

March 14, 1950

A. R. HASKINS

2,500,544

BED PAN VEHICLE

Filed March 21, 1947

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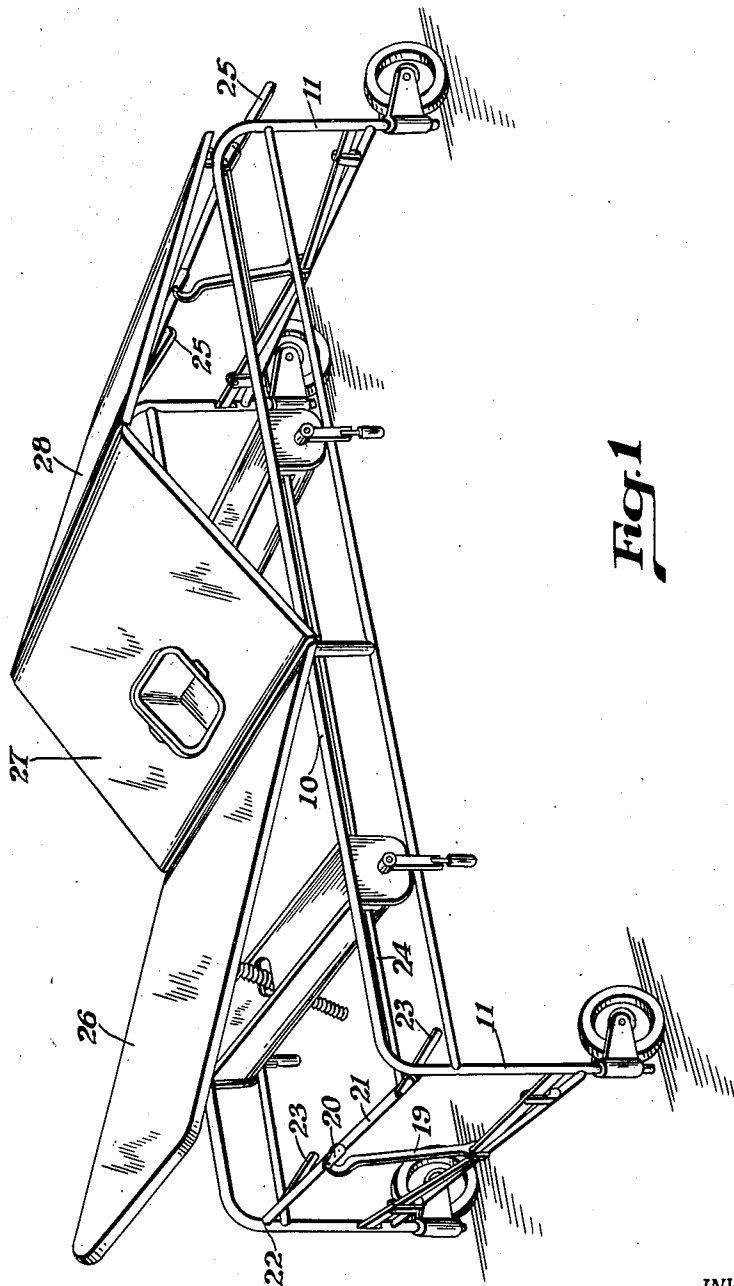


Fig. 1

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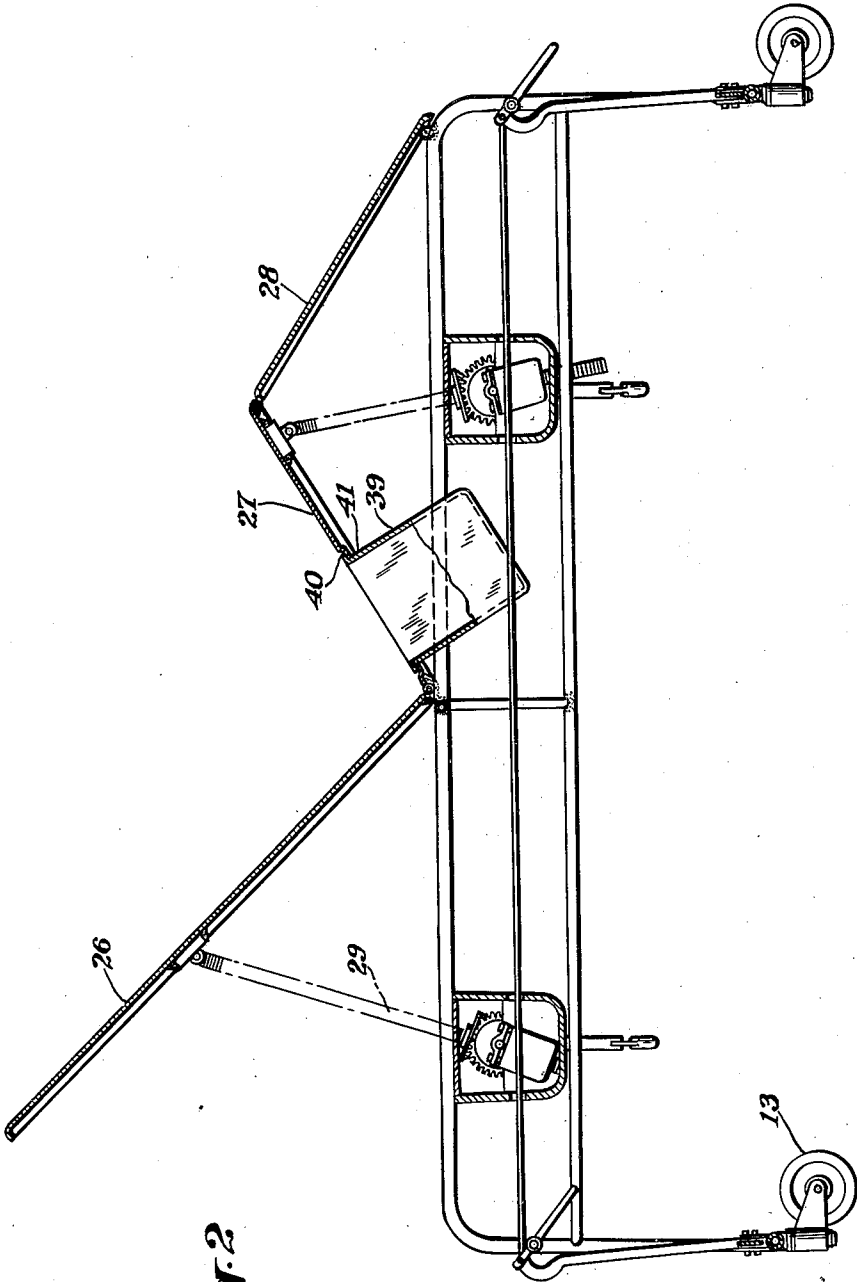


Fig. 2

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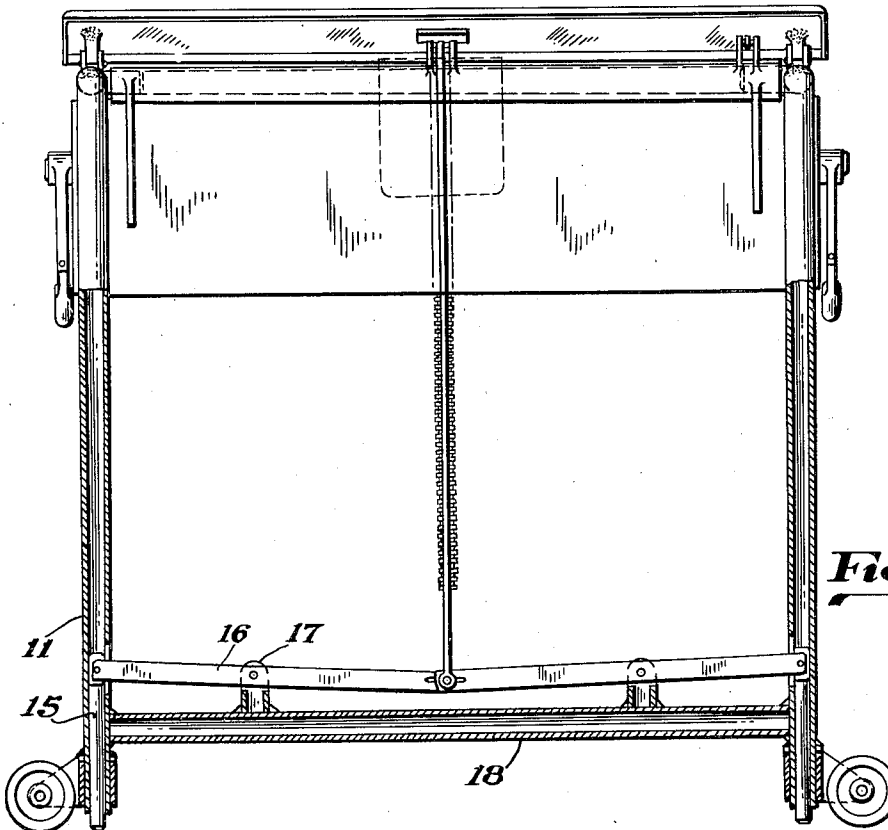


Fig. 3

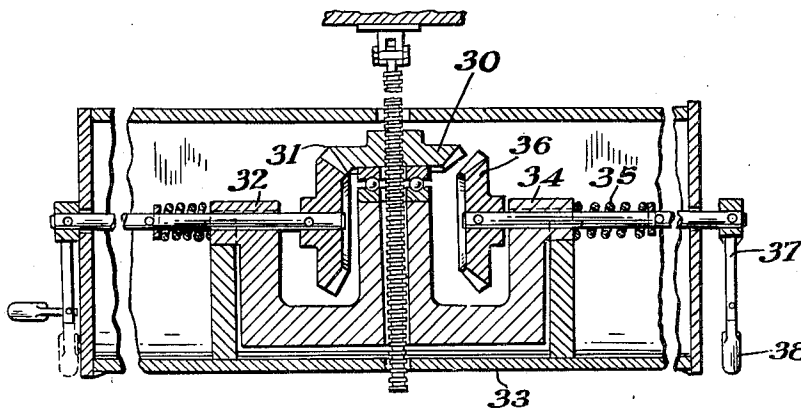


Fig. 4

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UNITED STATES PATENT OFFICE

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BEDPAN VEHICLE

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Application March 21, 1947, Serial No. 736,368

1 Claim. (Cl. 5—90)

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This invention relates broadly to apparatus for use in a hospital or sick room and more specifically to mechanism for the support of an invalid in position to defecate.

In detail, the apparatus comprises a wheeled table of a height equal to that of a hospital bed and of a length and width similar to an operating table. The table is provided with mechanism to arrest the action of the wheels when the patient is transferred thereto and is further constructed with a top which embodies a plurality of vertically adjustable panels designed for the support of the back and knees of the patient in a slightly elevated position. The adjustments are constructed to facilitate independent operation of the back and knee supporting panels or plates in order to accommodate various types of injuries and infirmities. The center plate of the top is provided with a vessel which is formed to accommodate the ready removal thereof after the patient is returned to his bed. The table is designed primarily, to supersede a bed pan in order to avoid the accidents that so often occur in the use thereof, and in addition, to lighten the burden on the nurse when handling patients that require lifting.

Further objects and advantages of the invention reside in the structure of the table top adjusting mechanism, the construction and function of the wheel locking device, and the organization and coordination of the linkage that controls the wheel and top plate elevating mechanisms.

Other objects and advantages more or less ancillary to the foregoing and the manner in which all the various objects are realized will appear in the following description, which, considered in connection with the accompanying drawings, sets forth the preferred embodiment of the invention.

In the drawings in which the preferred embodiment of the invention is illustrated;

Fig. 1 is a view in perspective of the improved invalid supporting structure;

Fig. 2 is a longitudinal section therethrough;

Fig. 3 is a vertical section through the head frame member; and

Fig. 4 is a vertical section through the top plate elevating mechanism.

Referring first to Fig. 1, the apparatus comprises generally a rectangular frame 10 having legs 11 on the corners thereof, an articulate top 12 and mechanism for the adjustment of the sections thereof to the requisite angle of inclination for the patient under treatment.

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The legs 11 are provided with wheels 13 mounted to swivel on the ends thereof so that the vehicle may be readily moved from room to room and pushed laterally into operative position against the side of the bed. When the apparatus is brought to the bedside, the castors or wheels 13 are thrown out of action in order to avoid accidental movement of the table when the patient is rolled or lifted thereon. To this end, the legs 11 are preferably of tubular form and provided with plungers 14 having rubber tips 15 on the floor engaging ends thereof. The upper ends of the plungers are kerfed and cross-drilled to facilitate the support of arms 16 fulcrumed in brackets 17 on the bars 18 affixed to the lower ends of the legs. The arms 16 are inter-linked with push rods 19 coupled with cranks 20 rigidly attached upon sleeves 21 mounted for rotation upon tie rods 22 secured to the upper portions of the legs 11. The sleeves 21 are provided with levers 23 adjacent the side rails of the frame to accommodate actuation of the linkage from either side of the table. One of the levers 23 on one side of the table is inter-linked through a push rod 24 with a similar lever on the other end of the table to facilitate the simultaneous operation of all of the plungers when a lever at either end or either side of the table is adjusted.

In operation, when the levers 23 are rotated to effect the elevation of the crank arms 20, the rods 19 will rock the arms 16 about their fulcrums in the brackets 17 which in turn will move the plungers 14 downwardly to a position which will effect the elevation of the wheels above the floor.

The table is preferably formed with a back rest plate 26 pivotally connected to the side frames 10, an intermediate plate 27 pivoted to the frame and to a front plate 28 which is loosely supported upon the forward end of the table. The plates 26 and 28 are provided with elevating screws 29, each of which is mounted in a tapped bevel gear 30 supported on a thrust bearing 31 mounted on a gear cage 32. The gear cage is supported for free oscillatory movement within a housing 33 which is secured to the frame 10. The gear cage is preferably formed with trunnions in the side walls thereof which are mounted in bearing blocks in the housing 33 disposed to accommodate the angular movement of the screw or jack screw 29 in compensating for the adjustments of the plate to which the screw is attached. The gear cage 32 is bored for the reception of shafts 34 having pinions 35 on the ends

thereof adapted for engagement with the bevel gear 30. The pinions are normally retracted from meshed engagement with the gear 30 by springs 36 mounted on the shafts in abutting relation with the cage to urge the shafts outwardly. The outer ends of the shafts 34 are provided with levers 37 having pivotally mounted crank arms 38 thereon which are constructed for spring locked retention in a horizontal position to accommodate manipulation thereof.

Before the patient is placed upon the table, the plates are adjusted in their lowered position and after he is transferred thereto the back rest may be elevated by pressing the shaft 34 inwardly until the pinion 36 is engaged with the gear 30, then rotating the crank lever 37 until the plate 26 is raised to the desired elevation. The plate 27 is controlled by mechanism of a like structure and is operated in a similar manner. The inclination of the plate 28 is determined by the length thereof and the elevation of the plate 27 to which it is attached.

The plate 27 is provided with an aperture in the central portion of the inner end thereof for the reception of a vessel 39 which is formed with a top marginal flange 40 adapted for seated engagement within a depressed ledge 41 in the plate. The side walls of the depressed portion of the plate are enlarged at the opposite sides of the opening to form finger pockets 42 which are provided to accommodate removal of the vessel.

In operation, the table is wheeled to the bed side, then locked against movement by depression of the plungers as effected through manipulation of the levers 23. The patient is then rolled or otherwise moved upon the table and the back rest 26 and the supporting plates 27 and 28 are next adjusted concomitant with the type of injury of the patient or character of infirmity of the invalid. After treatment, the panels are lowered to a position where they will lie in a common plane and the patient is returned to his bed. The table is then lowered to bring the caster wheels 13 into action and the vehicle may then be removed.

Although the foregoing description is necessarily of a detailed character, in order that the invention may be completely set forth, it is to be understood that the specific terminology is not intended to be restrictive or confining, and that various rearrangements of parts and modifications of detail may be resorted to without departing from the scope or spirit of the invention as herein claimed.

I claim:

A mobile bedside support for temporarily supporting an invalid during relief, comprising a skeleton frame having two spaced parallel side rails of a length substantially equal to that of the average size sick bed, downwardly extending legs formed at the end of each rail, cross-bars between the rails, said legs being of such a length that the side rails are at a height substantially equal to that of the average size sick bed, the ends of said support formed by said legs and side rails being unobstructed above the plane of said side rails, relatively large castors on each leg to facilitate mobility of said frame, means slidable on said legs to arrest the wheeled movement of said support while the invalid is being transferred from a bed thereto, a smooth non-absorbent midplate straddling a midsection of said rails and hinged at the head end thereto, a smooth torso supporting plate hinged to said midplate adjacent the point of hinged attachment of the latter, means for adjusting the inclination of said torso plate, a smooth leg support plate hinged to the foot end of said midplate, means on the foot end of said leg support plate for sliding along said rails, means mounted on said frame for lifting said midplate and thereby simultaneously lifting the pivoted end of said leg support plate and sliding the foot end of the latter along said rails, and a vessel removably mounted in a substantially central zone of said midplate.

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