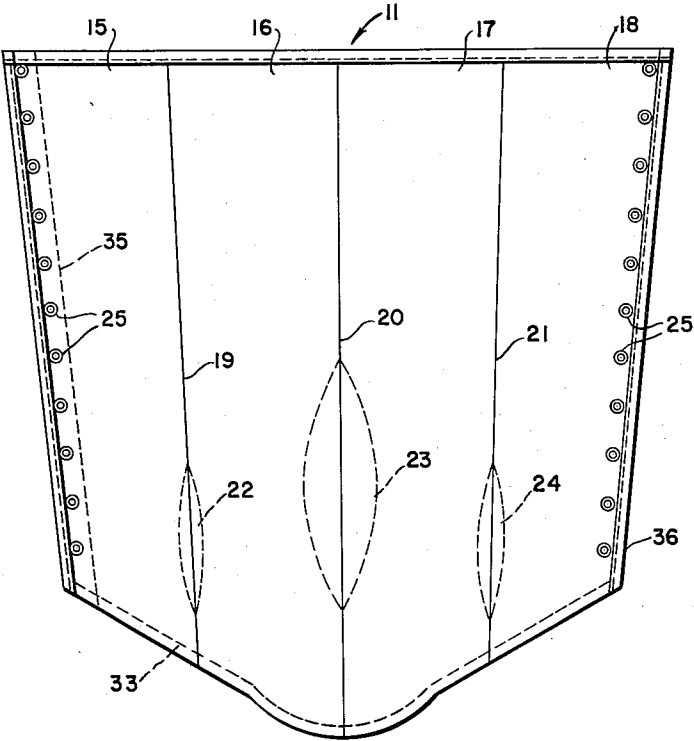


FIG. 4.

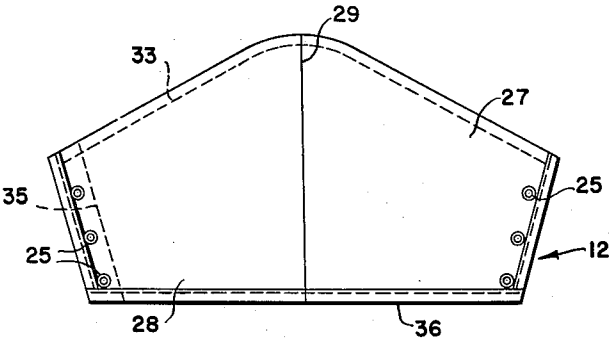


FIG. 5.

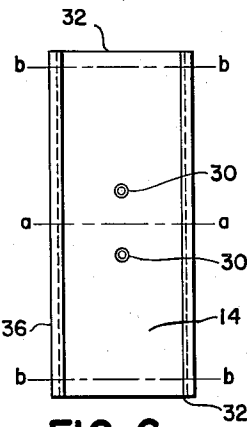


FIG. 6.

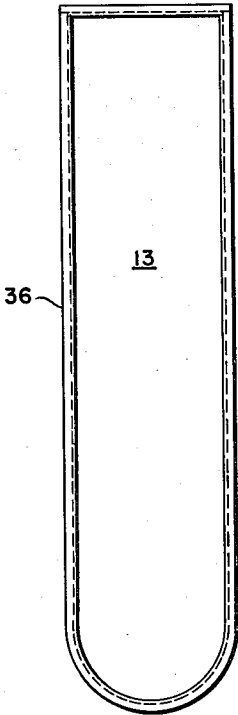


FIG. 7.

INVENTOR
Phyllis Reddig

BY

Beale and Jones

ATTORNEYS

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2,969,790

SURGICAL TRACTION BOOT

Phyllis Reddig, 806 N. 21st St., Boise, Idaho

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6 Claims. (Cl. 128—84)

This invention relates to improvements in traction appliances such as are used in effecting a traction force on the lower extremities of the human body as in the case of bone fractures or joint disorders in that area of the body.

Heretofore, traction appliances for applying a force to the leg of a person have fallen into one of two categories. Some traction appliances have comprised complicated boots or shoes. These devices have been expensive to manufacture and they are time consuming to secure to the leg and foot of a person. Consequently, they have not been practical in achieving their designed functions. Other traction appliances have been designed along another extreme and have comprised leggings or straps adapted to engage the lower leg portion of a person. Many of these devices have been inadequate for comfortably applying a traction force. Because of the disadvantages of these appliances, it has been necessary in many instances to attach the traction force by applying standard bandaging material such as surgical tape to the leg of a person which is a time consuming operation and which usually results in discomfort to the patient.

Thus, the principal object of the present invention is to overcome the disadvantages of traction appliances that have existed in the art for many years by providing a novel surgical traction boot which is simple in design and which will be inexpensive to manufacture.

Another object of this invention is to provide a surgical traction boot which may be principally constructed of flexible fabric material.

Still another object of this invention is the provision of a surgical traction boot by means of which a traction force may be applied to the leg of a person comfortably and without the use of surgical tape or bandaging material.

A further object is the provision of a surgical traction boot which may be quickly and easily secured to the lower leg and foot of a person.

A still further object is the provision of a surgical traction boot which may be easily removed from the person and washed by conventional washing means. These and other objects and advantages of the invention will become apparent from the following specification and drawings wherein like numerals refer to similar parts throughout.

In the drawings:

Fig. 1 is a perspective view of the surgical traction boot showing the same in the laced position;

Fig. 2 is a perspective view of the boot showing the upper portion thereof in the unlaced or opened position;

Fig. 3 is a side view showing the device in use on the leg of a person;

Fig. 4 is a plan view of the legging member of the boot before the same has been secured to the other boot members;

Fig. 5 is a similar view of the foot member of the boot;

Fig. 6 is a plan view of the traction attachment tab before the same has been folded;

Fig. 7 is a plan view of the tongue member; and

Fig. 8 shows another means for securing a force to the traction attachment tab.

Basically, the surgical traction boot includes four fabric members. They are: an upper or legging member, a lower or foot member, a tongue member and a traction attachment tab. The legging member which is constructed of four panels is adapted to receive the lower leg portion of a person. The toeless foot member comprises two panels and joins the legging member at a seam near the ankle of the wearer. The legging and foot members have longitudinal openings extending along their front portions for receiving the leg and foot of the wearer. In the embodiment shown, lacing means is provided along these openings for securing the boot to the person's lower leg and foot. The traction attachment tab comprising a folded strip is secured to the sole portion of the foot member.

Referring in detail to the drawings and more particularly to Figs. 1 and 2, the surgical traction boot, generally designated as 10, is shown to comprise a legging member 11, a foot member 12, a tongue member 13 and a traction attachment tab 14. As it will be herein explained, the boot is principally formed by sewing these four members together.

The legging member 11, as best shown in Fig. 4, is constructed of four panels 15, 16, 17 and 18 of fabric material. These panels are sewed together at the seams 19, 20 and 21. Darts 22, 23 and 24 are taken in the seams 19, 20 and 21, respectively, to restrict the legging member about the ankle area so that the same will more closely conform to the shape of the human leg. A plurality of eyelets 25 adapted to receive the lacing 26 are disposed along the outer elongated and oppositely disposed edges of the panels 15 and 18.

The foot member 12, shown in Fig. 5, comprises the two fabric panels 27 and 28 sewed together at the seam 29. The lace receiving eyelets 25 are disposed along the outer ends of the pieces 27 and 28.

The traction attachment tab shown in Fig. 6 comprises the fabric strip 14 having the openings 30. The tab is formed by folding the strip 14 about the line *a-a* and aligning the openings 30 similarly disposed in the two halves to receive a common eyelet 31. The oppositely disposed ends 32-32 of the tab 14 are folded away from each other about the lines *b-b* at approximately 90 degrees to the doubled portion of the tab.

The surgical traction boot is formed in the following manner. The legging member 11 is arcuately folded into a tubular configuration so that the sides containing the eyelets 25 are disposed in a spaced apart relation forming a longitudinal opening in the forward portion of the legging. The foot member 12 is similarly folded leaving a longitudinal opening in the upper portion thereof. The length of foot member 12 is such that the toes and forward portion of a person's foot are adapted to extend through the opening at the front of this member. The body of the boot is then formed by aligning the longitudinal openings of the members 11 and 12 and sewing the edges of the members together along the lines 33. The seam 34 is formed at the juncture of these two members. Tongue member 13 is attached to the body of the boot by sewing a longitudinal edge thereof to the legging member 11 and the foot member 12 along the lines 35 adjacent one row of eyelets 25. The traction attachment tab 14 is secured to the outer side of the sole portion of the foot member 12 by sewing the oppositely folded ends 32 to the sole along a line transverse to the seam 29. The boot is completed by threading a lacing 26 through the eyelets 25. For appearance and dura-

bility, it is preferable to cover the outside edges of all the members with a binding strip 36 of appropriate fabric material. Also, the boot is made more comfortable by providing the same with a lining 37 of soft wool material or the like.

Fig. 3 shows the surgical traction boot 10 in use upon the leg of a person. A traction force may be exerted on the person's leg by engaging the eyelet 31 of the tab 14 with a hook 38 which is attached to the weights 39 by a cable 40.

Fig. 8 shows another means for securing a force to the traction attachment tab when it is desired to apply a force to both legs of a person. A rod 41 may be inserted in the doubled portion of the tab 14 under or above the eyelet 31. The rod would be similarly inserted in the tab of the boot worn on the other leg of a person. A force applied to the rod 41 at a point equidistant between the two tabs would exert equal traction forces upon the person's legs.

As can be readily seen from the above description and drawings, my invention discloses a novel surgical traction boot which is inexpensive to manufacture and which can be used to quickly and easily attach a traction force to the lower leg and foot of a person. The boot which is principally constructed of fabric material is comfortable in that it distributes the traction force over the lower leg and the top of the person's foot. It is soft and pliable and can be comfortably worn even when the foot of a person is in a swollen condition. The traction boot can be readily removed from the wearer and it can be maintained in a sanitary condition by washing with conventional laundry means.

It is to be understood that the embodiment shown is for the purpose of example only and is not to be taken as the sole form of this invention, in that other embodiments and modifications thereof will fall within the scope of the appended claims.

I claim as my invention:

1. A surgical traction boot comprising, in combination, a legging member of fabric material having a longitudinal opening along its forward portion with securing means extending therealong and terminating at its lower end in an ankle portion; a foot member having a sole portion and a longitudinal opening along its upper portion in line with said longitudinal opening of the legging member and having securing means extending therealong, said foot member being open at its forward end to have extend therethrough the toes and forward portion of a foot, the rear portion of said foot member being secured to the ankle portion of said legging member; a tongue having a longitudinal edge thereof secured to an adjacent inside portion of the legging member and the foot member along one edge of said openings therein; and a traction attachment tab of fabric material secured at its upper end to the sole portion of said foot member, said tab adapted to be engaged by a traction force.

2. A surgical traction boot according to claim 1 where-

in the securing means for the longitudinal openings of the legging member and the foot member comprise a plurality of eyelets disposed along both sides of said openings, said eyelets adapted to receive a lacing for securing said boot to the lower leg and foot of a person.

3. A surgical traction boot according to claim 1 wherein said traction attachment tab comprises a strip of fabric material doubled upon itself and having its free ends secured transversely across the sole portion of said foot member, the doubled portion of said strip having a traction eyelet disposed therein adapted to be engaged by a traction force.

4. A surgical traction boot according to claim 1 wherein said traction attachment tab comprises a strip of fabric material doubled upon itself and having its free ends secured transversely across the sole portion of said foot member, the doubled portion of said strip forming a transverse opening through its doubled end, said opening adapted to receive a rod engageable with a traction force.

5. A surgical traction boot comprising, in combination, a legging member including a plurality of generally rectangular panels of fabric material secured to each other along their edges at longitudinal legging seams respectively, said legging member being shaped in a tubular configuration and having a longitudinal opening therein, a plurality of lace receiving eyelets disposed in the legging member adjacent both sides of said longitudinal opening, said legging member terminating at its lower end in an ankle portion; a foot member including a pair of panels of fabric material secured to each other at a longitudinal foot portion seam, said foot member being shaped in a tubular configuration and having a longitudinal opening along its upper portion in line with said longitudinal opening of the legging member, a plurality of lace receiving eyelets disposed in the foot member adjacent both sides of its longitudinal opening, said foot member being open at its forward end to have extend therethrough the toes and forward portion of a foot, the rear edge of said foot member secured to the ankle portion of said legging member at an ankle seam; a tongue member having a longitudinal edge thereof secured to an adjacent inside portion of the legging member and the foot member along one side of said openings therein; and a traction attachment tab comprising a strip of fabric material doubled upon itself and having its free ends secured transversely across the sole portion of said foot member, the doubled portion of said strip having a traction force applying means disposed therein adapted to be engaged by a traction force.

6. A surgical traction boot according to claim 5 having a soft, fleecy inner lining.

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