Aug. 28, 1951 R. O. FERGUSON 2,565,762

KNEE AND FOOT SUPPORT

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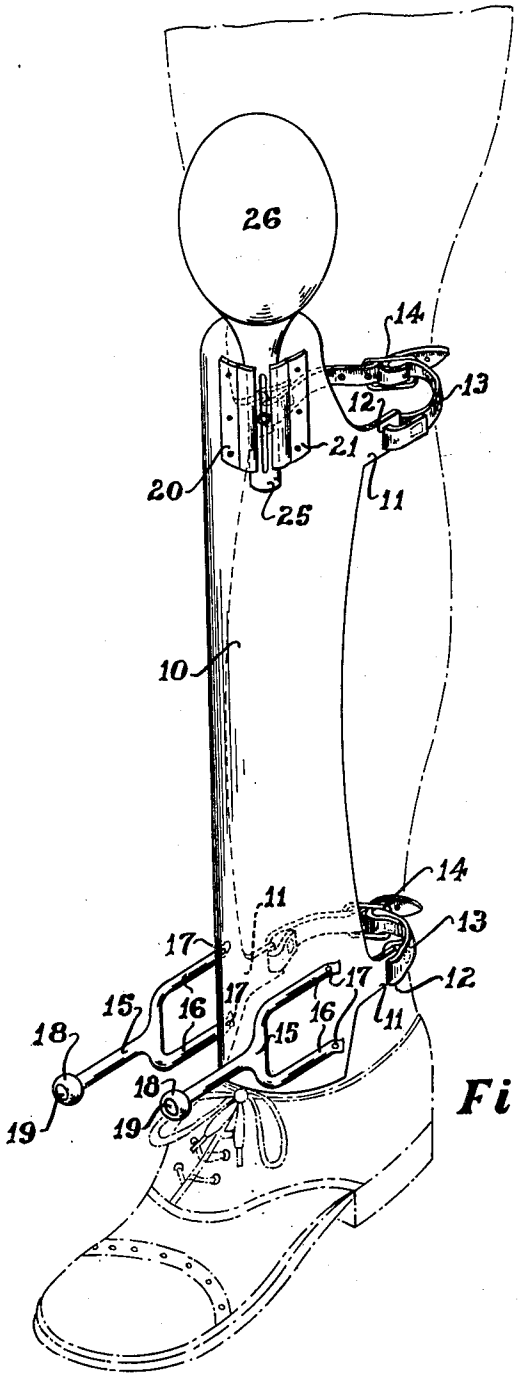


Fig. 1

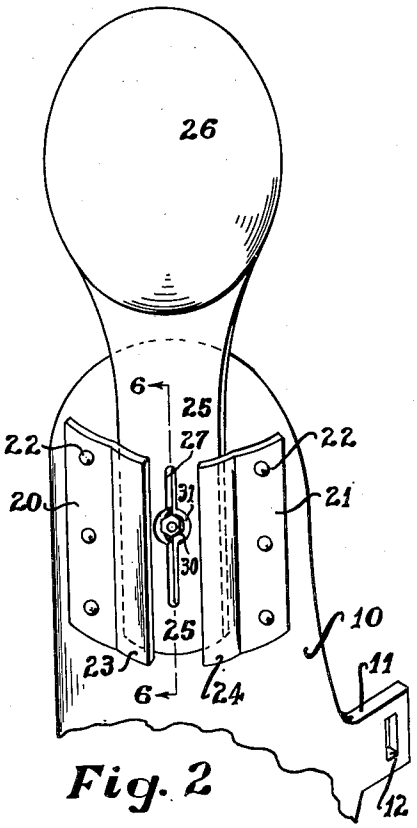


Fig. 2

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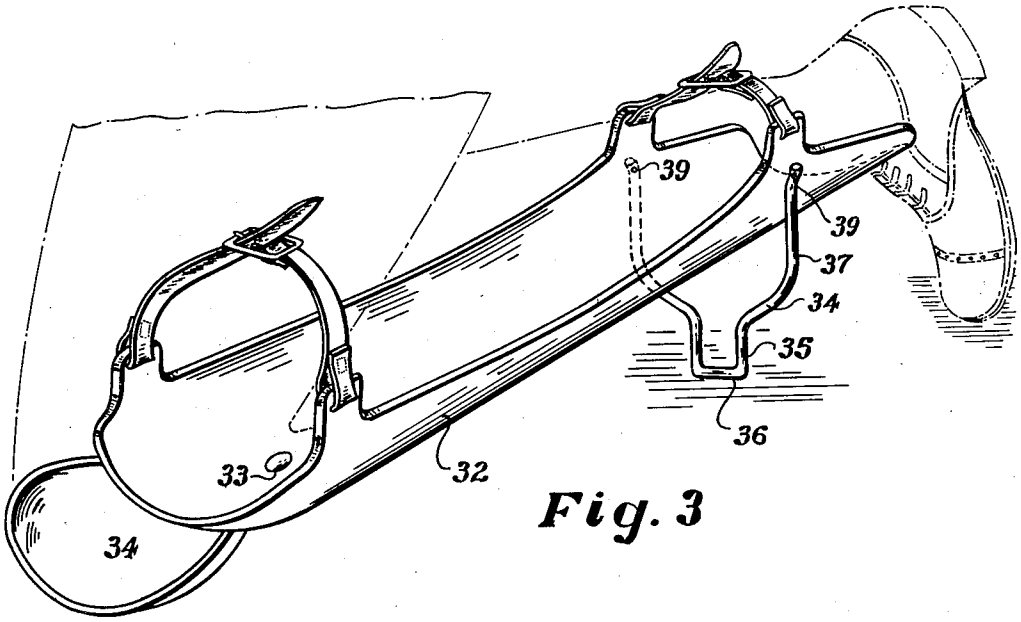


Fig. 3

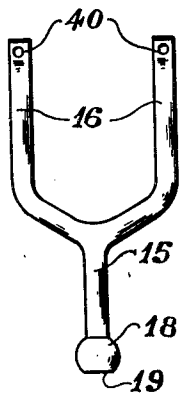


Fig. 4

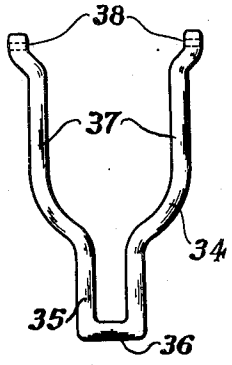


Fig. 5

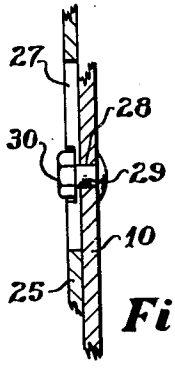


Fig. 6

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KNEE AND FOOT SUPPORT

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5 Claims. (Cl. 2—24)

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There are certain classes of work, such as house painting, cleaning floors, which require that the workman spend considerable time in a kneeling position and, due to the fact that the toe of the foot receives considerable weight of the workman, the foot becomes cramped and requires the workman to shift his position or to stand up for a while before resuming his work in the kneeling position. The purpose of this invention is to provide an improved support for the workman, the invention having the following objects among others:

A knee and foot support having an improved leg construction.

A knee and foot support which provides improved protection for the knee of the user.

A knee and foot support provided with a knee protector which is adjustable whereby to adjust the overall length of the support.

A knee and foot support having a leg which is frictionally held to the shank of the support whereby the leg may be folded to an inoperative position in order that a plurality of such knee and foot supports may be nested for shipment from the manufacturer to retail outlets.

A knee and foot support which may be cheaply manufactured in quantity and which may be economically constructed of sheet metal, wood, plastic or other materials.

Other objects may be found hereinafter in the specification and claims.

In the drawings—

Figure 1 is a perspective view of the preferred form of the invention;

Fig. 2 is an enlarged detail view of the knee protector showing particularly the construction for readily attaching the same in adjusted position on the shank;

Fig. 3 is a perspective view of another form of the invention showing the position the support will assume when used in a kneeling position;

Figs. 4 and 5 are plan views of two forms of the legs which are attached to the shank of the foot support to maintain the wearer's foot, when kneeling, in proper position; and

Fig. 6 is a vertical sectional view taken on the line 6—6 of Fig. 2.

Referring to the drawings, particularly Figure 1 thereof, reference numeral 10 indicates a shank that is of concave-convex construction and which is preferably constructed of a single piece of material. This shank is of sufficient length so as to extend from the lower part of the ankle to a point below the knee cap of the wearer. The shank is provided with tabs 11 extending rearwardly on both sides, and these tabs are preferably provided with slots 12 for the reception of straps 13 that may have buckles 14 in order to adjust the strap to the wearer's use.

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As viewed in Fig. 1, the lower portion of the shank 10 is provided with a pair of legs 15 which are preferably constructed of suitable material such as metal or reinforced plastic or any other suitable material. Each leg is provided with bifurcations 16 for strengthening purposes and, adjacent the ends of the bifurcations, suitable means, such as rivets 17, are used to attach the bifurcations to each curved side of the shank.

The opposite ends of the legs are provided with feet 18 having flattened soles 19 for resting upon a surface, such as a floor.

The upper portion of the shank, as viewed in Fig. 2, has a pair of plates or guides 21, 21, which are secured thereto by rivets 22, as shown in the drawings. The plates may be attached by other suitable means, not shown, such as by brazing, welding, etc. It is, of course, within the limits of the present invention to form the plates and shanks by a single casting. The plates 20, 21, are provided with raised portions 23, 24, which provide a passageway for the tongue 25 of the knee protector 26. The tongue is provided with an elongated slot 27 and the shank has an aperture 28 through which extends a bolt 29 which has threaded on it a nut 30. The slots 27 may have a counter-bore 31, as seen in Fig. 2. The knee protector 26 may be adjusted by this construction for use by different workmen.

The construction shown in Fig. 3 is similar to that shown in Figs. 1 and 2, except that a different form of leg is employed. This leg is illustrated in detail in Fig. 5.

The shank is shown at 32 and is provided with a bolt 33 corresponding to the bolt 29 of Fig. 6, and the structure is otherwise the same as the structure shown in Figs. 1 and 2 so far as the upper portion of the device is concerned. The knee protector 34 may be adjusted on the shank in the same manner, i. e., by the construction particularly shown in Figs. 2 and 6. The leg 34 has a lower U-shaped portion 35 terminating in a flat sole portion 36, and a pair of bifurcations 37 having apertures 38 by which the leg may be frictionally held in a folded position, or a position of use [as shown] by rivets 39.

The principal purpose of the legs shown in Figs. 1, 3, 4 and 5 is to support the foot of the wearer off the supporting surface, or preferably to allow the foot to barely touch the supporting surface, as shown in Fig. 3.

It will be understood that the pair of legs 15

may be used in the same manner as leg **34** is used in Fig. 3, except that leg **34** may be folded to a position against the shank. A pair of legs **34** may be used in the same manner that the legs **16** are used in Fig. 1, and in this instance, the apertures **38** will extend at right angles to the holes shown in Fig. 5.

It will be understood, of course, that instead of having the slot and bolt shown in Fig. 6, other adjusting means may be provided. This may take the form of a pair of slots in the tongue and shank respectively; or a slot in the shank and a hole in the tongue or a series of holes in one of these members and a single hole or slot in the other through which the bolt may extend.

It is to be understood that the above description and drawings are merely illustrative, and in no wise limiting and that I desire to include within this invention such modifications as are comprehended within the scope of the appended claims.

I claim:

1. A device of the character described for supporting a workman's leg when in kneeling position comprising a shank, means for detachably securing said shank to the front portion of the workman's leg, means for supporting the lower end of said shank comprising a shank leg, a knee protector having a tongue and adjustment means for adjustably attaching said knee protector to said shank, a pair of spaced plates on said shank between which said tongue passes said adjustment means including means extending through said shank and tongue.

2. A device of the character described for supporting a workman's leg when in kneeling position comprising a shank, means for detachably securing said shank to the front portion of the workman's leg, means for supporting the lower end of said shank comprising a shank leg, a knee protector and adjustment means for adjustably attaching said knee protector to said shank, said knee protector having an integral tongue, a pair of spaced guide plates on said shank, a slot in said tongue, said adjustment means including a member extending through said shank and tongue and located between said plates.

3. A device of the character described for supporting a workman's leg when in kneeling position comprising a shank, means for detachably securing said shank to a workman's leg, at least one shank leg for supporting the lower end of said shank and for maintaining the lower portion of the leg elevated so that the foot of the wearer may hang downwardly from the leg in a natural position, a knee protector and means for adjustably attaching said knee protector to said shank.

4. A device of the character described for supporting a workman's leg when in kneeling position comprising a shank, means for detachably securing said shank to a workman's leg, at least one shank leg for supporting the lower end of said shank and for maintaining the lower portion of the leg elevated so that the foot of the wearer may hang downwardly from the leg in a natural position, a knee protector and means for adjustably attaching said knee protector to said shank, said adjustably attaching means including a tongue member integral with said protector, said shank having guide means through which said tongue extends.

5. A device of the character described for supporting a workman's leg when in kneeling position comprising a shank, means for detachably securing said shank to a workman's leg, at least one shank leg for supporting the lower end of said shank and for maintaining the lower portion of the leg elevated so that the foot of the wearer may hang downwardly from the leg in a natural position, a knee protector and means for adjustably attaching said knee protector to said shank, said adjustably attaching means including a tongue member integral with said protector and having a slot therein, an opening in said shank and bolt means extending through said slot and opening.

ROBERT O. FERGUSON.

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