Feb. 19, 1952 R. L. WOOD 2,585,982

BED CRANE FOR INVALIDS

Filed Aug. 6, 1948 2 SHEETS—SHEET 1

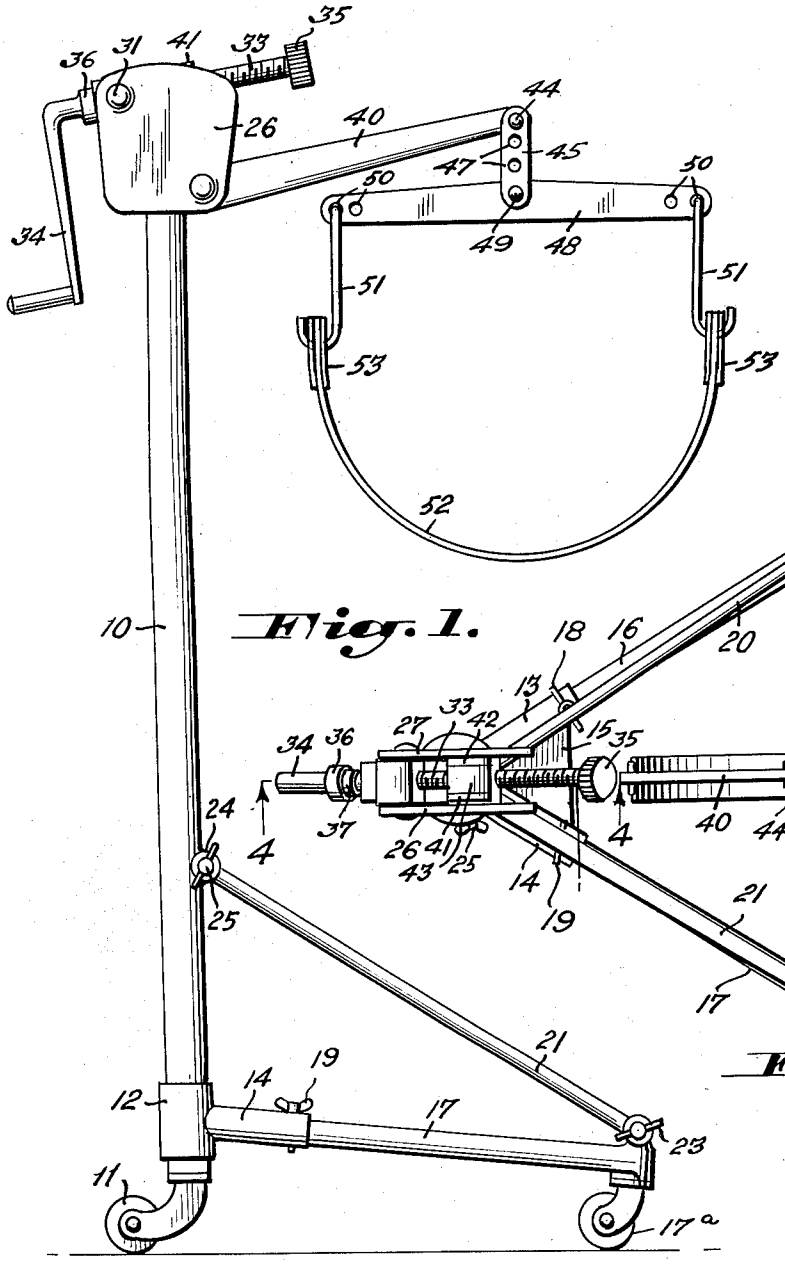

Fig. 1.

Fig. 2

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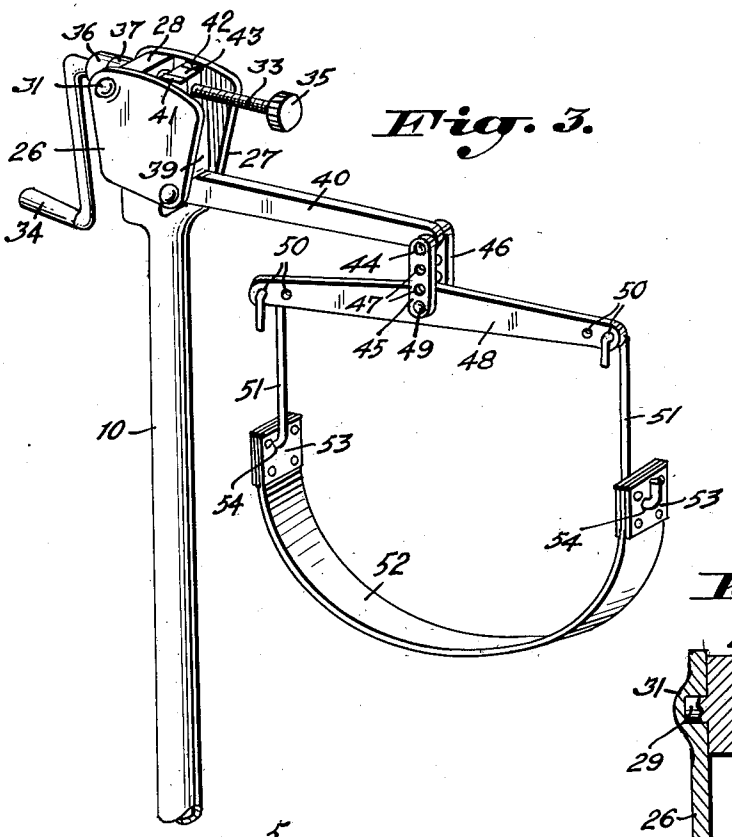

Fig. 3.

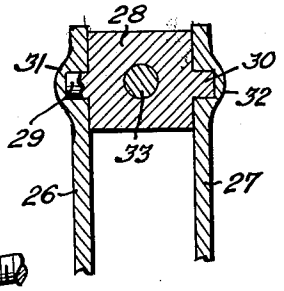

Fig. 5.

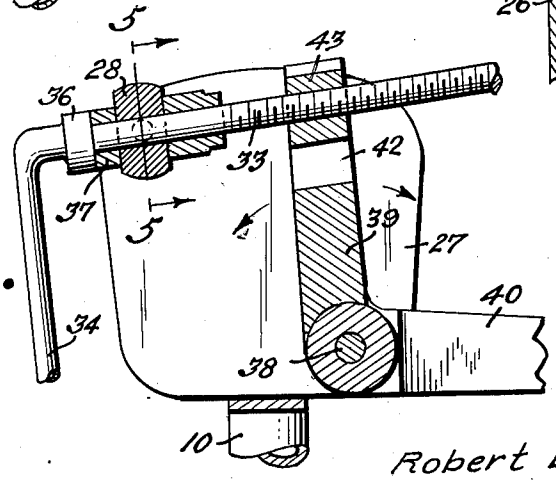

Fig. 4.

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BED CRANE FOR INVALIDS

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1 Claim. (Cl. 5—86)

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The present invention relates to bed crane for invalids and it consists in the combinations, constructions and arrangements of parts herein claimed and described.

It is an object of the present invention to provide a bed crane which is practical, safe to use and which will lessen the danger of injury to patients in getting on or off of bed pans.

Another object of the invention is the provision of an apparatus of the character set forth which will assist materially in the keeping of a patient's bed in a sanitary condition.

Another object of the invention is the provision of an apparatus of the character set forth which will enable an attendant to turn a helpless patient in his bed while at the same time creating a feeling of safety in the mind of the patient.

Another object of the invention is the provision of a bed crane for invalids which is simple and inexpensive in its construction and which is efficient and effective in use.

A further object of the invention is the provision of an apparatus of the character set forth which may be easily assembled and disassembled and which may readily be moved from place to place.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

Figure 1 is a side elevational view of an embodiment of the invention,

Figure 2 is a plan view thereof,

Figure 3 is a perspective view illustrating certain details of construction,

Figure 4 is an enlarged fragmentary sectional view taken along line 4—4 of Figure 2, and

Figure 5 is an enlarged fragmentary sectional view taken along line 5—5 of Figure 4.

Generally there is provided a bed crane for invalids consisting of a vertical mast having a caster at its lower end and having a laterally extending V-shaped base plate provided with a pair of sockets for the reception of leg members each provided with a caster at its outer end. Brace members are removably interconnected with the outer ends of the legs and the mast. A head piece is affixed atop the mast and comprises a pair of spaced vertical plates between which is revolubly mounted a screw having an operating handle at one end and upon which is threaded a trunnion nut carried by one end of a bell crank lever which lever is pivoted to the plates and whose other arm acts as a crane arm,

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the outer end of which is provided with an adjustable link which, in turn connects with a beam. The outer ends of the beam are each provided with a series of openings wherein may selectively be placed a pair of hooks which, in turn, act to hold therebetween a strap which may be placed beneath the invalid.

Referring more particularly to the drawings, there is shown therein a bed crane for invalids comprising a vertically extending mast 10 having a caster 11 mounted in its lower end.

Welded or otherwise affixed adjacent the lower end of the mast 10 is a socket member 12 having a pair of sockets 13 and 14 extending radially at an angle therefrom and interconnected by a reinforcing web plate 15.

Leg members 16 and 17 are removably mounted in the sockets 13 and 14, respectively, and are held in position therein by means of wing bolts 18 and 19, respectively.

Each of the leg members 16 and 17 have respectively connected thereto at the outer ends thereof brace members 20 and 21 by means of wing bolts 22 and 23, respectively, and the inner ends of the brace members 20 and 21 are connected to a projection 24 on the mast 10 by means of a wing bolt 25. The outer ends of the leg members 16 and 17 are provided with casters 16*a* and 17*a*, respectively.

An elevating mechanism is affixed to the top of the mast 10 and comprises a pair of vertically extending spaced parallel plates 26 and 27. A trunnion bearing 28 is provided with a pair of outwardly extending stub shafts 29 and 30 which are journaled, in thickened portions 31 and 32 of the plates 26 and 27, respectively.

Revolubly mounted in the bearing 28 is a shaft 33 which is provided with an integrally formed operating handle 34 at one end and has a large portion of its other end threaded and provided with a stop member 35 at its extremity. A collar 36 is integrally formed with the shaft 33 adjacent the handle 34 and a bearing 37 is revolubly mounted on the shaft between the collar 36 and the trunnion 28.

A bell crank lever is pivotally mounted, as indicated at 38 between the plates 26 and 27 and is provided with a relatively short arm 39 between the plates 26 and 27 and a relatively longer crane arm 40 extending outwardly in a generally horizontal direction and above the legs 16 and 17. The upper end of the arm 39 is bifurcated, as shown at 41 and 42, and has pivotally mounted in the parts 41 and 42 a trunnion 43 in which is threaded the shaft 33.

At the outer end of the crane arm **40** there is connected by a pin **44** a pair of links **45** and **46**, one being carried at either side of the arm **40** and each provided with a series of spaced openings **47**.

A bar **48** is pivotally connected at its center by a pin **49** and is provided with a series of spaced openings **50** adjacent each of its outer ends.

A double-ended hook **51** is engaged in an opening **50** in either end of the bar **48** and a fabric strap **52** is provided with metallic reinforced ends **53** which have openings **54** for engagement with the hooks **51**.

In operation, it will be apparent that the apparatus may be kept, when not in use, in a disassembled condition and that when it is desired to use the same, it is only necessary to place the leg members **16** and **17** in the sockets **13** and **14** and thereafter lock the same in position by means of the wing bolts **18** and **19**. Thereupon the brace members are placed in position and locked by means of the wing bolts **22**, **23** and **25**. The apparatus may then be wheeled by means of the casters **11**, **16***a* and **17***a* to bring the legs **16** and **17** beneath the patient's bed. The strap **52** may then be placed beneath the body of the patient by carefully rolling him upon it and thereafter the ends **53** thereof may be engaged with the hooks **51**. By turning the handle **34** in the proper direction, the trunnion **43** will be caused to move in the direction of the handle end of the shaft **33** thereby causing the arm **39** and consequently the crane arm **40** to move in a counterclockwise direction as viewed, for example, in Figure 4. This action will lift the bar **48** by means of the links **45** and **46** and therefore cause the strap **52** and the patient to be lifted from the bed whereupon an attendant may do whatever is necessary for the patient such as, for example, the proper placing of a bed pan beneath him. By placing the pin **44** in the proper openings **47** the effective height of the bar **48** may be adjusted and by placing the hooks in selected openings **50** the effective width of the strap **52** may be regulated.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claim.

What is claimed is:

An apparatus of the character described comprising a vertical mast, a socket member affixed to the mast adjacent the lower end thereof, a pair of horizontally and angularly extending leg members removably mounted in the socket member, a caster supporting the mast, a caster supporting each of the leg members, brace members removably interconnecting the mast and the outer ends of the leg members, a pair of vertical plates affixed to the upper end of the mast in spaced parallel relation to each other, a threaded shaft formed with a handle and extending between the plates and pivoted thereto, a crane arm extending between said plates and pivotally connected thereto, and said crane arm provided with an angular extension formed with a threaded opening adjacent the free end thereof threadedly receiving the shaft.

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