Aug. 21, 1934. W. E. BUNKER 1,971,294

INVALID HANDLING DEVICE

Filed Sept. 12, 1932 3 Sheets-Sheet 1

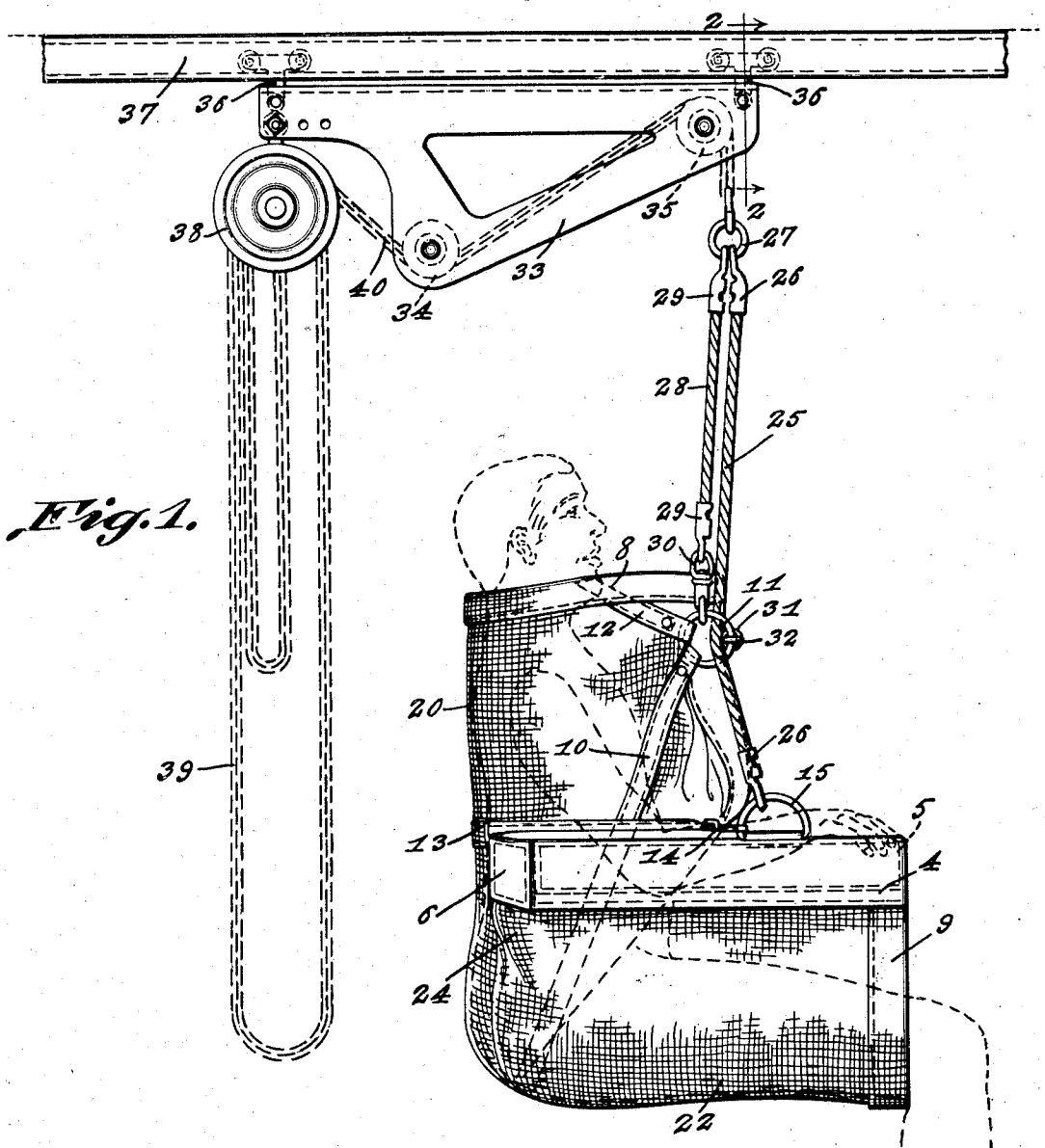
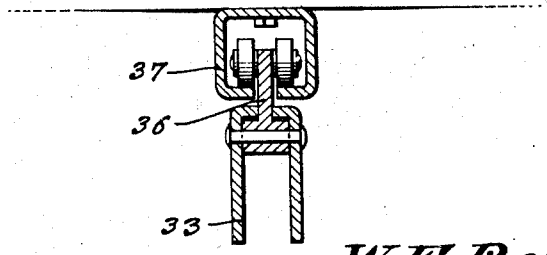


Fig. 1.

Fig. 2.



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Fig. 3.

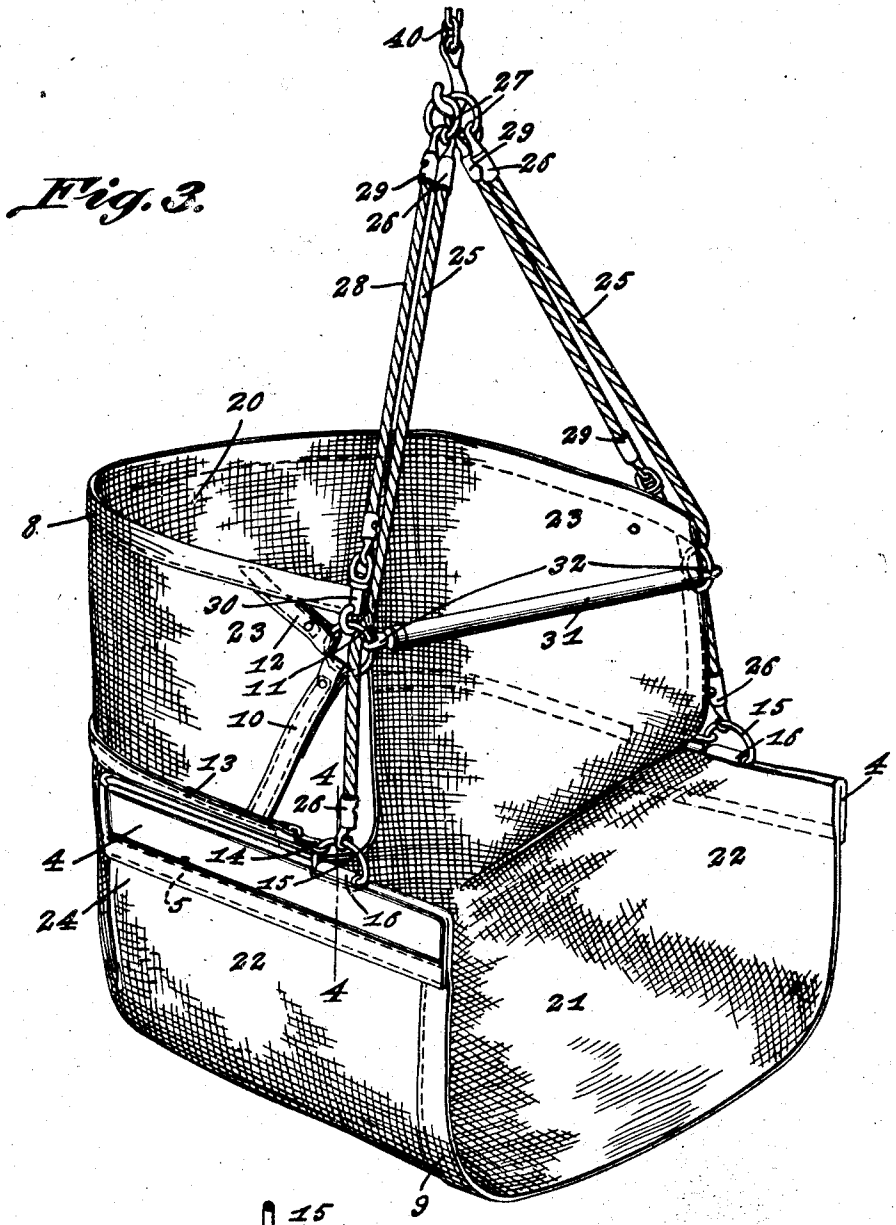
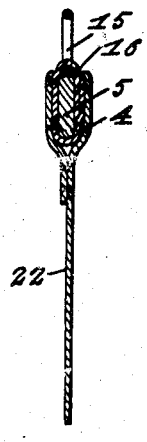


Fig. 4.



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Fig. 5.

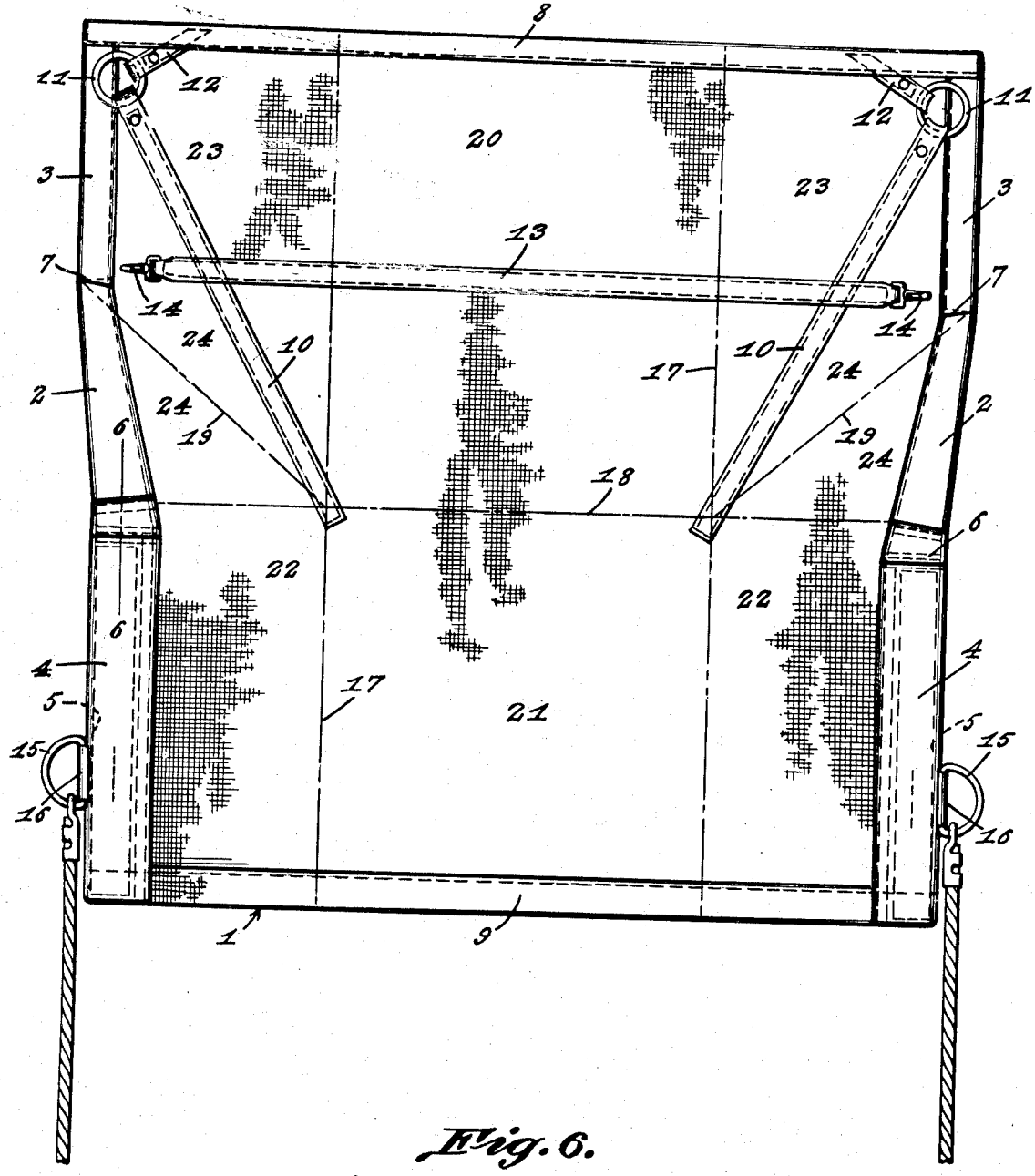
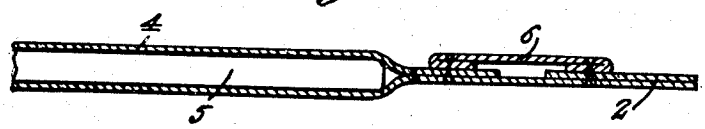


Fig. 6.



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Patented Aug. 21, 1934 1,971,294

UNITED STATES PATENT OFFICE

1,971,294

INVALID HANDLING DEVICE

Wilfred E. Bunker, Aberdeen, Wash.

Application September 12, 1932, Serial No. 632,826

3 Claims. (Cl. 5—89)

This invention relates to invalid handling devices, and its general object is to provide a device of that character that will enable one person to properly, easily and expeditiously handle a helpless patient from and to a reclining position, and move the patient to a wheel chair or the like or from room to room with no strain or discomfort on the part of the patient as well as with complete safety.

A further object of the invention is to provide an invalid handling device that is simple in construction, inexpensive to manufacture and extremely efficient in operation and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a side elevation of the device which forms the subject matter of the present invention and shows the same in use.

Figure 2 is a sectional view taken approximately on line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a perspective view of the invalid receiving means in position for use.

Figure 4 is a sectional view taken approximately on line 4—4 of Figure 3.

Figure 5 is a rear elevation of the receiving means in open position.

Figure 6 is a sectional view taken approximately on line 6—6 of Figure 5.

Referring to the drawings in detail, and particularly to Figure 5, it will be noted that the invalid receiving means of my device is made up of a sheet of fabric, such as canvas, but of course it can be made from leather or the like, without departing from the spirit of the invention, and this sheet of material is substantially square in configuration and indicated by the reference numeral 1.

The sides of the sheet of material are folded upon themselves and sewed as shown, to provide hems which for distinction are designated as intermediate hems 2, relatively narrow hems 3, and relatively wide hems 4, the latter having arranged therein stiffening bars 5 which cooperate with the wide hems 4 to provide arms for the device in a manner which will be presently apparent. At the juncture of the intermediate hems with the relatively wide hems, it will be noted that a portion of the material which provides the hems is cut away and a piece 6 of material is stitched across the cut away portions for the purpose of acting in the capacity as hinge means. In order that the material can be readily creased at the juncture of the intermediate hems with relatively narrow hems, the material is stitched in overlapped association as at 7.

The ends of the sheet are folded and stitched in folded position to provide hems 8 and 9, and stitched to the sheet and disposed in converging relation with respect to each other are long strips 10 that terminate adjacent the upper corners of the sheet and have secured to the upper free ends thereof rings 11 which likewise are secured to the free ends of short strips 12 that are disposed at an outward inclination and extend from the hem 8. Extending across the sheets and adjacent the upper end thereof is a strip 13 that extends adjacent the wide hems of the sheet, and secured to the ends of the strip 13 are snap hooks 14. From Figure 5, it will be understood that these strips 10, 12 and 13 are sewed to the underside of the sheet and the purpose thereof will be presently set forth, as well as the purpose of ring members 15 which are secured to the bars 5 through the instrumentality of strap pieces 16 that extend about the bars and are sewed accordingly within the relatively wide hems 4 as clearly shown in Figure 4.

For the sake of clarifying the manner of using the device and for folding the sheet into chair formation as shown in Figure 3, I have divided the sheet by vertical lines 17, a horizontal line 18, and inclined lines 19, the latter extending from the juncture of the vertical line with the horizontal line to the point of juncture of the relatively narrow hems with the intermediate hems.

The sheet of material is laid in open formation, and the patient is arranged across the center thereof or in other words between the vertical lines 17, with the hem 9 under the knees of the patient. The sheet is then folded upwardly on the lines 17, and the portion above the line 18 is folded upwardly. This folding action provides a back portion 20, a seat 21, lower sides 22, and upper sides 23. When the sheet is folded on the line 18, the material is likewise folded on the lines 19 to provide overlapped triangular portions 24 which readily remain in position due to the hinge pieces 6 and stitched portions 7.

When the back portion 20 is arranged in up-

right position, with the lower and upper sides disposed as shown in Figure 3, the snap hooks 14 are fixed to the ring members 15 so as to hold the portions in folded position and when in said position, the rings 11 are disposed above the ring members and cooperate therewith to provide receiving means for the suspending means of the device.

The suspending means includes a pair of relatively long flexible members 25 in the form of ropes which have secured to their ends hook members 26, and one of the ends of the flexible members 25 are fixed to the ring members 15 while the opposite ends are fixed to rings 27 which have also secured thereto, one of the ends of relatively short flexible members 28 in the form of ropes.

The relatively short flexible members 28 have secured to the ends thereof, hook members 29, and one of the ends of the relatively short flexible members 28 are secured to the rings 27 through the medium of the hook members thereof, while the opposite ends of the flexible members 28 are secured to snap hooks 30 which are in turn adapted to be secured to the rings 11 through which pass the relatively long flexible members 25 as clearly shown in Figure 3, and the rings 11 have also secured thereto a safety or cross bar 31, through the medium of snap hooks 32.

The structure so far described has been solely to the invalid receiving means, and the suspending means therefor, and I also provide a combined hoisting and transit means, which includes a channel frame 33 including depending parts having journaled therein pulleys 34 and 35 and the frame has secured thereto at its ends wheeled hangers 36 adapted to be received by a channel track 37 which of course may be of any length and disposed at various places in accordance with one's desires. Secured to the frame 33 by any well known means is a sheave 38 of a block and tackle which may be of any preferred construction, but preferably is of a type known as a chain hoist and is actuated by a pull chain 39. The hoisting chain is indicated by the reference numeral 40, and is trained about the pulleys 34 and 35, while secured to one end thereof through the medium of a hook are the rings 27 as clearly shown in Figure 1.

From the above description and disclosure of the drawings, it will be obvious that I have provided an invalid handling device that makes it possible for one person to handle an invalid with very little effort and with complete safety, as well as carry the invalid from place to place within the confines of the track.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:

1. An invalid handling device comprising a sheet of flexible material hemmed about the edges thereof, said sheet being adapted to be folded and arranged in chair formation, strips of material secured to the sheet, rings secured to some of said strips, reinforcing means secured in some of the hems strap pieces secured to the reinforcing means and extending outwardly through the hems thereof for disposal laterally of the sheet, ring members secured to the extending portions of the strap pieces, suspending means associated with and secured to the rings and ring members, means for securing the ends of the other strip to the ring members, and a cross bar adapted to be detachably secured to the rings and cooperating with the last mentioned strip and suspending means to hold the sheet of material in chair formation.

2. In an invalid handling device, a sheet of flexible material hemmed about its edges, said sheet of material being adapted to be arranged and folded into chair formation, relatively long strips of material secured to the sheet, relatively short strips of material secured to the sheet, said long and short strips having free ends arranged adjacent the upper corners of the sheet for disposal in cooperating pairs, rings carried by the cooperating pairs of free ends of the strips, a strip of material secured to the sheet and extending across the sheet, snap hooks secured to the ends of the last mentioned strip, reinforcing means arranged in some of the hems, ring members secured to the reinforcing means and adapted to receive the snap hooks, suspending means including ropes associated with and secured to the ring and ring members respectively, a cross bar secured to the rings and cooperating with the ropes and snap hooks for holding the sheet of material in chair formation.

3. In an invalid handling device, a sheet of flexible material adapted to be folded and arranged in chair formation and having its sides folded upon themselves and sewed to provide intermediate hems, relatively narrow upper hems extending from one of the ends of the intermediate hem and relatively wide lower hems extending from the other ends thereof, hinge means at the juncture of the relatively wide hems with the intermediate hems and at the juncture of the intermediate hems with the narrow hems to facilitate the folding of the sheet in chair formation, hems at the ends of the sheet, and means for holding the sheet in chair formation and including suspending means.

WILFRED E. BUNKER.