

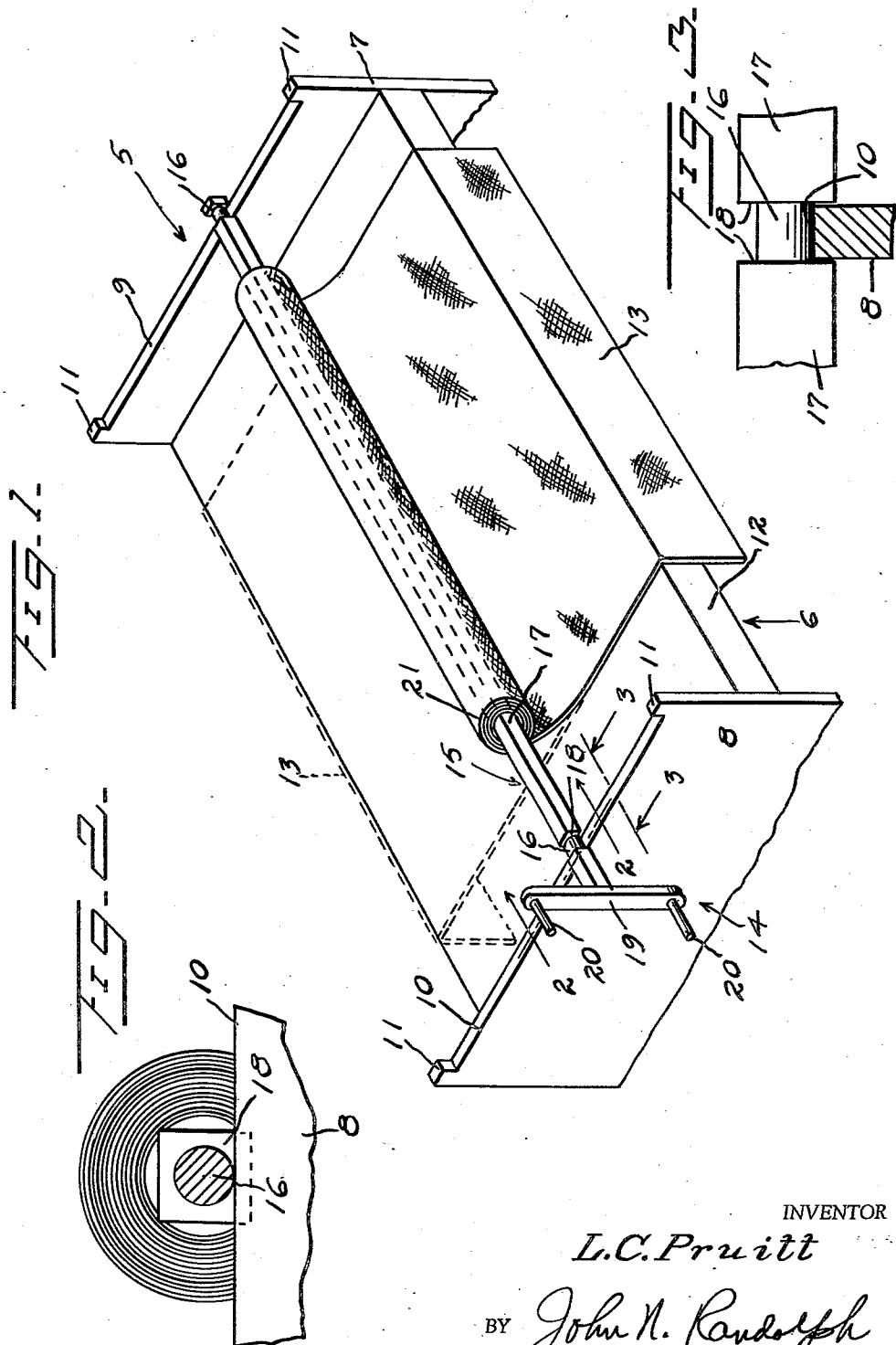
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PATIENT TURNER

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This invention relates to a novel combination of a bed, a bed covering and an actuating means for engaging the bed covering and which is supported by parts of the bed and manually operable for turning over an occupant of the bed.

Considerable difficulty is frequently encountered in turning over a large bedridden person who is unable to help himself or herself.

Accordingly, it is an object of the present invention to provide a bed having a turning attachment which is adapted to be manually operated and by means of which a heavy bedridden patient may be readily turned over in the bed.

A further object of the invention is to provide such a bed and turning attachment wherein a part of the turning attachment may be removed when not in use and so that the bed will then appear to be of substantially conventional construction, and which removable part may be quickly and easily applied to the bed when the use thereof is required.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a fragmentary perspective view of the invention, shown in an operative position;

Figure 2 is an enlarged fragmentary sectional view, taken substantially along a plane as indicated by the line 2—2 of Figure 1, and

Figure 3 is an enlarged fragmentary sectional view, taken substantially along a plane as indicated by the line 3—3 of Figure 1.

Referring more specifically to the drawing, the bed with occupant turning means in its entirety and comprising the invention is designated generally 5 and includes a bed, designated generally 6, of conventional construction except for the headboard 7 and footboard 8. The headboard 7 and footboard 8 have coplanar, substantially straight top edge portions 9 and 10, respectively which extend to adjacent the ends thereof. The headboard 7 and footboard 8 have upstanding end projections 11 of corresponding size and shape forming stops or abutments at the ends of the top surfaces 9 and 10. The bed 6 is otherwise of conventional construction including a mattress 12 which extends between the headboard 7 and footboard 8, the upper surface of which is disposed substantially below the level of the top surfaces 9 and 10.

The occupant turning attachment, of which the parts 9, 10 and 11 constitute a part, also includes a flexible sheet member 13 which may be formed of any suitable material, such as a conventional cotton sheet. The sheet member extends across the mattress 12 and downwardly along the longitudinal side edges of the mattress. The edges of the sheet 13 which are located crosswise of the mattress 12 are disposed between and spaced from the headboard 7 and footboard 8 and adjacent thereto.

The turning attachment also includes a manually operative winding unit, designated generally 14, including an

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elongated shaft 15. The shaft 15 is provided with spaced portions 16 of circular cross section and of reduced cross sectional size relative to the remainder of the shaft 15.

The remainder of the shaft 15 is of non-circular cross sectional shape, as seen at 17. The circular shaft portions 16 are spaced from the ends of the shaft 15 and are spaced from one another a distance corresponding to the spacing between the headboard 7 and footboard 8, so that one of the shaft portions 16 can engage the upper edge 9 at the same time that the other shaft portion 16 is in engagement with the upper edge 10. Parts of the shaft portions 17 which are located adjacent the restricted shaft portions 16 define spaced opposed shoulders 18 which surround the ends of the shaft portions 16 and which straddle parts of the headboard 7 and footboard 8, as clearly illustrated in the drawing, to prevent the shaft 15 from sliding lengthwise of the bed 6 and to maintain the shaft 15 with its axis parallel to the longitudinal axis of the bed 6 and crosswise of the headboard 7 and footboard 8.

The winding unit 14 includes a bar 19 forming a crosshead which is secured intermediate of its ends to one end of the shaft 15 and which is disposed crosswise of said shaft. The crosshead or bar 19 has handles 20 extending transversely therefrom and project from the side of the bar 19 located remote from the shaft 15. The handles 20 are disposed parallel to the shaft 15 and are transversely spaced therefrom, as clearly illustrated in Figure 1.

Assuming that the sheet 13 is disposed across the mattress 12, as illustrated partially in full lines and partially in dotted lines in Figure 1, and that the bed 6 is occupied by an invalid or infirm person, not shown, who is lying lengthwise on the mattress 12 and on the sheet 13, when it is desired to turn the occupant over on the mattress 12, the winding unit 14 is applied to the bed 6 with portions 16 thereof engaging the top surfaces 9 and 10. The winding unit 14 is initially positioned adjacent one longitudinal side of the bed, as for example the left-hand or far side as seen in Figure 1. The edge of the sheet 13 which depends downwardly on said side of the bed is then raised and placed around the shaft portion 17, which is located between the shaft portions 16. The winding unit 14 is then revolved clockwise as seen in Figure 1 by an attendant, nurse or other person grasping one or both of the handles 20 for winding the sheet portion 13 on the shaft portion 17, which is disposed over the mattress 12. During this winding operation, the shaft portions 16 will roll on the surfaces 9 and 10 from left to right from the left-hand or far side of the bed 6 toward the right-hand or near side thereof, as seen in Figure 1. As the sheet 13 is thus wound on the shaft 15, said shaft and the rolled part 21 of the sheet will approach the part of the sheet on which the occupant of the bed is lying and as said part of the sheet is lifted, it will be readily apparent that a person lying thereon will be turned over from left to right as seen in Figure 1.

Thereafter, the winding unit 14 can be revolved in the opposite direction counterclockwise as seen in Figure 1 to move to the left-hand side of the bed 6 for unwinding the rolled sheet part 21 from the shaft 15 and to permit the sheet to resume its position disengaged from the winding unit 14 and as shown partially in dotted lines in Figure 1. It will be readily obvious that the noncircular cross sectional shape of the shaft portion 17 on which the sheet 13 is wound will effectively prevent slippage of the inner convolution of the roll 21 relative to the shaft 15 during the winding operation, as previously described. It will also be readily apparent that the winding unit 14 may be subsequently positioned adjacent the near longitudinal side of the bed 6 so that the other near depending edge portion of the sheet 13, as seen in Figure 1, may

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be wound thereon by turning the winding member 14 counterclockwise for moving it from right to left across the bed toward its far left-hand side, for subsequently turning the occupant over in the opposite direction on the bed. It will be understood that the winding unit is positioned ordinarily for turning over the occupant toward the longitudinal side of the bed 6 relative to which he or she is more remotely disposed. It will also be apparent that the stops or abutments 11 will prevent the winding unit 14 from rolling out of engagement with the surfaces 9 and 10 of the headboard 7 and footboard 8. The crossbar 19 and handles 20 may be disposed beyond either the headboard or footboard, as desired, depending upon the space available beyond the ends of the bed 6. The surfaces 9 and 10 may be located at any desired elevation above the mattress 12 most convenient to accomplish the aforedescribed operation of overturning the occupant of the bed.

Various modifications and changes are contemplated and may obviously be resorted to, without departing from the function or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. An apparatus of the character described comprising a bed including a headboard and a footboard, said headboard and footboard having substantially flat straight coplanar top surfaces, a mattress forming a part of said bed having a top surface disposed substantially below the level of the top surfaces of the headboard and footboard, a sheet extending across said mattress; a winding unit comprising a shaft having spaced portions of circular cross section engaging the top surfaces of the headboard and footboard, manually actuated crank means secured to one end of said shaft and disposed beyond an adjacent end of the bed, an edge portion of said sheet located adjacent a side of the bed being disposed around the part of the shaft located between the headboard and footboard engaging shaft portions when the winding unit is disposed on the headboard and footboard above and adjacent said edge portion of the sheet, said sheet extending downwardly from the shaft between the shaft and said side of the bed, and said winding unit being rotatable in a direction for causing the shaft portions thereof to roll transversely of the bed on the top surfaces of the headboard and footboard toward the other longitudinal side of the bed for winding the sheet thereon.

2. An apparatus as in claim 1, said shaft including a portion of noncircular cross section disposed between the headboard and footboard engaging portions thereof for engaging the sheet to prevent slippage of the sheet relative to the shaft when the shaft is revolved for winding the sheet thereon and for causing the winding unit and the wound portion of the sheet to travel transversely across the bed.

3. An apparatus as in claim 1, said crank means comprising a bar having an intermediate portion fixed to an end of said shaft and disposed crosswise thereof, and handle members fixed to and projecting from said bar adjacent the ends thereof and extending in a direction away from said shaft, said handle members being disposed substantially parallel to and in transversely spaced relationship from the axis of the shaft.

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4. An apparatus as in claim 1, said headboard and footboard engaging shaft portions being spaced from the ends of the shaft and being of smaller cross sectional size than the remainder of the shaft and of a length only slightly greater than the thickness of the headboard and footboard, said shaft having spaced opposed shoulders at the ends of said headboard and footboard engaging shaft portions, said shoulders straddling the headboard and footboard to prevent sliding and swinging movement of the shaft relative to the bed.

5. An apparatus as in claim 4, said headboard and footboard having upstanding projections at the ends of said top surfaces thereof forming abutments for limiting rolling movement of the winding unit toward either longitudinal side of the bed.

6. In combination with a bed having a headboard and a footboard provided with substantially coplanar top surfaces and a sheet member extending across the bed and normally disposed substantially below the level of said top surfaces, a winding unit comprising an elongated shaft disposed longitudinally of the bed and having portions resting on and having rolling engagement with said top surfaces of the headboard and footboard and including a part disposed between said headboard and footboard engaging portions and around which an edge portion of the sheet located at one side of the bed is disposed when the shaft is supported adjacent said side of the bed, said sheet extending downwardly from the shaft between the shaft and said side of the bed, and crank means constituting a part of said winding unit and fixed to one end of the shaft and located beyond an adjacent end of the bed for rotating the shaft in a direction to cause said surface engaging shaft portions to roll on said headboard and footboard surfaces transversely across the bed toward the other side thereof for winding the sheet on said shaft and for progressively lifting portions of the sheet from the bed portion on which the sheet is supported.

7. In a winding unit as in claim 6, said surface engaging shaft portions being of circular cross section and of reduced diameters relative to other adjacently disposed portions of the shaft to form pairs of spaced inwardly facing shoulders, and said shoulders being spaced apart a distance to straddle parts of the headboard and footboard to prevent swinging movement of the shaft relatively thereto and to prevent sliding movement of said shaft longitudinally of the bed.

8. In a winding unit as in claim 6, said sheet engaging shaft portion being of noncircular cross section to prevent slippage of the rolled part of the sheet relative thereto.

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