

[54] **BED DEVICE FOR MOVING PATIENT**

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[51] **Int. Cl.<sup>2</sup>**..... **A61G 1/02**

[58] **Field of Search**..... **5/61-63, 81, 5/86, 88, 64-68**

[56] **References Cited**

**UNITED STATES PATENTS**

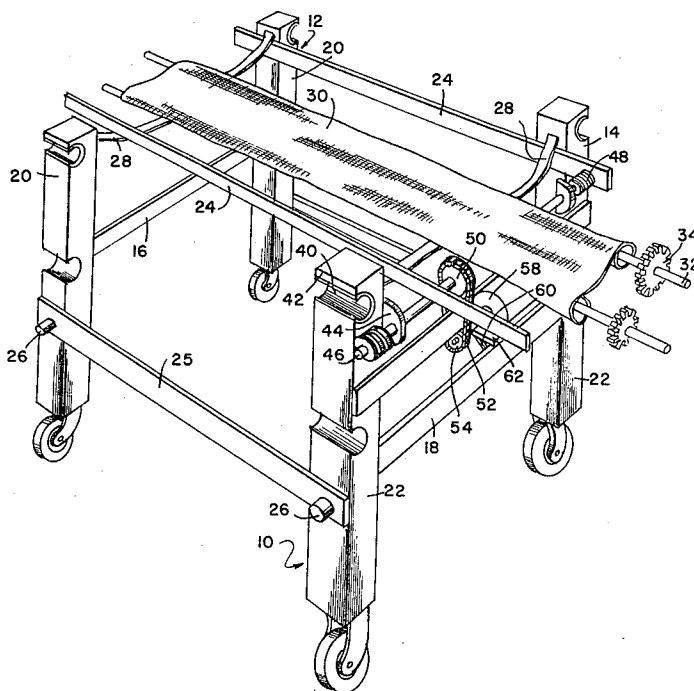
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[57] **ABSTRACT**

The present apparatus provides a device for moving patients which device comprises a portable compact frame on caster members which can be rolled to the bed where it is to be used and thereafter the short side members of the device can be removed and the elongated side members can be secured on the frame so that the frame has a head frame and a bottom frame adjacent the bed to with which it is to be used. Two shaft members with sprockets and a canvas sheet are attached to the frame and the frame is provided with pinions and a sprocket member driven by an endless chain. The frame is provided with a motor to drive the chain. The pinion members mesh with the sprocket members on the shafts when they are assembled to provide a device for turning a bedridden person. The device may be disassembled, by removing the shafts and canvas sheet and replacing the elongated sides with the short side, and rolled to a storage closet and the like when it is no longer in use.

**6 Claims, 2 Drawing Figures**



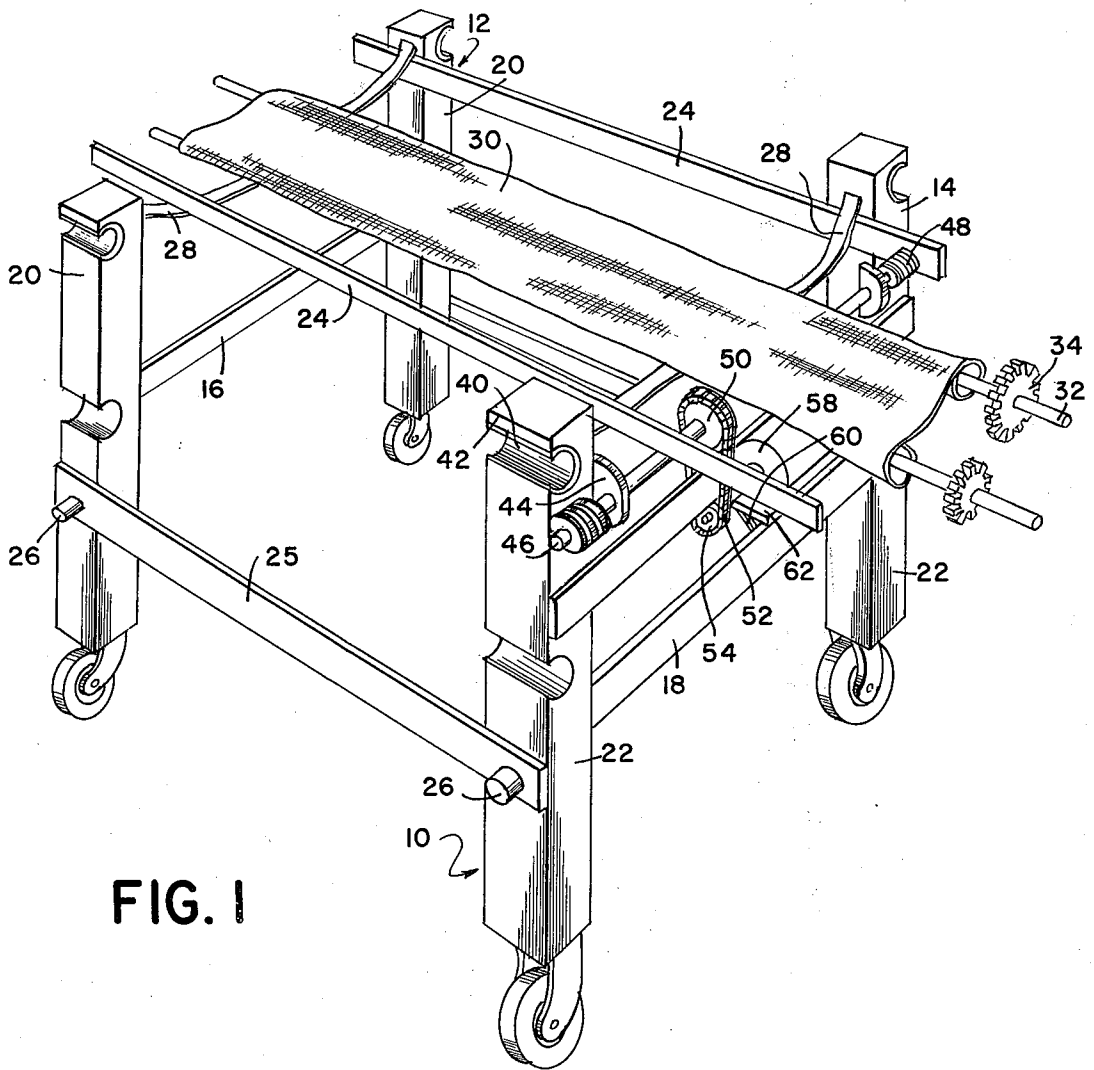


FIG. 1

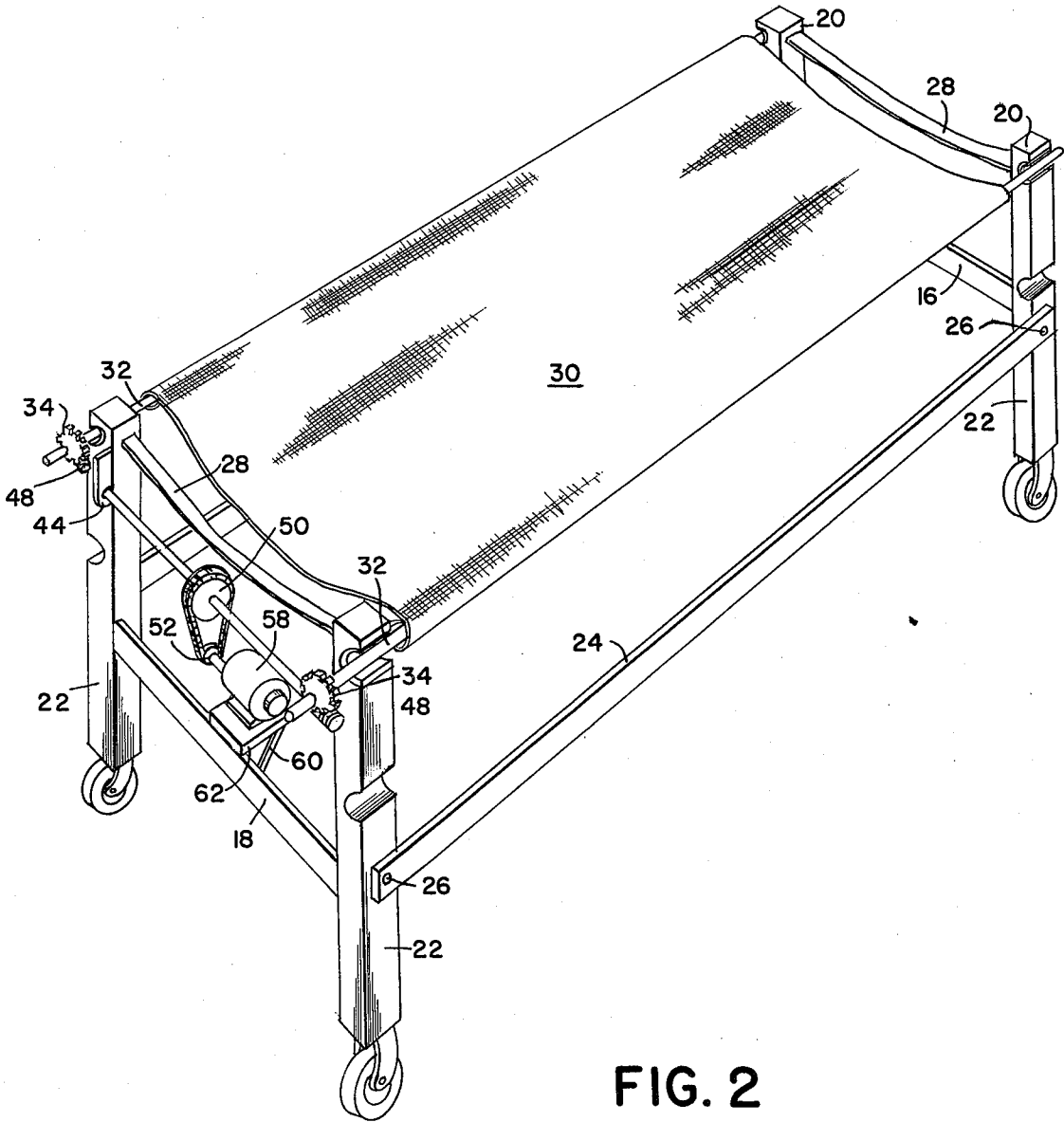


FIG. 2

## BED DEVICE FOR MOVING PATIENT

The present invention relates to a bed device for moving bedridden patients to enable the patient in a hospital bed, for example, or any other bed, to be turned from one side to the other without having to physically lift the person.

It is an object of the present invention to provide a patient moving device for caring for bedridden persons such as invalids or patients.

It is another object of the present invention to provide a portable patient moving attachment which permits moving the attachment from a place of storage in which it is disassembled, or in a compact arrangement, and placing it adjacent a bed where it is to be used by removing short side members and replacing them with elongated side members, and then placing elongated driven shaft members with a canvas sheet attached thereto in slot means in the structure, so as to make the device readily available for rotating a patient in a bed.

It is another object of the present invention to provide a patient moving attachment for beds which is portable and which can be stored away and quickly moved next to a conventional bed with a motor, so as to enable a bedridden or invalid person to be turned in the bed without requiring the physical labor of the orderlies or nurses and like personnel in the hospital.

Various other objects and advantages of the present invention will be readily apparent from the following detailed description when considered in connection with the accompanying drawings forming a part thereof and in which

FIG. 1 illustrates the portable moving device when it is in a compact arrangement or before assembly; and

FIG. 2 illustrates the invention when it is in its fully assembled position next to a bed for moving a bedridden patient therein.

Referring to the drawings, the reference numeral 10 generally designates the patient moving device of the present invention which comprises a frame consisting of a head section 12 and a bottom section 14. The head section is provided with a horizontal cross-member, 18. The cross-member, 16 extends between two vertical members 20 and the horizontal cross-member 18 extends between two vertical members 22, all of which form corner posts for the frame.

As best seen in FIG. 1, when the device is in its disassembled or compact position the vertical members 20 and 22 are connected together by detachable horizontal members 24 which frictionally engage outwardly projecting pin members 26 on the members 20 and 22. All of the members 20 and 22 are provided with casters 26 so that the structure may be rolled from a place of storage to a place of use.

The upper ends of the members, 20 and 22, are provided with flexible strap members 28, for carrying thereon elongated side members, 24 having apertures in opposite ends for securing them on the pin members 26, as best seen in FIG. 2. The strap members also are provided to hold the canvas or plastic sheet 30 upon which the patient is disposed for turning the patient. This is clearly illustrated in FIG. 1, and it will be noted that the canvas, 30 has its opposite ends attached by any suitable means to rotatable driven shafts 32. The rotatable shafts 32, are each provided with a sprocket at 34 fixed thereon adjacent one end of the shafts.

The vertical members 20 and 22 are provided with elongated slots or cut-outs 36 which extend parallel to their short side members, 25. The slots, 36, have disposed therein a split sleeve bearing, 40, adapted to receive the shafts, 32, therein for rotation, as best seen in FIG. 2. The split sleeves are provided with a clamp member, 42, for keeping them closed after the shafts, 32, have been assembled in the bearing.

The bottom section, 16, is provided with two apertured vertical plates 44, secured to the inner sides of the vertical members, 22. A horizontal shaft, 46, extends through bearings 47, in the apertured plates, 44, and is provided with pinions, 48, on each end thereon. The shaft 46 and the pinions 48 are disposed vertically on the members, 22, so that when the shafts, 32, are disposed in their respective slots, 36, the sprocket wheel, 34, will mesh with the pinions, 48, as best seen in FIG. 2. A drive sprocket, 50, is fixed on the shaft, 46, and an endless chain, 52, is disposed on the sprocket, 50, and a lower sprocket wheel, 54, is disposed on a shaft, 56. The endless chain is driven by the shaft of an electric motor, 58, supported on a platform, 60, by brackets, 62.

What is desired to use the bed moving device of the present invention, the compact or disassembled device as shown in FIG. 1, may be rolled from a storage closet or room at which time the short side members, 25, disposed on pins, 26, hold the head and bottom sections 12 and 14 together. The shafts, 32, and the elongated side members, 20, may be stored in a vertical position if desired in a closet, and when it is desired to move the device to a place of use, they are then placed in a horizontal position over or upon the straps, 28, as shown in FIG. 1.

Thereafter, the device is moved to a bed and the short members, 25, are removed from their pins 26, and one of the elongated side members, 24, is disposed on one set of pins, 26. Thereafter, the structure is rolled transversely of the longitudinal axis of the bed so as to encompass the bed as best seen in FIG. 2. Thereafter, the other elongated member, 24, is attached to the pins, 26, and the shaft members are disposed in a respective sleeve bearings, 40, in the slots, 36, and the clamp members, 42, are secured so as to hold the rotatable shafts in place.

After a patient is initially placed on the canvas sheet, when it has been assembled as described above, and it is desired to turn a patient over, the hospital bed has its mattress lowered by its own motor so that the surface of the mattress is just below the canvas, 30, and out of contact with it. Thereafter, the reversible motor, 58, is actuated so as to coil up the canvas on one of the rotating shafts, 32, while uncoiling it from the other rotating shaft, 32, with the drive from the motor, 58, being actuated through the endless chain, 52, and the pinions, 48, meshing with the sprocket wheels, 34. Thereafter, when the patient has been turned or moved to a desired position, the motor of the hospital bed is actuated so as to raise it into contact with the canvas, 30. The canvas, 30, may remain there in use, an indefinite time after which it may be placed back in storage when not in use.

When the compact portable bed moving device in the present invention is to be stored, the shafts, 32, which carry the sheet, 30, are removed from the sleeve bearings, 40, by opening the clamp members, 42, and rolling up the canvas to its arrangement shown in FIG. 1. Thereafter, one of the elongated side members, 24, is

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removed from its pin members, 26, and the entire structure is rolled to one side of the bed. Thereafter, the other elongated member, 24, is removed from its pins, 26, and the short side members, 24, are operatively connected to the pins, 26, so as to form the compact arrangement shown in FIG. 1. Then, the canvas, 30, and the shafts, 32, and the elongated side members, 64, are disposed on the straps, 28, and the entire device is removed to a place of storage.

Thus, from the foregoing description, it is apparent that the present invention provides a compact frame comprising a bed like or moving device which can be quickly assembled for use with a bedridden or invalid patient and which can be quickly disassembled and reduced to occupy a minimum of space so as to provide a compact storage unit.

What is claimed is:

1. A portable and separate self contained unit for a hospital bed for setting up by a bed and out of contact therewith, comprising a frame with a head section and a foot section both sections comprising spaced apart vertical posts joined together by transverse members, slot means in said posts to receive separate side members therein to connect the head and foot section thereto, said separate side members comprising a pair

of elongated rotatable shaft members, a pair of short and a pair of long side members, for attachment to said post below said slot means, and a flexible patient carrying sheet member connected to said elongated rotatable members, said sheet carrying means being provided with driving means, and said rotatable shaft members being provided with driven means for uncoiling the sheet from one shaft member and coiling it up on the other shaft member.

2. The device of claim 1, wherein said slot means have sleeve bearings and clamping means for receiving said shafts therein.

3. The device of claim 2, wherein said driven means include sprocket wheels and said means include pinions disposed on a shaft on one of said section.

4. The device of claim 3, wherein said sections have casters thereon.

5. The device of claim 1, wherein said pinions are driven by endless chain means operatively connected to motor means.

6. The device of claim 1, wherein said sections have strap means adapted to store said shafts and side members therein when not in use.

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