Dec. 16, 1947. R. O. FERGUSON 2,432,565

KNEE PAD

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Fig. 1.

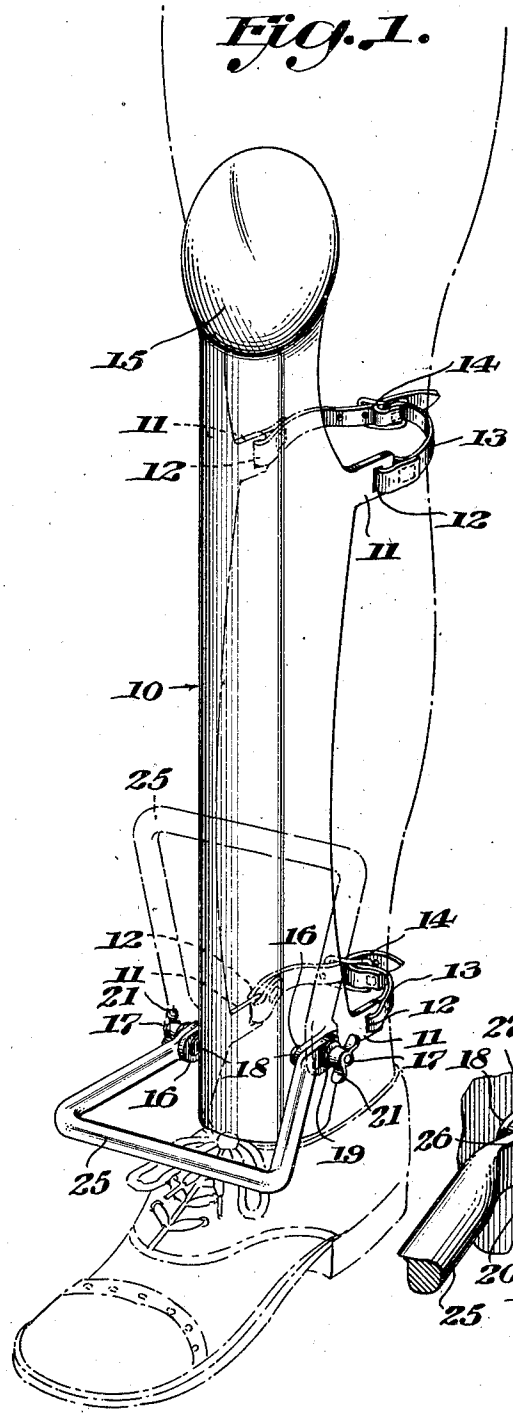


Fig. 2.

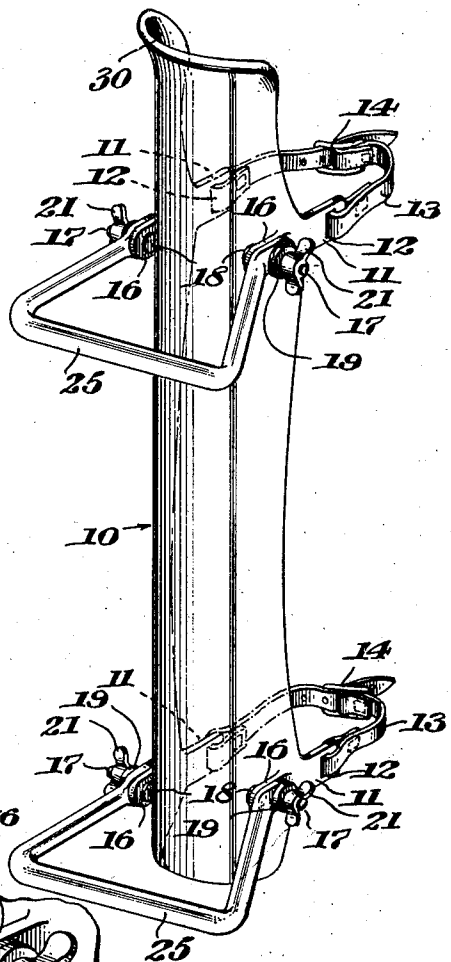
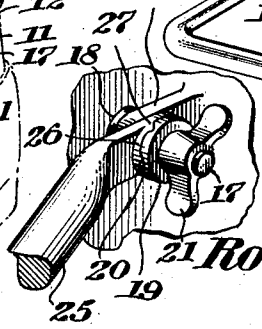


Fig. 3.



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5 Claims. (Cl. 2—24)

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This invention relates broadly to supports, and more particularly to a device for supporting a workman on the floor, ground or the like in a kneeling position.

There are many classes of workmen who must spend considerable time in a kneeling position, because of the nature of the work to be performed. There have been many devices conceived in the past which will enable a workman to be more comfortable while in a kneeling position, such devices including knee pads, padded movable supports, small wheeled carriages and the like. One of the main drawbacks about such prior devices has been the fact that while the knees of the workman may be supported, there are no supports which will enable the workman to be on his knees for extended periods of time and relieve the pressure on his feet. Also, many of the devices, such as wheeled carriages and the like, are bulky and hard to handle and must be picked up by the workman as he moves from place to place.

The main object of this invention is to provide a support for workmen which will support the workman in a kneeling position comfortable over long periods of time.

Another object of the invention is to provide a support which will relieve the pressure on the workman's feet when the workman is in a kneeling position.

Still another object of the invention is to provide a device capable of performing the above-mentioned objects which is portable and may be strapped to the workman's legs in such a manner that, when the workman is on his feet, the device will not interfere with his free movement.

Numerous other objects of the invention will be obvious from an inspection of the drawings and the following description thereof.

In the drawings:

Figure 1 is a perspective view of one form of the invention showing the same in position on a workman's leg.

Figure 2 is a perspective view showing a modification of the invention.

Figure 3 is an enlarged detailed view of a portion of the supporting bracket shown in Figures 1 and 2, and the pivotal connection for the bracket as well as the specific means of locking the bracket in one of two positions.

Referring to the drawings, particularly Figure 1 thereof, reference numeral 10 generally indicates a shank which is concave on its inner side so as to generally fit over the shin of the wearer's leg, and is of sufficient length so as to extend

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from a point adjacent the wearer's ankle upwardly to cover the entire front portion of the wearer's leg. The shank 10 is preferably formed of metal, and may be cast, stamped or the like, although it will be obvious that the same may be formed of other suitable material such as wood or plastic. The shank 10 is provided with tabs 11 extending rearwardly and preferably being formed integral with the shank. The tabs 11 are provided with slots 12 through which leg straps 13 are secured, the leg straps 13 being provided with a suitable strap adjusting buckle 14. The upper portion of shank 10 is provided with an annular depression 15 so positioned on the shank as to overlie the wearer's knee. This annular depression is preferably formed integrally with the shank, although it will be obvious that the same could be formed separately and suitably secured to the shank. As shown in Figure 1 lugs 16 extend outwardly from the lower portion of the shank and each lug has a suitable aperture therein through which screw-threaded bolts 17 extend. The bolts 17 are provided with an enlarged head 18 and a lock washer 19 is positioned on the bolts 17, the lock washer 19 being provided with a plurality of radial grooves 20. A wing nut 21 is screw-threaded on the bolt 17. A substantially U-shaped bracket 25 has a washer 26 formed integrally with the inner ends thereof, the washer 26 being provided with radial ribs 27.

When the device is applied to a workman's leg, and the workman is in an upright position, as shown in Figure 1, the bracket 25 will be placed in the position shown in dotted lines, thus enabling the workman to move about without any interference from the support. When the workman assumes a kneeling position, the wing nuts 17 are loosened to permit the washers 19 and 26 to be separated, thus permitting the bracket 25 to pivot from its dotted line position shown in Figure 1 to the full line position. As shown in Figure 3, the wing nut 21 may then be tightened and the bracket 25 will remain in its extended position through the lock washers 19 and 26, as will be readily apparent to one skilled in the art.

In each of the forms illustrated, the lower bracket 25 maintains the lower portion of the workman's leg in an elevated position, thus permitting the workman's foot to hang downwardly in a natural position and relieve pressure therefrom. It is this latter feature which comprises the most important function of the present invention, i. e., when a workman is on his knees,

the lower portion of his legs are in a slightly elevated position and are maintained in such position through the medium of the lower bracket 25 so that all pressure, or substantially all pressure, is relieved from the workman's feet.

In the form of the invention illustrated in Figure 1, the knee is supported in the annular depression 15. It will be obvious, of course, that the annular depression 15 and/or the shank 10 may be suitably padded. In the modification shown in Figure 2 the knee of the workman extends slightly beyond the forward portion of the shank and the flared portion 30 enables the knee to be suitably flexed.

It will be understood, also, that the bracket 25, which is shown in the drawings as extending transverse to the shank, could be replaced by having two brackets of similar form extending lengthwise and on either side of the shank so as to form runners. Such brackets would have pivotal connections, as that illustrated for brackets 25.

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 leg, and means secured to said shank and extending downwardly from the rear portion of said shank 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, said last mentioned means being pivotally secured to said shank so that the same may be folded upon said shank when not in use.

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 leg, and a pivoted bracket secured to said shank and extending downwardly from the rear portion of said shank 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.

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 the front portion of the leg, a pivoted bracket secured to said shank and extending downwardly from the rear portion of said shank 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, said bracket being adapted to be folded upon said shank when not in use, and means for maintaining said bracket in its folded and extended position.

4. A device of the character described for supporting a workman's leg when in kneeling position comprising an elongated shank adapted to fit over the shin of the wearer's leg, means for detachably securing said shank to the leg, a cup-shaped member formed integrally with said shank and extending forwardly thereof adapted to receive the knee of the wearer, and a pivoted bracket secured to said shank and extending downwardly from the rear portion of said shank 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, said bracket being adapted to be folded upon said shank when not in use.

5. A device of the character described for supporting a workman's leg when in kneeling position comprising an elongated shank adapted to fit over the shin of the wearer's leg, means for detachably securing said shank to the leg, a cup-shaped member formed integrally with said shank and extending forwardly thereof adapted to receive the knee of the wearer, a pivoted bracket secured to said shank and extending downwardly from the rear portion of the shank 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, said bracket being adapted to be folded upon said shank when not in use, and means for maintaining said bracket in its folded and extended positions.

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