1,511,477

Oct. 14, 1924.

F. N. JEPSON

ELEVATING ATTACHMENT FOR HOSPITAL BEDS

Filed Nov. 24, 1922

Fig. 1

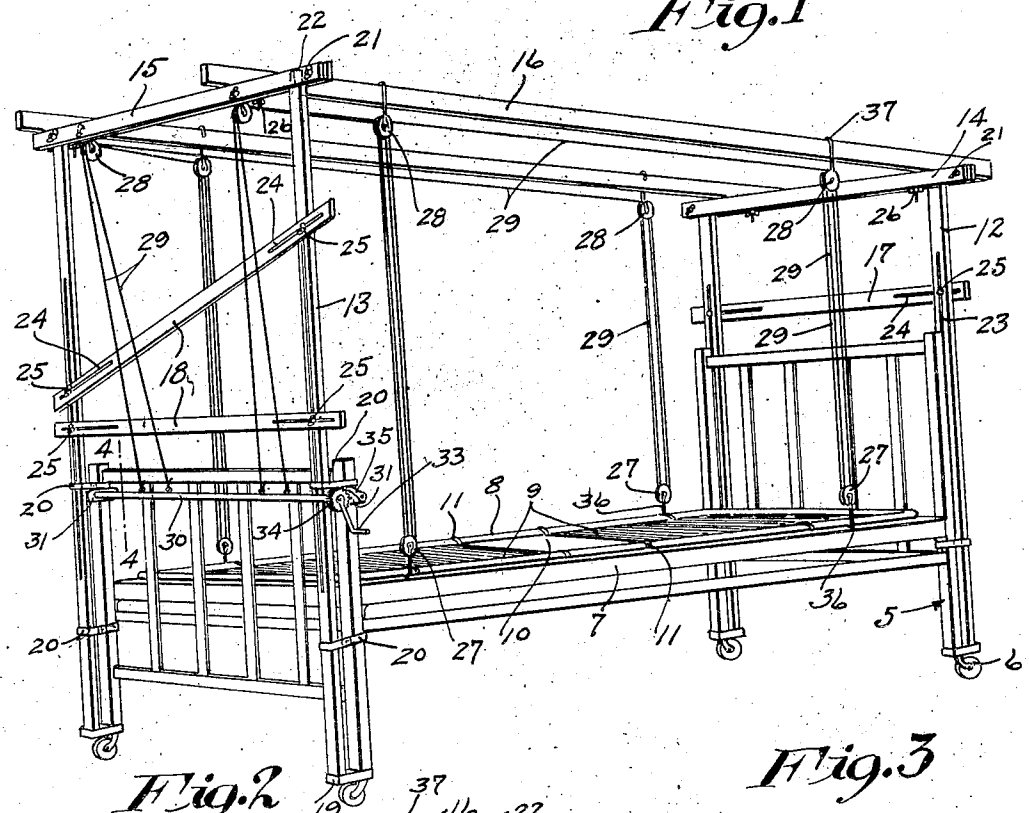


Fig. 2

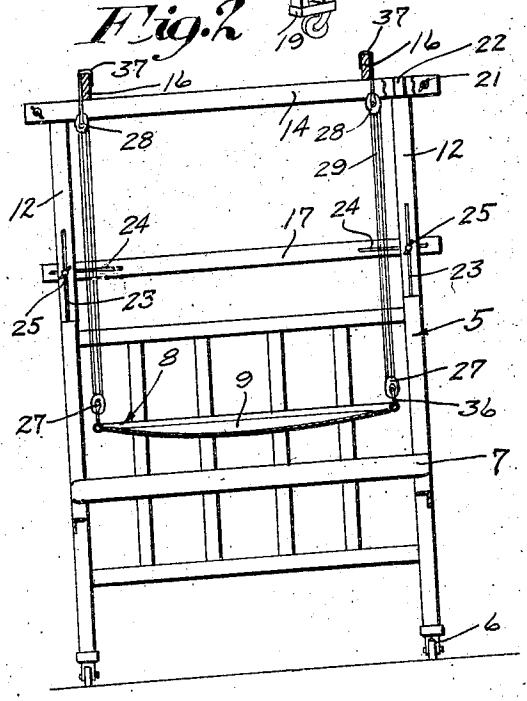


Fig. 3

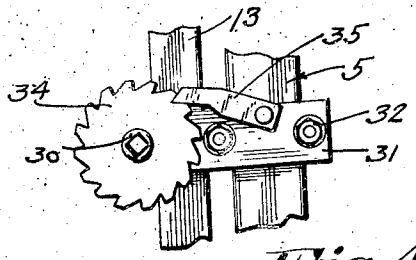
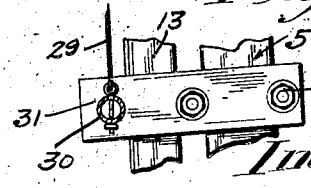


Fig. 4



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UNITED STATES PATENT OFFICE.

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ELEVATING ATTACHMENT FOR HOSPITAL BEDS.

Application filed November 24, 1922. Serial No. 602,976.

To all whom it may concern:

Be it known that I, FRANKLIN N. JEPSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Elevating Attachments for Hospital Beds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to hospital beds and more particularly to the handling of patients, that are helpless with spinal or other trouble, and has for its object to provide means whereby a patient may be lifted and held suspended above his bed in order that a bed pan may be placed under him.

By the use of my invention a patient may be lifted and held suspended above his bed without changing his position or disturbing or causing him any discomfort whatsoever.

To the above end, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a perspective view of the bed having the invention applied thereto;

Fig. 2 is a transverse vertical section showing the stretcher elevated above the bed;

Fig. 3 is an end elevation of the windlass with the operating crank removed; and

Fig. 4 is a detail view with the windlass shaft sectioned on the line 4—4 of Fig. 1, on an enlarged scale.

The numeral 5 indicates a bedstead, as an entirety, except for the casters 6, and the numeral 7 indicates a mattress or box spring upon which will be spread, in actual usage, the customary bed clothes or coverings as used in hospitals.

The invention includes a stretcher or litter comprising a rigid marginal frame 8 to which is secured a flexible body 9 of canvas or other suitable material. This body 9 is provided with an intermediate aperture 10 which, as shown, is afforded by forming said body of independent head and foot pieces edgewise spaced at their adjacent edges. The stretcher frame 8, as shown, is of substantially the same size as the mattress 7 and the body 9 is secured thereto by loops 11, at its edges, through which the frame projects, or by hooks or buckle-equipped straps which detachably secure said body to the frame whereby the same may be removed and laundered or a new body substituted for a worn out or torn one. Normally, the stretcher is spaced upon the bed and the patient lies thereon as a part of the bedding.

The invention further provides a skeleton frame which comprises a pair of head posts or uprights 12, a pair of foot posts or uprights 13 supporting on their upper ends cross tie-bars 14 and 15, respectively. A pair of longitudinal laterally spaced rails or side bars 16 are supported on the cross tie-bars 14 and 15, and afford an overhead support from which the stretcher is lifted and held suspended as will presently appear. The frame further includes a cross brace 17 which connects the uprights 12 and two vertically spaced cross braces 18 which connect the two uprights 13.

The frame is entirely supported from the bedstead 5 so that the same is carried thereby when moved on the casters 6 by securing on the lower ends of the legs thereof, ledges or offset lugs 19 on which the posts 12 and 13 rest. Buckle-equipped straps 20 are passed around the legs of the bedstead 5 and posts 12 and 13 and secure said posts thereto.

To permit the frame to be adjusted for beds of different widths, each cross tie-bar 14 and 15 is made up of two members connected by thumb nut-equipped bolts 21, and between which members tenons 22 on the respective posts 12 and 13 project and are frictionally held by said members, with the posts of each pair properly spaced, under the clamping action of said bolts.

The cross braces 17 and 18 are adjustably connected to the posts 12 and 13 to permit the members of each pair to be laterally spaced and to permit said braces to be vertically adjusted by forming in said posts vertical slots 23, and in said braces horizontal slots 24 through which, at their intersections, thumb nut-equipped bolts 25 are passed to frictionally clamp said braces onto the posts. The side bars 16 are secured to the cross tie-bars 14 and 15 with freedom for lateral adjustments in respect to each other by extending thumb nut-equipped

bolts 26 through bores therein and the slots formed between the members of each cross tie-bar 14 and 15.

To raise and lower the stretcher and hold the same suspended in different positions above the mattress 7, there is secured to each side of the frame 8, near the ends thereof, a pair of pulleys 27, and secured to the side bars 16 directly over said pulleys are pulleys 28 over which pulleys 27 and 28 cables 29 are arranged to run. These cables are arranged to be wound upon a windlass shaft 30 journaled in bearings 31 in the form of laterally spaced bars, frictionally clamped by nut-equipped bolts 32 onto the sides of the posts of the foot of the bedstead 5. A hand crank 33 is secured on one end of the shaft 30, and which shaft is held against backward rotation, which would permit the stretcher to be lowered, by a one-way ratchet wheel 34, secured to the windlass shaft 30 adjacent to the hand crank 33, and a co-operating dog 35 pivoted to the respective bearing 31.

Normally, the stretcher rests directly on the mattress 7, as shown in Fig. 1, and by operating the hand crank 33 the cables 29 will be wound upon the windlass shaft 30 and thereby elevate and hold the stretcher suspended above the mattress 7, as shown in Fig. 2.

Preferably, the pulleys 27 are detachably secured to the frame 8 by hooks 37 so that the elevating attachment may be released therefrom and the pulleys 28 are held suspended by hooks 37 from the rails 16 with freedom for longitudinal adjustment thereon or removal therefrom.

The above described invention has, in actual usage, proven highly efficient for the purpose had in view.

What I claim is:

1. The combination with a bed including a bedstead, having ledges secured between the lower ends of its legs and casters, of a stretcher adapted to be spread upon the bed, a frame including uprights supported on said ledges, adjustable ties securing the uprights to the posts of the bedstead, and means carried by the frame for elevating the stretcher and holding the same suspended above the bed.

2. The combination with a bed including a bedstead, a stretcher adapted to be spread upon the bed, a frame including uprights, cross tie bars and side bars, said uprights being connected in pairs by the cross tie bars and secured thereto for adjustments toward and from each other, said side bars being supported on the cross tie bars and secured thereto for adjustment toward and from each other, and means carried by the frame for elevating the stretcher and holding the same suspended above the bed.

3. The structure defined in claim 2 in further combination with cross braces connecting the uprights of each pair and secured thereto to permit the uprights of each pair to be adjusted toward and from each other.

4. The structure defined in claim 2 in further combination with vertically adjustable cross braces connecting the uprights of each pair and secured thereto to permit the uprights of each pair to be adjusted toward and from each other.

5. The combination with a bed including a bedstead, of a stretcher adapted to be spread upon the bed, a frame including uprights, cross tie bars and side bars, said cross tie bars being provided with longitudinal slots in which the upper ends of the uprights are seated, means for securing the uprights to the end bars in different adjustments, said side bars being supported on the cross tie bars for adjustment toward and from each other, means for securing said side bars to the cross tie bars in different adjustments, and means carried by the frame for elevating the stretcher and holding the same suspended above the bed.

6. The structure defined in claim 5 in further combination with means extending through the longitudinal slots in the cross tie-bars and securing the side bars thereto in different adjustments.

7. The combination with a bed including a bedstead, of a stretcher adapted to be spread upon the bed, a frame including uprights, cross tie bars and side bars, said uprights having on their upper ends tenons, each of said cross tie bars comprising two members supported on the upper ends of the uprights with the tenons thereof extending therebetween, means for frictionally clamping the members of the cross tie bars onto the tenons, said side bars being supported on the cross tie bars and having means extending between the members of said cross tie bars for clamping the side bars onto the cross tie bars, and means carried by the frame for elevating the stretcher and holding the same suspended above the bed.

In testimony whereof I affix my signature.

FRANKLIN N. JEPSON.