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Fig. 1.

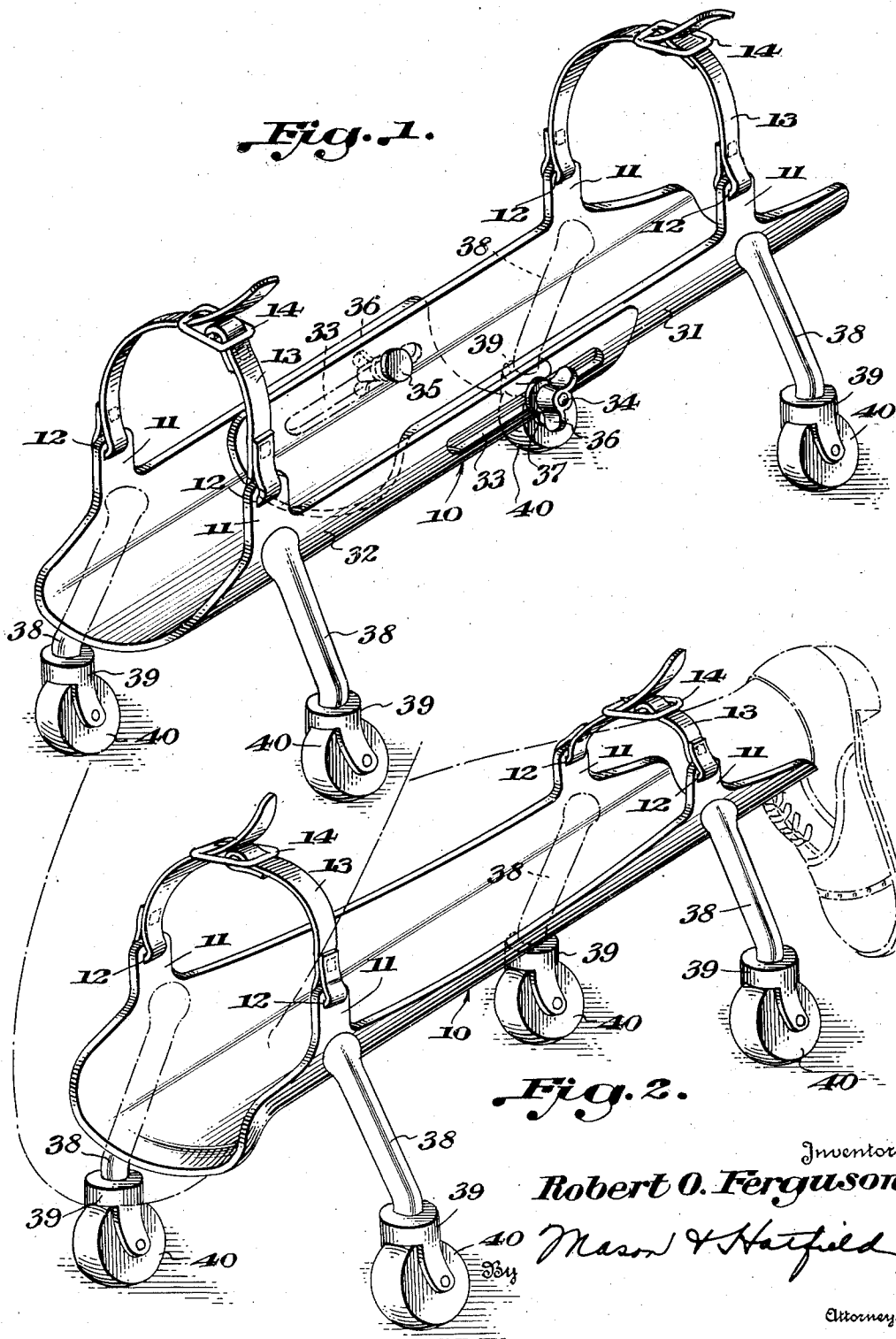


Fig. 2.

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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.

This application is a divisional application of application Serial Number 556,579, filed September 30, 1944, now Patent No. 2,432,565.

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.

A further object of the invention is to provide a kneeling support for workmen which will enable the workman to move readily across the floor, ground or the like and yet not interfere with his free movement when he is on his feet.

Still another object of the invention is to provide a kneeling support for workmen which may be adjustable to fit the legs of the wearer.

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

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In the drawings:

Figure 1 is a perspective view of the invention wherein the main leg shank is adjustable in length and wherein the shank is mounted on wheeled legs; and

Figure 2 is a perspective view of a modification of the invention showing the leg shank as rigid and mounted on wheeled legs.

Referring to the drawings, particularly Figure 1 thereof, reference numeral 10 generally indicates the shank formed in two sections, a rear section 31 and a front section 32 telescoping with each other. Sections 31 and 32 are concave on their inner sides so as to generally fit over the shin of the wearer's leg and are of sufficient length so as to extend from a point adjacent the wearer's ankle upwardly or forwardly to cover the entire front portion of the wearer's leg. It will be noted that the shank, as disclosed in Figure 1, is adjustable in length so that it may fit legs of varying length.

Each of sections 31 and 32 are provided with tabs 11 extending upwardly and are preferably formed integral with the shank. 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.

Each section 31 and 32 of the shank 10 is provided with a pair of longitudinal slots 33 located on either side of the shank. Bolts 34 having enlarged heads 35 are positioned through the slots 33, and a suitable wing nut 36 and a washer 37 cooperate with each of bolts 34 to clamp the telescoping sections 31 and 32 rigidly together. It will be obvious from the above construction that upon loosening each of the wing nuts 36, sections 31 and 32 may slide relatively to each other to extend or contract the length of the shank 10, thereby enabling the shank to assume various desired lengths.

A plurality of legs 38 are permanently and rigidly secured to the shank 10 in any suitable manner, as illustrated. A pair of the legs 38 are secured to the rear portion of section 31 and extend at substantially right angles thereto while a second pair of legs 38 are secured to section 32 adjacent the forward portion thereof in a similar manner. Each of the legs 38 has a forked swivel 39 secured thereto and casters 40 are mounted in the forked portion of the swivel.

Thus, the invention shown in Figure 1 is not only capable of lengthwise adjustment, but will enable the wearer to move freely about the floor or the like through the medium of the casters 40.

The modification of the invention as shown in Figure 2 comprises a shank portion generally indicated at 10, which is formed of a single piece of light metal or the like. This shank is also provided with tabs 11 which extend upwardly from the shank and are preferably formed integral therewith. These tabs are also 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 forward portion of the shank 10 is upwardly flared so that the workman's knee may be flexed beyond the end of the shank. This modification also has two pairs of spaced legs 38, forked swivels 39 secured at the outer ends thereof having casters 40 mounted in the forked portion of the swivel 39, all as previously explained in connection with Figure 1.

In use, the shank 10, after being suitably adjusted to length, is strapped over the shin of the workman's leg through the medium of straps 13 and buckles 14 and the workman's leg may assume a position as shown in dotted lines in Figure 2. The workman will then be suitably supported from the floor or other surface and may move freely thereabout through the medium of the casters. It will be noted, as also shown in Figure 2, that the workman's legs will be supported upwardly from the floor surface or the like a suitable distance so that the foot of the wearer may hang downwardly and assume a natural position. Thus, all or substantially all pressure is relieved from the workman's feet and the workman may be thus supported over long periods of time without fatigue.

I claim:

1. A device of the character described for supporting a workman's leg when in kneeling position comprising an elongated shank concave on its inner side, said shank having means for adjusting its length so that the length thereof will be sufficient to fit over substantially the entire shin of the wearer's leg from a point adjacent the knee to a point adjacent the ankle, adjustable straps secured to the forward and rear end of said shank for detachably securing said shank to the leg of the wearer, means secured to the outer side of the rear portion of said shank and extending downwardly therefrom to maintain the rear portion of said shank in elevated position relative to the floor when the wearer is kneeling thus supporting the lower portion of the leg above the floor at a substantial height to permit the foot of the wearer to hang downwardly from the leg in a natural position.

2. A device of the character described for supporting a workman's leg when in kneeling position comprising an elongated shank concave on its inner side, said shank having means for adjusting its length so that the length thereof will be sufficient to fit over substantially the entire shin of the wearer's leg from a point adjacent the knee to a point adjacent the ankle, adjustable straps secured to the forward and rear end of said shank for detachably securing said shank to the leg of the wearer, means secured to the outer side of the rear portion of said shank and extending downwardly therefrom to maintain the rear portion of said shank in elevated position relative to the floor when the wearer is kneeling thus supporting the lower portion of the leg above the floor at a substantial height to per-

mit the foot of the wearer to hang downwardly from the leg in a natural position, and rollers on said last-mentioned means.

3. A device of the character described for supporting a workman's leg when in kneeling position comprising a pair of shanks concave on their inner side, means for securing said shanks together in telescoping relationship, and means comprising a pair of legs extending downwardly from the convex lower portions of each section, there being one leg adjacent each opposite side edge of each section and extending downwardly therefrom to maintain said shanks in an elevated position relative to the floor when the wearer is kneeling, thus supporting the leg above the floor at a substantial height to permit the foot of the wearer to hang downwardly from the leg in a natural position.

4. A device of the character described for supporting a workman's leg when in kneeling position comprising a pair of shanks concave on their inner side, means for securing said shanks together in telescoping relationship, and means comprising a pair of legs extending downwardly from the convex lower portions of each section, there being one leg adjacent each opposite side edge of each section and extending downwardly therefrom to maintain said shanks in an elevated position relative to the floor when the wearer is kneeling, thus supporting the leg above the floor at a substantial height to permit the foot of the wearer to hang downwardly from the leg in a natural position, and rollers on said last-mentioned said legs.

5. A device of the character described for supporting a workman's leg when in kneeling position comprising a pair of shanks concave on their inner side, means for securing said shanks together in telescoping relationship to present an elongated shank adjustable in length to fit over substantially the entire shin of the wearer's leg from a point adjacent the knee to a point adjacent the ankle, clamping bolts for securing said shanks rigidly together at their adjusted position, legs secured to the outer side of each of said shanks and extending at substantially right angles from said shanks downwardly to maintain the leg of the wearer in an elevated position relative to the floor when the wearer is kneeling, thus supporting the leg above the floor at a substantial height to permit the foot of the wearer to hang downwardly from the leg in a natural position.

6. A device of the character described for supporting a workman's leg when in kneeling position comprising a pair of shanks concave on their inner side, means for securing said shanks together in telescoping relationship to present an elongated shank adjustable in length to fit over substantially the entire shin of the wearer's leg from a point adjacent the knee to a point adjacent the ankle, clamping bolts for securing said shanks rigidly together at their adjusted position, legs secured to the outer side of each of said shanks and extending at substantially right angles from said shanks downwardly to maintain the leg of the wearer in an elevated position relative to the floor when the wearer is kneeling, thus supporting the leg above the floor at a substantial height to permit the foot of the wearer to hang downwardly from the leg in a natural position, and rollers on the lower portions of each of said legs.

7. A device of the character described for supporting a workman's leg when in kneeling position comprising an elongated shank concave on its inner side and adapted to fit over the shin

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of the wearer's leg from a point adjacent the knee to a point adjacent the ankle, adjustable straps secured to the forward and rear end of said shank for detachably securing said shank to the leg of the wearer, means secured to the outer side of the rear portion of said shank and extending downwardly therefrom to maintain the rear portion of said shank in elevated position relative to the floor when the wearer is kneeling thus supporting the lower portion of the leg above the floor at a substantial height to permit the foot of the wearer to hang downwardly from the leg in a natural position, and rollers on said last mentioned means, said shank being of substantially the same curvature throughout its length, and having forward and rearward open ends whereby the leg of the user may extend forwardly and rearwardly of said straps beyond the open ends of said elongated concave shank.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
151,411	Marshall -----	May 26, 1874
1,018,452	Slaughter -----	Feb. 27, 1912
1,348,204	Brewster -----	Aug. 3, 1920
1,348,683	Aldenbruck et al. ----	Aug. 3, 1920
1,382,883	Ashbridge -----	June 28, 1921
1,452,360	Clarke -----	Apr. 17, 1923
1,547,166	Davidson -----	July 28, 1925
1,653,601	Foulke -----	Dec. 20, 1927
2,057,992	Wiruth -----	Oct. 20, 1936