ABSTRACT: A drop foot support having a flexible portion embracing the ankle and lower leg with a relatively stiff plate attached to this flexible member to engage the bottom of the foot and a strap connecting the toe end of the plate to the flexible member adjacent its upper end to support the foot in a relation substantially at right angles to the leg portion.
DROP FOOT SUPPORT

BACKGROUND OF THE INVENTION

Many types of foot supports utilize braces extending either the full length of the leg or up to just below the knee which are very restrictive of movement, heavy, cumbersome and embarrassingly conspicuous and uncomfortable to wear. Other types of drop foot supports attempt to utilize a shoe for embracing the foot and some leg encircling member with an attachment between the shoe and the leg encircling member. These also have their disadvantages especially when lying horizontally or in bed where the shoe is not desired.

SUMMARY

This drop foot support comprises a relatively stiff plate member, which may be fiberboard, for example, to engage the bottom of the foot. Intermediate the ends of this fiberboard plate, there is attached thereto a woven textile ankle and lower leg embracing portion which extends without seam about the back of the leg and foot with the edges spaced in front while bands may close the space between the front edges and be secured so as to wrap or bind the ankle and lower leg securely enabling a strap to extend from the upper part of this leg embracing portion to the toe portion of the plate for supporting the foot against dropping to a greater angle than is normal which is substantially at right angles to the leg. The plate also has lateral extensions at the portion extending beyond the heel which enables the foot to be raised above a horizontal support when the leg is in a horizontal position and also prevents rocking.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the drop foot support with the foot omitted and showing the device in such position as it would assume when the wearer is standing;

FIG. 2 illustrates the device in open position ready to receive the foot of the user; and

FIG. 3 is a perspective view illustrating the foot in phantom position with the leg horizontal as in bed and showing the device in the position it would assume when the wearer is in a reclining position.

DETAILED DESCRIPTION

With reference to the drawings 10 designates generally a relatively rigid plate member which may be of fiberboard with a relatively enlarged portion 11 at the toe end and a relatively narrow portion 12 at the heel end and a portion 13 which is formed of a layer of fiberboard and a cushion liner 15 on the upper surface of this fiberboard. This cushion liner is the part that engages the bottom of the foot and is of an extent so as to engage the heel portion of the foot as well as the toe and ball portion. The fiberboard has lateral extensions beyond the heel as at 16 which is reinforced with a second layer of fiberboard 17 also extending laterally and leaving a slightly depressed portion for the heel 13 which is covered with the cushion liner 15. A relatively stiff flange 18 extends about the toe portion of the plate and also may have a lining 19 of the same material as the lining of the fiberboard 15.

The member 20 is of relatively flexible material such as woven fabric and is bifurcated at its lower end providing portions 21 and 22 which extend beneath the plate 10 and may be secured thereto by rivets. The intermediate or central portion 23 (FIG. 2) of this member extends from a point slightly spaced above the lining of the plate member upwardly so as to engage the back of the heel and back of the lower part of the leg of the wearer, while side portions 24 and 25 wrap about either side of the leg and ankle with their edges 26 and 27 spaced in the forward part of the leg and ankle. These spaced edges are then secured together such as, for instance, as by an upper or first band 30 which may be formed integral with the portion 25 and extend beyond the edge 27 of the member and is of a length so that it may overlap the portion 24 and be secured snugly about the leg of the user. Securing may be by a material known as Velcro consisting of a pad 31 providing a plurality of mono-filament hooks and a fabric pad 32 which the hooks may engage. The location of these pads are shown by the dotted lines indicating the stitching of these pads in position. A second band 35 may extend across the spaced edges 26 and 27 and be similarly attached at both sides by the Velcro material 36 and 37 on one side and 38 and 39 on the other side, thus making this band completely detachable. It is also contemplated that the first band 30 may be completely detachable in the same way.

A loop 40 having its ends 41 and 42 secured to the band 30 provides a location through which a strap 45 may extend. This strap is formed with a braid having portions 46 and 47 at one end attached at either side of the toe portion of the plate member and extending up over the flange 18, while its other end portion is provided with an adjustable loop 48 held in adjusted position by a clamp 49 and is threaded through an eye 50 of a garter type fastener 51 to engage a button 52 on the end portion of an elastic member 53 which is attached to the center portion of the toe portion of the plate member and extends up over the flange 18.

For use, the device as shown in FIG. 2 is in a position to receive the foot of the wearer and he may place his foot with the bottom of the foot on the plate 10 and then wrap the member 20 and the bands 30 and 35 snugly about the lower part of the leg and ankle securing the first band 30 consisting of the fiberboard 14 on the unattached side. He may then utilize a strap 45 by threading it through the loop 40 and attaching it to an elastic member 53 adjusting it for comfort as to length. Thus the foot is in a simple manner secured in a normal position a right angular relation to the leg. If it is desired for the wearer to take a reclined position, such as in bed, the device also functions to prevent the foot from getting out of the right-angular relationship and cramping any of the nerves or blood-streams holding it as shown in FIG. 3 and also lifts it from the horizontal which assists in preventing dermatitis. The lateral projections on either side of the plate at the heel portion prevent rocking of the foot and thus hold it in a comfortable position.

I claim:

1. A drop foot support comprising a relatively rigid plate member having heel and toe portions to engage the bottom of a foot, a flexible member attached to the plate member to extend about the back of a leg and ankle with marginal edges spaced to provide an opening in the front, a first band at the upper portion of the flexible member to extend across the open front and attachable from at least one of said marginal edges, a second band spaced from the first band to extend across the open front and attachable from at least one of said marginal edges and a flexible strap extending between the toe portion of the plate member and the first band to hold the foot and leg at generally right angles, said heel portion of the plate extending a substantial distance beyond the portion of the flexible member, said plate having lateral extensions to support the foot above a horizontal and to prevent rocking when the leg is generally horizontal.

2. A drop foot support as in claim 1 wherein one of said bands is detachably secured on both sides of the margins of the flexible member.

3. A drop foot support as in claim 1 wherein said first band is provided with a loop and said strap slidably extends through said loop and is attached to said toe portion of said plate.

4. A drop foot support as in claim 1 wherein said first band is provided with a loop and said strap slidably extends through said loop with one end bifurcated and attached to either side of the toe portion and the other end attached intermediate said bifurcated attachments.

5. A drop foot support as in claim 1 wherein said first band is provided with a loop and said strap extends through said loop with one end bifurcated and attached to either side of the toe portion and the other end attached intermediate said bifurcated attachments to a resiliently stretchable tab.
secured to a mid portion of said toe portion of the plate member.

6. A drop foot support as in claim 1 wherein said toe portion is provided with a rigid flange extending on the same side of the plate as said flexible member and said strap extends over said flange.