W. BUTLER.

INVALID CRANE.

APPLICATION FILED JULY 28, 1911.

1,094,117.

Patented Apr. 21, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

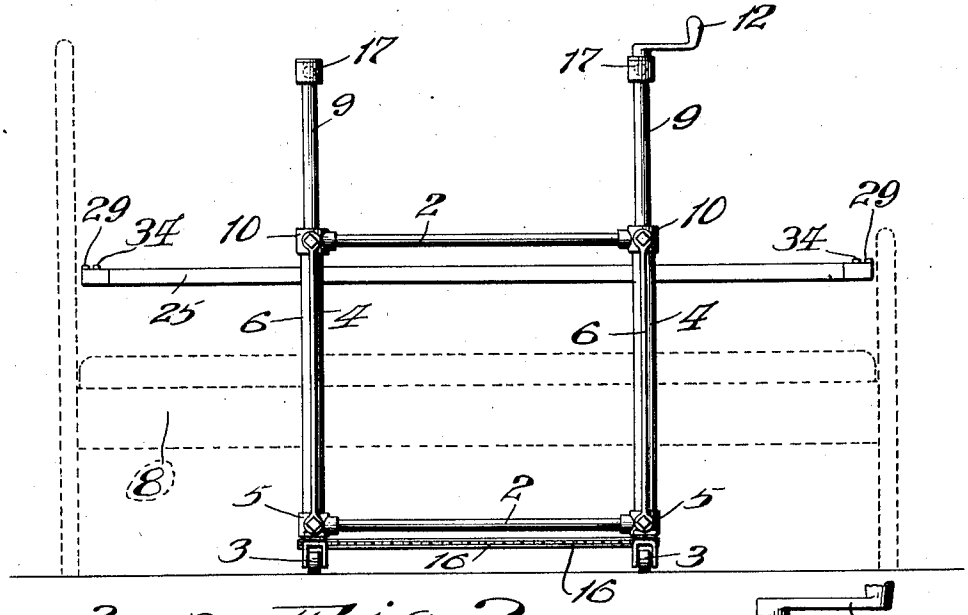


Fig. 2.

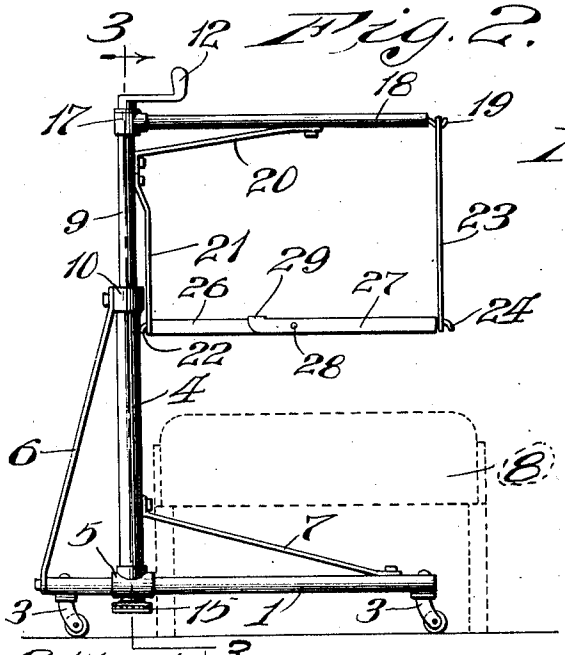
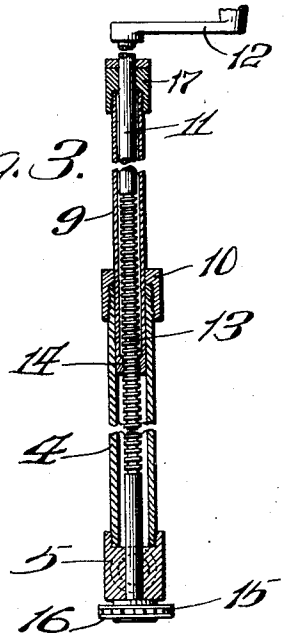


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

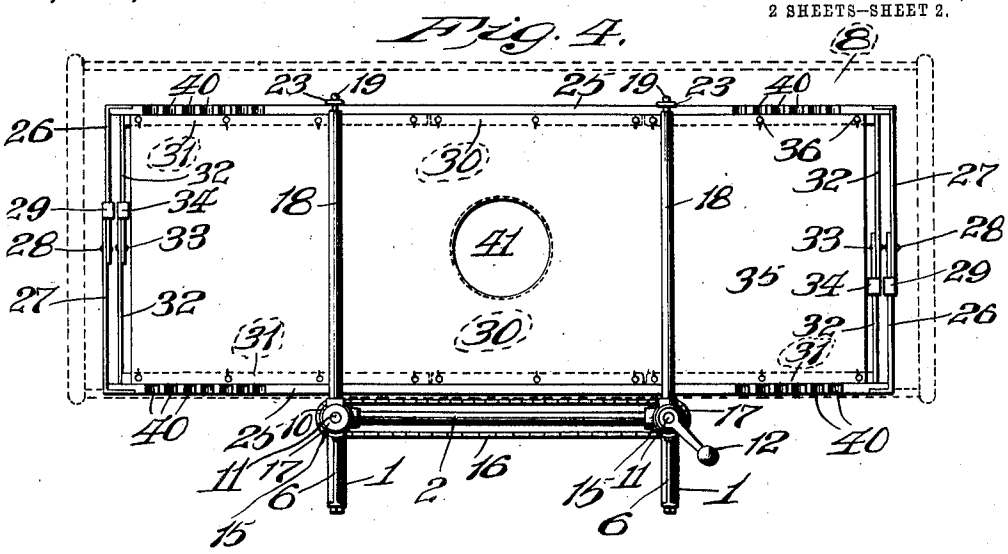


Fig. 5.

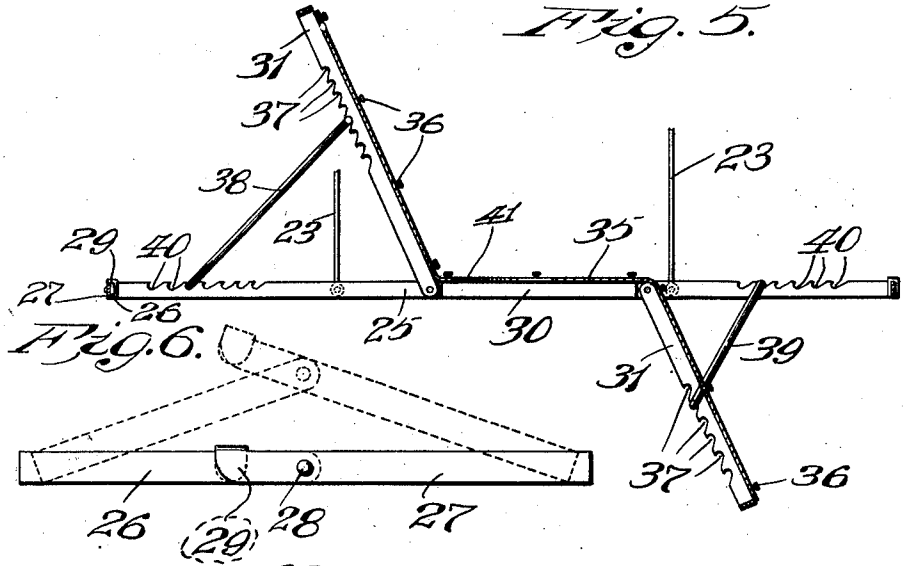
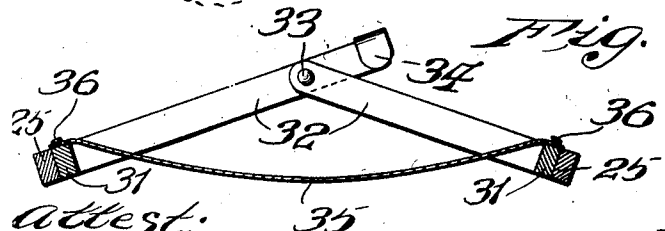


Fig. 6.

Fig. 7.



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UNITED STATES PATENT OFFICE.

WESLEY BUTLER, OF HILLSBORO, ILLINOIS, ASSIGNOR OF ONE-HALF TO J. C. CRABTREE, OF TAYLORVILLE, ILLINOIS.

INVALID-CRANE.

1,094,117. Specification of Letters Patent. Patented Apr. 21, 1914.

Application filed July 28, 1911. Serial No. 641,053.

To all whom it may concern:

Be it known that I, WESLEY BUTLER, a citizen of the United States of America, residing in Hillsboro, county of Montgomery, and State of Illinois, have invented certain new and useful Improvements in Invalid-Cranes, of which the following is a specification.

This invention relates to devices for the handling of invalids, and has for its primary object to provide an improved construction, combination, and arrangement of parts in devices of this character, whereby an invalid can be conveniently transported from one place to another, and by means of which he can be moved from a reclining position to a sitting position, and vice versa, thus greatly adding to his comfort.

One of the objects of the present invention is to provide improved means for enabling an invalid to be temporarily raised from a bed to permit change of linen.

Other and further objects will appear in the specification, and be specifically pointed out in the appended claims, reference being had to the accompanying drawings exemplifying the invention, and in which,

Figure 1 is a side elevation of a device constructed in accordance with the principles of the present invention, a bed being shown in dotted lines. Fig. 2 is an end elevation of the same. Fig. 3 is a section on the line 3—3, Fig. 2. Fig. 4 is a top plan view of the same. Fig. 5 is a detail section of the stretcher with its parts arranged for holding the invalid in a sitting position. Fig. 6 is a detail elevation of the folding end bar of the stretcher frame. Fig. 7 is a transverse section of the stretcher showing the parts in position permitting the disengagement of the stretcher sheet from its frame.

Referring more particularly to the drawings and to the embodiment shown therein, a pair of spaced base rails 1 are rigidly joined together by a transverse rail 2, these rails being preferably constructed of tubes. Each of the base rails 1 is provided with a pair of pivotally mounted casters 3 adapting the crane to be rolled from place to place as desired.

Projecting upwardly from each base rail 1, and adjacent one end thereof, is a tubular standard 4 which is connected with the base rail 1 by means of a T-coupling 5. Each of said standards is supported from the base rail by a rear tension rod 6, and a front tension rod 7; said front tension rod being disposed beneath a bedstead 8, shown in dotted lines in Figs. 1, 2 and 4.

Telescopically connected with the standards 4 are upper tubular sections 9 of similar diameter, the upper end of each standard 4 being provided with a gland nut 10, the tension rod 6 being secured to said gland 10 as shown in Fig. 2.

Referring now to Fig. 3, means for raising and lowering the sections 9 within the standards 4 is provided with an elongated feed rod 11 with a crank 12 at the upper end thereof, said rod 11 being journaled at its lower end within the T-coupling 5. Intermediate of its ends, said rod 11 is provided with screw threads 13 which engage the threaded end 14 of the section 9. In order to provide efficient means for elevating and lowering both ends of the section 9 simultaneously, the lower end of each rod 11 is provided with a sprocket wheel 15, between which sprockets runs an endless chain 16, so that any movement of the crank 12 transmits power to both rods at once. The upper end of each tubular section 9 is provided with a gland coupling 17, within which the upper end of each rod 11 is journaled. Projecting horizontally from each gland 17 is a horizontal arm 18 provided at its outer end with a suspension hook 19. Each of said arms 18 is provided with an additional support from the tubular section 9 by means of the strut 20. Secured to each section 9 is moreover a suspension rod 21 the lower ends of these rods 21 being adapted to engage hooks 22 which project from the side bar of the folding stretcher frame presently to be described. A pair of suspension links 23 which are pivotally suspended from the hooks 19 serve to support the stretcher frame by means of hooks 24 on the opposite side of said frame.

Referring more especially to Figs. 4, 5, 6 and 7, the detail construction of the stretcher will now be described. The stretcher frame comprises a pair of side bars 25 which are connected by end rails comprising sections 26 and 27, said sections being pivotally connected at 28, and one of said sections being provided with a claw 29, whereby said sections are held against folding by a downward movement of the body 28. Said sections are, however, foldable laterally by

moving the pivot 28 upwardly as indicated in dotted lines Fig. 6. Within the outer stretcher frame just described is an inner stretcher frame comprising jointed sections for permitting the stretcher to be disposed in different positions. The inside frame comprises a pair of intermediate sections or bars 30 which are rigidly secured to the side bars 25. Pivotally connected to said side bars 25 on either side of the sections 30, are end sections 31 which, as shown in Fig. 7, are connected by end rail sections 32 pivotally connected at 33 and provided with a claw 34 for an exactly similar purpose as that described in connection with Fig. 6. There being a further purpose, however, in that the stretcher body 35 can be relaxed to permit its removal from the buttons or projections 36 projecting from the upper edges of the sections 31. Each of the sections 31 is provided with a plurality of notches 37 along its lower edge to permit a strut 38 to be interposed between the uplifted section 31 and one end of the outer frame, and a tension link 39 to support the depending end 31 from the other end of the outer frame. For this purpose, the outer ends of the outer frame are provided with corresponding notches 40. The aperture 41 may be provided in the center of the stretcher body to adapt it to be used with a commode or bed-pan.

What I claim is:

1. In an invalid crane, the combination of a raising device and a supporting frame, said frame being suspended from said raising device by a pair of links engaging hooks on one side of said frame, and a pair of suspension rods connecting with hooks on the other side of said frame.

2. In a device of the character described, the combination with a crane, of a stretcher suspended from said crane, said stretcher comprising an outer frame, and a sectional inner frame, said inner frame having an intermediate section and adjustable end sections, said central section being rigidly secured to the side bars of said outer frame, said end sections being pivoted to said side bars, and folding end rails for said frames.

3. In a device of the character described, the combination with a crane, of a stretcher suspended from said crane, said stretcher comprising an outer frame, and a sectional inner frame, said inner frame having an intermediate section and adjustable end sections, said central section being rigidly secured to the side bars of said outer frame, said end sections being pivoted to said side bars, and folding end rails for said frames, said end rails being rigidly secured at one end to the side bars of their respective frames and pivotally connected at their adjacent ends.

4. In an invalid crane, the combination of a raising device, with a supporting frame, a sectional inner frame carried by said supporting frame, said supporting frame being suspended from said raising device by a pair of links engaging hooks on one side of said supporting frame, and a pair of suspension rods connected with hooks on the other side of said supporting frame.

5. In an invalid crane, the combination of a raising device, with a supporting frame, a sectional inner frame carried by said supporting frame, said supporting frame being suspended from said raising device by a pair of links engaging hooks on one side of said supporting frame, and a pair of suspension rods connected with hooks on the other side of said supporting frame, the central section of said inner frame being secured to the side bars of said supporting frame, the end sections of said inner frame being pivotally mounted to said side bars and adjustable upwardly and downwardly, respectively, folding end rails rigidly secured to the ends of said frames, said folding rails providing for the securing of a bed sheet to said inner frame.

WESLEY BUTLER.

In the presence of—
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