United States Patent

Bond

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[54] **APPARATUS FACILITATING CARE OF A BEDFAST PATIENT**

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[52] **U.S. Cl.** **4/174,** 4/145, 5/81

[51] **Int. Cl.** **A47k 3/06,** A47k 3/062

[58] **Field of Search**.....4/145, 146, 148, 152, 173, 4/174, 175, 176, 177, 185; 5/81; 128/365, 366, 367, 369

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Primary Examiner—Henry K. Artis

[57] **ABSTRACT**

Apparatus facilitating care of a bedfast patient characterized by a bed adapted to support bedding and a patient, the bedding including an upper layer to protrude through apertures in a flat net and support a patient's body without irritating the patient's skin. The bed has a vertical support means adjacent each corner to which a patient support carrying the patient can be affixed, enabling a distance to be placed between the patient and the bedding when the vertical support means adjacent each corner of the bed are raised or when the mattress is lowered. The patient support comprises a flat net which can remain in place beneath the patient and on top of the bedding, yet when affixed to the vertical support means adjacent the corners of the bed by appropriate means such as chains and snap hooks, will support the patient. A portable shower nozzle is provided, and a portable container for water which has been run over the patient is provided for emplacement beneath the patient while the patient is being washed. Heat means such as heat lamps, and a heated air blower and hose are provided for preventing chilling and for drying the patient. The specific structure and accessories are disclosed.

16 Claims, 3 Drawing Figures

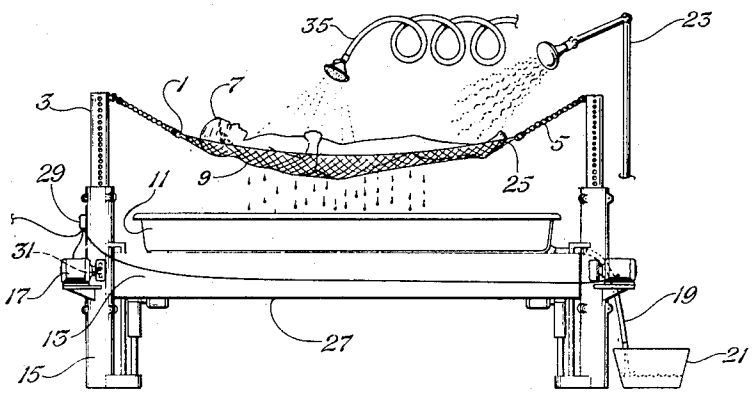
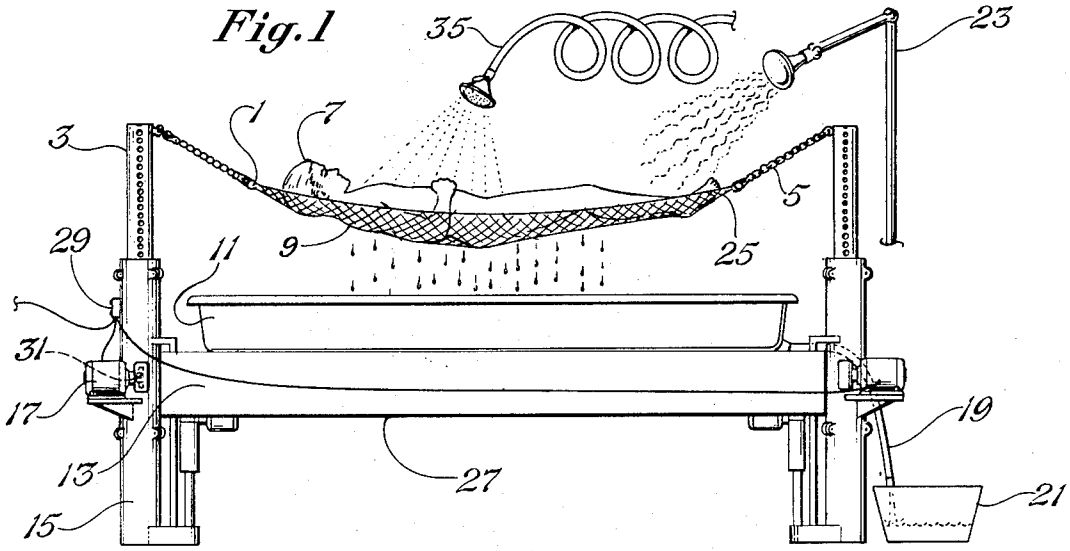


Fig.1



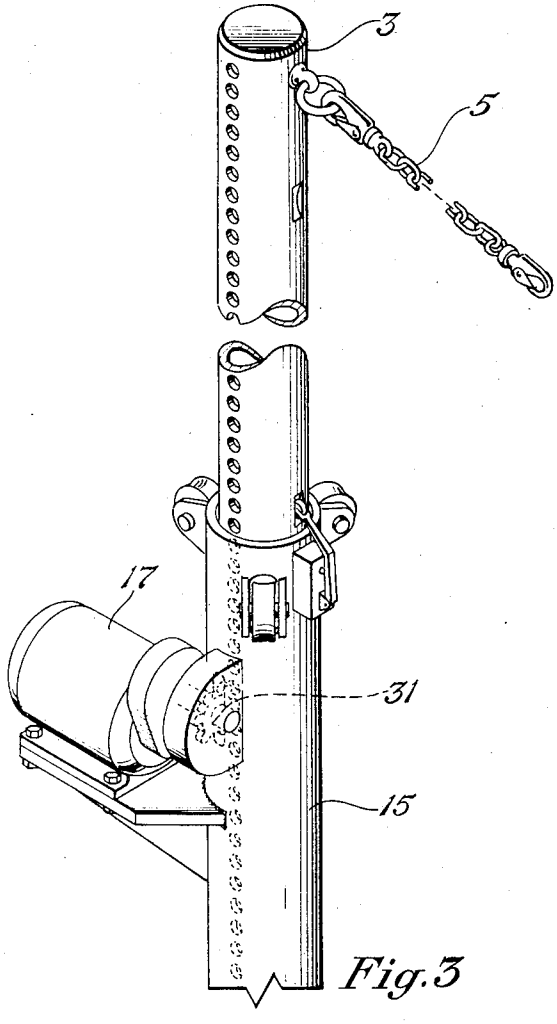


Fig.3

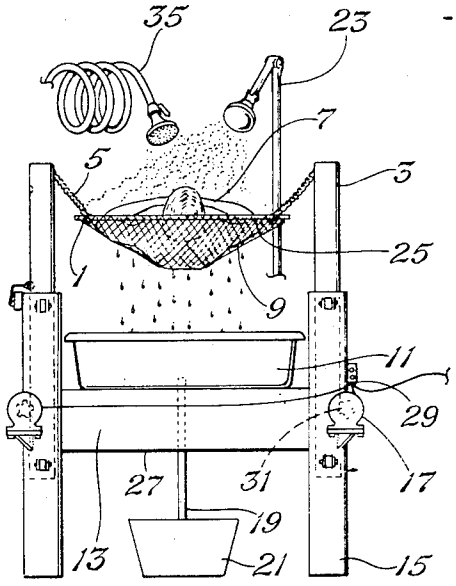


Fig.2

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APPARATUS FACILITATING CARE OF A BEDFAST PATIENT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to apparatus facilitating care of a bedfast patient. More particularly, this invention relates to a combination of apparatus that enables a bedfast patient to rest comfortably, yet facilitates handling of the patient.

2. Description of the Prior Art

Care of relatively immobile patients, commonly referred to as "bedfast" patients, has long been a problem. The devices for assisting in care and handling of such patients have included various and diverse forms. For example it was known to employ apparatus such as a frame supporting straps through grooves in a mattress for raising and lowering a patient, enabling the patient to be raised and the bedding changed or the mattress and bedding removed and the patient lowered into a tub. Such straps were spaced too far apart to support the bedfast patient in comfort and safety. Other approaches have included a cabinet for bathing a patient or for administering vapor, steam and the like. In such a cabinet structure the body is supported within the cabinet, whereas the head may be extended beyond the cabinet through a door or similar structure. In using these cabinets problems were had getting the patient into and out of the cabinet. Moreover, the cabinets have not been altogether safe. Since the patient and the vapors, steam, etc. were on the interior of the cabinet, and relatively remote from the person controlling the admission of the vapors or steam, it has been possible to submit the patient to excessively high temperatures and the like.

Also, such apparatus required a great deal of strength and manual labor handling the patient, getting him into the cabinet and out and back in bed.

Other apparatus have included: (1) enclosures with mechanism for mopping an absorbent wetting means across the body, and (2) frames mounted on wheels with power lift means for raising and lifting a patient in a frame. These latter devices are somewhat unsafe in that they were frequently difficult to roll over uneven surfaces and would overturn if not skillfully handled. Also, they frightened the patient.

See my application, Ser. No. 874,342, filed Nov. 5, 1969, now U.S. Pat. No. 3,613,127.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side view of the combination employed in one embodiment of this invention.

FIG. 2 is an end view of the combination of FIG. 1.

FIG. 3 is a partial isometric view showing the details of the vertical support means, interconnector means, vertical support means holder, rack and pinion, and electric motor used in the combination of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

It is a primary object of this invention to provide a combination that facilitates caring for a bedfast patient whereby the patient can be safely bathed and bedding changed without expenditure of manual labor in handling the patient or moving the bed. In addition to the primary object of the invention, it is also an object of the invention to enable suspending the patient safely within a stable bathing apparatus for giving him a shower.

Referring to FIG. 1 and FIG. 2 and, when appropriate, to FIG. 3, patient 7 is supported in patient support 9. At the periphery of patient support 9 (at each end of patient support 9 in the embodiment shown here) is a stress sustaining means which may be a casing 25 having removable lineal member 1 therewithin. The removable lineal members may be rods capable of supporting the patient's weight. Attached to removable lineal member 1 are interconnector means 5, which may be chain, cable, webbing, or other material. Each interconnector means is attached to a vertical support means such as elevatable post 3, there being one vertical support means in a vertical support means holder 15 adjacent each corner of the bed 27.

Emplaced beneath the patient is water container 11. Portable drain means 19 allows water container 11 to be drained into water receptacle 21 or a sewer system (not shown). Each vertical support means 3 can be raised or lowered by suitable elevating means. In the embodiment shown herein the elevating means comprise four electric motors 17 using a rack and pinion system 31. All four electric motors are connected electrically in parallel and controlled by switch 29. Another system which could be used is the screw and nut system. With a screw and nut system, either the screw or the nut remains stationary while the other is turned to raise the vertical support means. Another system which could be used is the hydraulic system, in which each vertical support means is raised by means of an individual hydraulic cylinder.

Patient 7 is being warmed by heat means, which in this embodiment is heat lamp 23. Patient support 9 could be attached to vertical support means 3 by other means than those shown and previously described. For instance, removable lineal members 1 might be attached directly to vertical support means 3. Or patient support 9 might be connected to a rectangular frame, said rectangular frame being connected, perhaps by means of interconnector means 5, to vertical support means 3. Removable lineal members might be attached to patient support 9 by means of stress sustaining means along the sides of patient support 9.

In operation as shown in this embodiment, patient 7 lies on bedclothes (not shown) on mattress 13 with patient support 9 on top of bedclothes but under patient 7. Removable lineal members 1 are inserted into stress sustaining means 25 at each end of patient support 9. Interconnector means 5 are attached to removable lineal members 1, and interconnector means 5 are also attached to the appropriate vertical support means 3. Vertical support means 3 are then raised by operation of switch 29 and the activation of electric motors 17. In some embodiments mattress 13 might be lowered and also vertical support means 3 raised. Or mattress 13 might be lowered while vertical support means 3 remained stationary. When patient 7 is elevated sufficiently, the old bedclothes (not shown) are removed, and water container 11 is placed under patient 7. Drain means 19 is placed so as to drain into water receptacle 21 or into a sewer system (not shown). Patient is then given a shower by means of portable shower 35 while

being warmed by heat means 23. After the shower, water container 11 is removed. New bedclothes (not shown) are put into place, and vertical support means 3 are lowered, patient 7 resting on patient support 9 and being thereby lowered on to bedclothes (not shown) on mattress 13. Interconnector means 5 are removed from removable lineal members 1, and, if desired, are removed from vertical support means 3. Removable lineal members 1 are removed from stress sustaining means 25.

Although the invention has been described with a certain degree of particularity, it is understood that the present disclosure has been made by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention.

What is claimed is:

1. A patient bathing apparatus comprising:
   a. bed having vertical support means adjacent each corner adapted to support the weight of a patient suspended therebetween;
   b. means carried by the bed for providing variable distance separation between the bedding and the tops of the vertical support means said means comprising a plurality of posts adjacent each corner, each post being connected with an elevating means and individually elevatable for raising the patient;
   c. patient support adapted for supporting said patient, said patient support having a perforated sheet structure adapted to remain in place beneath said patient for emplacement on a bed, said perforated sheet structure having, at the periphery, stress sustaining means to allow attachment to interconnector means;
   d. interconnector means for connecting said patient support with said vertical support means via said stress sustaining means;
   e. shower means adapted to be connected with a source of water for cleansing said patient; and
   f. portable drain means for removing bath water sprayed from shower means over said patient, said drain means being removable and being connectable with a water sink.

2. The apparatus of claim 1 wherein said elevating means comprise a rack and pinion arrangement.

3. The apparatus of claim 2 wherein said pinion is power driven.

4. The bathing apparatus of claim 1 wherein means for changing distances comprises an elevatable mattress support for raising the patient.

5. A combination facilitating changing bedding of and bathing a relatively immobile patient comprising:
   a. bed means adapted bed and a said bend a patient, and having vertical support means adjacent each corner adapted to support the weight of a patient suspended therebetween;
   b. means carried by the bed for providing variable distance separation between the bedding and the tops of the vertical support means, said means comprising a plurality of posts adjacent each corner, each post being connected with an elevating means and individually elevatable for raising the patient;
   c. patient support adapted for supporting said patient in said vertical support means, said patient support being adapted for easy emplacement beneath said patient and having stress sustaining means for attaching to interconnector means on the periphery of said patient support; and
   d. interconnector means for connecting said patient support to said vertical support means via stress sustaining means.

6. The apparatus of claim 5 wherein said elevating means comprise a rack and pinion arrangement.

7. The apparatus of claim 6 wherein said pinion is power driven.

8. The combination of claim 5 wherein means for changing distances comprises an elevatable mattress support for raising the patient.

9. A patient bathing apparatus comprising:
   a. a bed having vertical support means adjacent each corner adapted to support the weight of a patient suspended therebetween;
   b. means carried by the bed for providing variable distance separation between the bedding and the tops of the vertical support means, said means comprising a plurality of posts adjacent each corner, each post being connected with an elevating means and individually elevatable for raising the patient;
   c. patient support adapted for supporting said patient, said patient support having a perforated sheet structure adapted to remain in place beneath said patient for emplacement on a bed, said perforated sheet structure having, at the periphery, stress sustaining means to allow attachment to said vertical support means;
   d. shower means adapted to be connected with a source of water for cleansing said patient; and
   e. portable drain means for removing bath water sprayed from shower means over said patient, said drain means being removable and being connectable with a water sink.

10. The apparatus of claim 9 wherein said posts have elevation changeable by rack and pinion arrangement.

11. The apparatus of claim 10 wherein said pinion is power driven.

12. The bathing apparatus of claim 9 wherein means for changing distances comprises an elevatable mattress support for raising the patient.

13. A combination facilitating changing bedding of and bathing a relatively immobile patient comprising:
   a. bed means adapted to support said bed and a patient, and having vertical support means adjacent each corner adapted to support the weight of a patient suspended therebetween;
   b. means carried by the bed for providing variable distance separation between the bedding and the tops of the vertical support means, said means comprising a plurality of posts adjacent each corner, each post being connected with an elevating means and individually elevatable for raising the patient;
   c. patient support adapted for supporting said patient in said vertical support means, said patient support being adapted for easy emplacement beneath said patient and having stress sustaining means on the periphery of said patient support to allows connection to said vertical support means.

14. The apparatus of claim 13 wherein said elevating means comprises a rack and pinion arrangement.

15. The apparatus of claim 13 wherein said pinion is power driven.

16. The combination of claim 13 wherein means for changing distances comprises an elevatable mattress support for raising the patient.

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