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2,542,963

HOSPITAL TABLE FOR MOVING PATIENTS

Filed Oct. 17, 1945

2 Sheets-Sheet 1

Fig. 1.

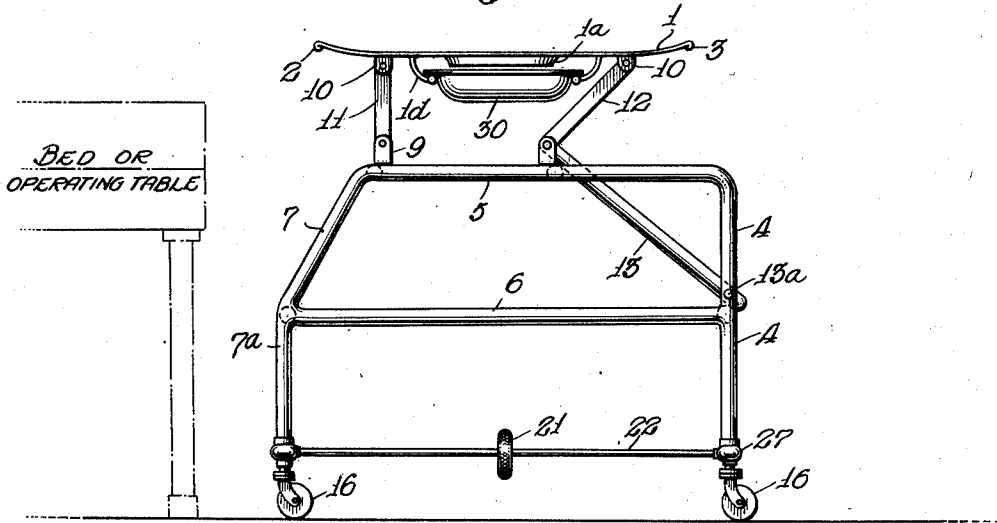
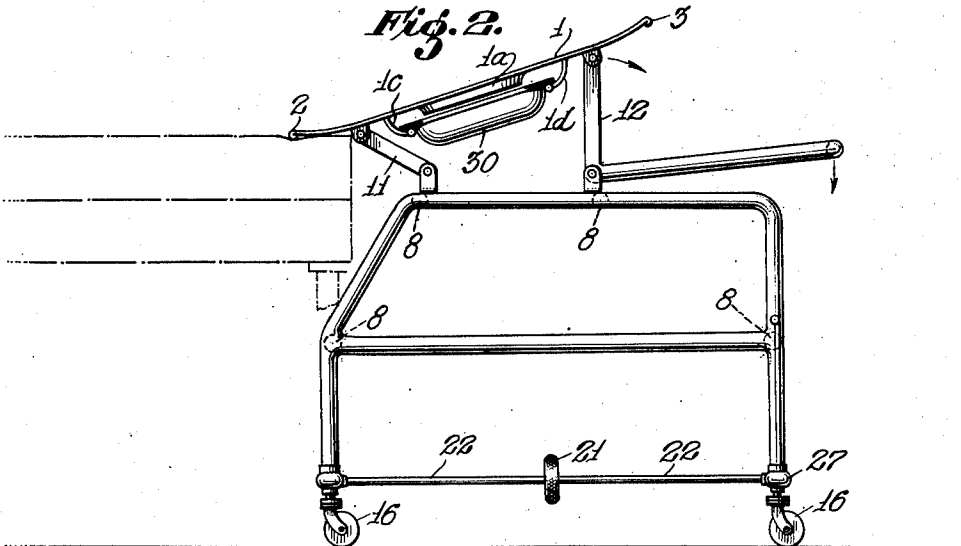


Fig. 2.



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Fig. 3.

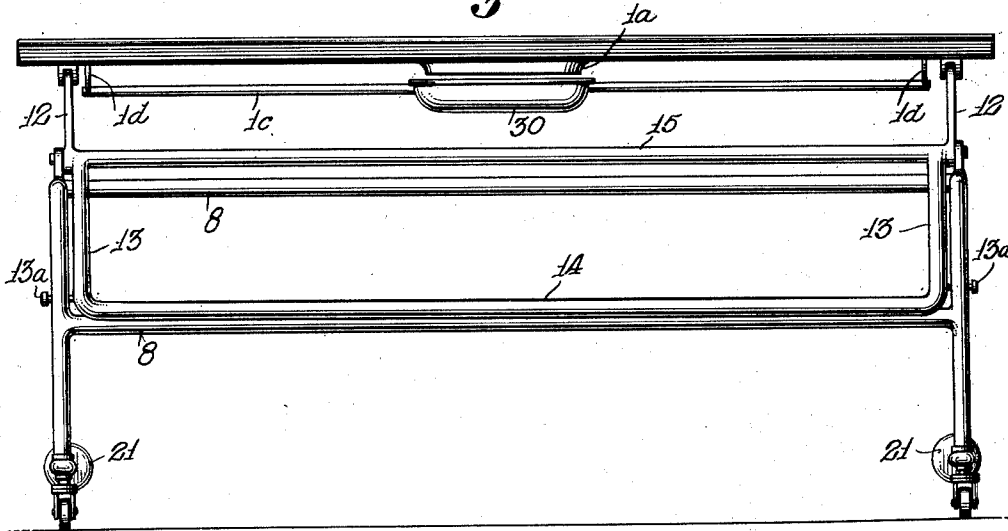


Fig. 4.

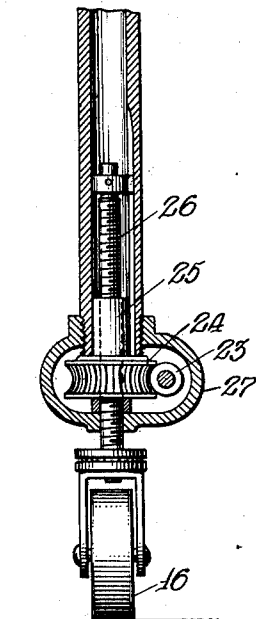


Fig. 5.

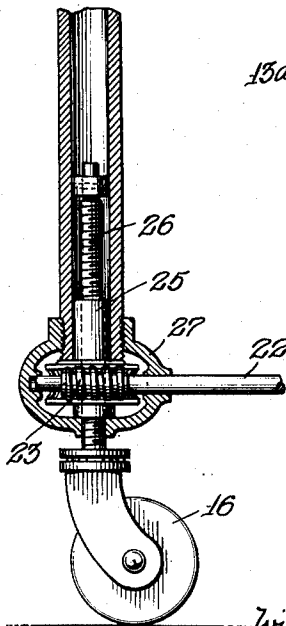


Fig. 6.

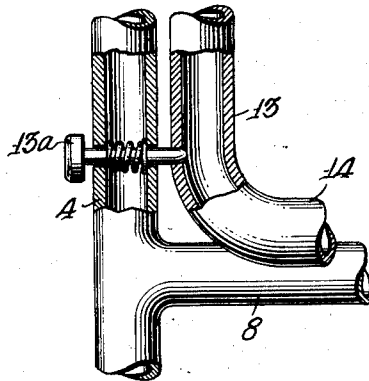
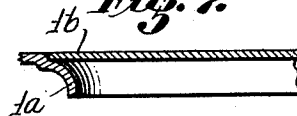


Fig. 7.



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HOSPITAL TABLE FOR MOVING PATIENTS

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9 Claims. (Cl. 5—86)

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This invention relates to hospital apparatus, particularly to wheeled equipment, such as wheeled stretchers, for moving patients while in the prone position.

This apparatus is particularly useful in the moving of anesthetized patients or those who must otherwise be lifted or pulled sideways when moved from or to a bed.

Those persons who are familiar with the task of moving bedridden patients recognize that it is a constant and heavy duty. It is common practice to move a wheeled cot, or wheeled stretcher in the nature of a narrow cot to the bedside of the patient. Then, while the attendant braces the cot to prevent it from rolling away from the bed, the patient's sheet with the patient on it is dragged and partially lifted from the bed to the cot. Practical difficulties are constantly present to trouble the nurse or attendant, as for example if the relative height of the bed and cot are different or if the patient is extremely heavy, or if there is much of a gap between the edge of the mattress and the cot.

One purpose of the present invention is to bridge the space between the bed and the wheeled cot and to thus eliminate as far as possible all chance of accident and to lighten the task of moving the patient. This is accomplished by the apparatus illustrated and described herein, which provides for a narrow wheeled cot or cart with a tiltable top mounted on a wheeled chassis or frame and which frame is adjustable vertically. The top is preferably of strong light weight metal and is provided with manipulating means which enables the operator, nurse or other attendant to thrust the tiltable top, after the manner of a scoop, downwardly and laterally so as to project beyond one side of the wheeled frame. By reason of this movement the edge of the top can be brought to rest on the mattress of a patient's bed so that the sheet on which the patient is reclining can readily be pulled onto the surface of the top. In the preferred embodiment of the top, that side which is adapted to be projected outwardly is provided with an upwardly extending marginal edge portion which is slightly curved as contrasted to the main area of the top. Such a curved portion enables the top to make a conveniently gradual junction with the upper surface of the patient's bed and renders relatively easy the task of the nurse or attendant in pulling the patient and the patient's sheet from the bed to the top.

After the patient is located on the top, the

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latter can be adjusted to its horizontal position above the supporting frame. Then the wheeled frame with the patient thereon is ready to be moved to another location.

The adjustable positioning of the tiltable top is achieved by reason of certain mechanical linkage pivotally connected at its lower ends to the chassis or frame of the cart and pivotally connected at its upper ends to the under surface of the top. The relative size and position of the respective elements of the linkage contribute to the merit of the tiltable top, as will be explained.

The foregoing and additional advantages and features of the invention will be described and claimed in the following specification and claims, considered in connection with the accompanying drawings in which:

Fig. 1 is an end view in elevation, looking at the foot of the wheeled frame and showing the tiltable top in the horizontal position;

Fig. 2 is a view similar to Fig. 1 looking at the foot end of the apparatus, but showing the top in a tilted and laterally projected position;

Fig. 3 is a view of the apparatus shown in Fig. 1, looking at the right side of Fig. 1;

Fig. 4 is an enlarged vertical sectional view at the lower end of one of the legs of the supporting frame and illustrating the gearing for adjusting the legs vertically with respect to the caster wheels;

Fig. 5 is a view similar to Fig. 4, but looking toward the left with respect to Fig. 4;

Fig. 6 is an enlarged fragmentary view, partly in section, of a portion of the framework, illustrating the device for locking the lever used to adjust the top; and

Fig. 7 is a fragmentary sectional view, enlarged, of the center portion of the tiltable top, showing the opening and cover therefor.

Referring in detail to the drawings, like reference characters identify like parts in the several figures.

The apparatus of this invention, being designed to move a patient with the least possible effort, is preferably formed of light weight metal. The top 1 is of smooth sheet metal with rolled or rounded edges. The length of the top 1 from head to foot should be comparable to the usual stretchers, cot or bed of medium length. The width need be only enough to safely carry the patient. As shown in Figs. 1 and 2 the width of the top 1 is comparable to that of a relatively narrow cot. According to the present invention, the side of the top 1 indicated at 2 is adapted to be thrust laterally, outwardly and

downwardly to a position such as shown in Fig. 2. The opposite side or edge of the top 1 is indicated at 3 and it is at this side of the apparatus where the attendant or nurse stands while engaged in moving a patient.

The chassis or main frame of the equipment which carries the top 1 is preferably formed of tubular metal having at one side upright posts 4, an upper horizontal cross bar 5 and a second cross bar 6, both of which latter have their ends merging with or are continuous with a similar connecting bar 7. This assembly completes a four sided framework which is relatively rigid. Extending downwardly from the cross bar 6 is a vertical extension of the frame element 7, as indicated at 7a which constitutes a lower leg or post similar to the lower post portion 4. The framework includes horizontally extending bars or tubes 8, the opposite ends (at the head end) of which are connected to a duplicate of the frame elements 4, 5, 6, 7 and 7a. The width of the frame need be only sufficient to provide a wheel base support for the tiltable top, while yet narrow enough to pass through doors. The length of the frame should preferably be slightly less than the space at the side of a bed between the legs at the head and foot so that the frame may be brought close to if not actually under the edge of a mattress.

The mounting of the tiltable top 1 to provide for its lateral and downward movement of one side and the reverse of that movement is peculiar and includes the following construction. At the top of the head and foot frame members 5 are positioned two upstanding short brackets 9 which are securely fastened to the frame member 5, as by welding. There are two pairs of these brackets 9 spaced apart on each of the horizontal bars 5. Somewhat similar brackets 10 are secured to the undersurface of the tiltable top 1 and project downwardly. The function of these brackets 9 and 10 are to provide pivotal supports for connecting links 11 and 12 which serve to support the tiltable top 1 in its several positions, as will now be explained. With reference to Fig. 1, looking at the foot end of the apparatus, it will be observed that the bracket 10 is substantially immediately above the bracket 9. A link 11 is pivotally connected to 9 and 10. At the opposite side of the apparatus the bracket 9 is positioned inwardly from the side of the chassis frame so that the bracket 10 which depends from the undersurface of the tiltable top 1 is not positioned immediately above the bracket 9, but is nearer the side of the frame having the frame members 4. A link 12 is pivotally connected to the brackets 9 and 10 and as shown in Fig. 1 the link 12 extends diagonally upwardly from the bracket 9 to the bracket 10 when the tiltable top 1 is in its horizontal position. The respective length of the links 11 and 12 contribute to the movement of the tiltable top 1, as will be explained. It will be obvious that the links 11 and 12 are duplicated at opposite ends of the apparatus.

Means for operating the linkage 11 and 12 to move the tiltable top 1 is provided by means of a framework in the nature of a lever including spaced arms 13 rigidly connected to the links 12, each of which arms extends laterally and outwardly from the lower end of the links 12, as shown in Figs. 1, 2 and 3. The extreme outer ends of the parts 13 are connected by a horizontally extending bar 14. The bar 15 extends between the opposite ends of the members 13 at a point substantially in alignment with the pivotal point of the link 12. By having the members 13, 14 and

15 in a form of a rectangular frame, a strong construction is provided. To actuate the link 12 the attendant raises or lowers the bar 14, thus elevating or lowering the outer ends of the parts 13 with corresponding rocking movement of the links 12 about their lower pivotal points. When the links 12 are moved from the diagonal position shown in Fig. 1 to the substantially upright position shown in Fig. 2, the tiltable top 1 is thrust outwardly at the left and downwardly, the limitations of movement being subject to the relative length of the link 11 as compared to the length of the link 12.

Lock mechanism for holding the lever arms 13 in the lowered position with the tiltable top 1 horizontal is indicated at 13a (Figs. 1, 2, 3 and 6). 13a includes a spring held rod or bolt having one end adapted to enter a hole in the arm 13. This device can be duplicated at opposite ends of the framework.

The chassis frame is preferably mounted on suitable caster wheels 16.

The framework may be adjusted vertically with respect to the caster wheels 16 by means of mechanism described in the following. At the head and foot of the chassis are knurled wheels 21 which are mounted on cross rods 22, extending between the lower ends of the post portions 4 and 7a. The wheel 21 and the rod 22 serve as operating means for turning gears which serve to elevate or lower the frames with respect to the casters, in accordance with the following details. At the lower end of each of the posts 7a are suitable housings in which the rods 22 are journaled. Within those housings the rod 22 carries a worm gear 23 which is in mesh with a gear 24, which in turn carries a sleeve 25 having screw threaded engagement with a threaded post 26. The post 26 constitutes an extension of the shank or main support of the caster wheel. The post 26 is journaled at its upper end within the interior of the posts 4 and 7a and is otherwise adapted to turn freely with respect to the posts 4 and 7a.

By turning the wheels 21 at either the head or foot ends of the chassis the frame at that respective end may be elevated or lowered to suit. Optionally also the table top 1 may be brought to the horizontal position at any height.

A drainage pan 30 is provided and is accessible from the upper surface of the tiltable top 1 through an opening in the top having a downwardly extending flange 1a. A cover plate 1b is normally seated to close the opening. 1b extends in substantially the same plane with the upper adjoining surface of the tiltable top 1. The pan 30 has a laterally extending flange adapted to rest on and be carried by two rods 1c which are supported at opposite sides of the opening by brackets or arms 1d. The rods 1c extend lengthwise of the tiltable top and the space between them is open so that the pan 30 may be slide endwise of the tiltable top and removed either at the head or the foot end of the apparatus. The pan 30 is a useful feature for abdominal operations, irrigations, or as a bed pan.

We claim:

1. Apparatus for facilitating the movement of patients, which apparatus comprises a wheeled frame, a table top having a main central area extending generally in a common plane and mounted on said frame, and adapted to be tilted in its entirety sidewise and projected laterally when tilted, linkage means extending between said table top and said frame and constituting the connection between the mounting for said table top on

9. Apparatus for facilitating the movement of patients, which apparatus comprises a wheeled frame, a table top having a main central area extending generally in a common plane and mounted on said frame and adapted to be tilted in its entirety sidewise and projected laterally when tilted, a plurality of links pivotally connected to and extending normally upwardly from said frame to said table to which they are pivotally connected, said links constituting the supporting means for and means for moving the latter, a plurality of said links being positioned at opposite sides of said table top, and means extending lengthwise of said frame and accessible at one side of the frame and connected to said linkage means for applying leverage to said links to move their upper ends and the table top laterally, said links at the advance side of the table top being shorter than those at the opposite side and adapted to be in the upright position when those on the opposite side are inclined outwardly from

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their lower toward their upper ends, whereby the advance edge of the tilted and projected top may be extended beyond said wheeled frame.

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