

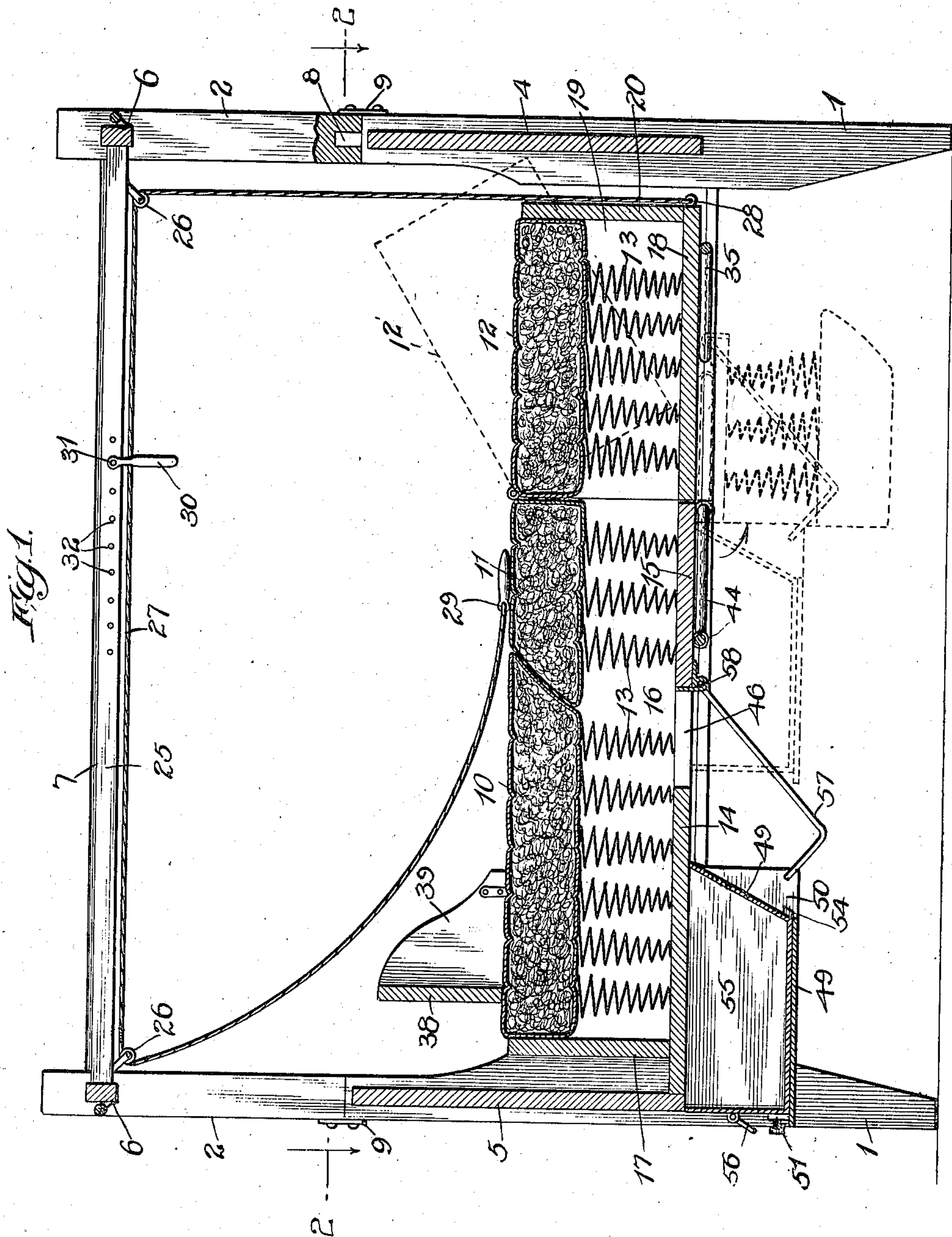
No. 867,712.

PATENTED OCT. 8, 1907.

A. G. ELO.  
HOSPITAL BED.

APPLICATION FILED MAR. 25, 1907.

2 SHEETS—SHEET 1.



*Witnesses*  
*Ray White*  
*Harry R. LeWhite*

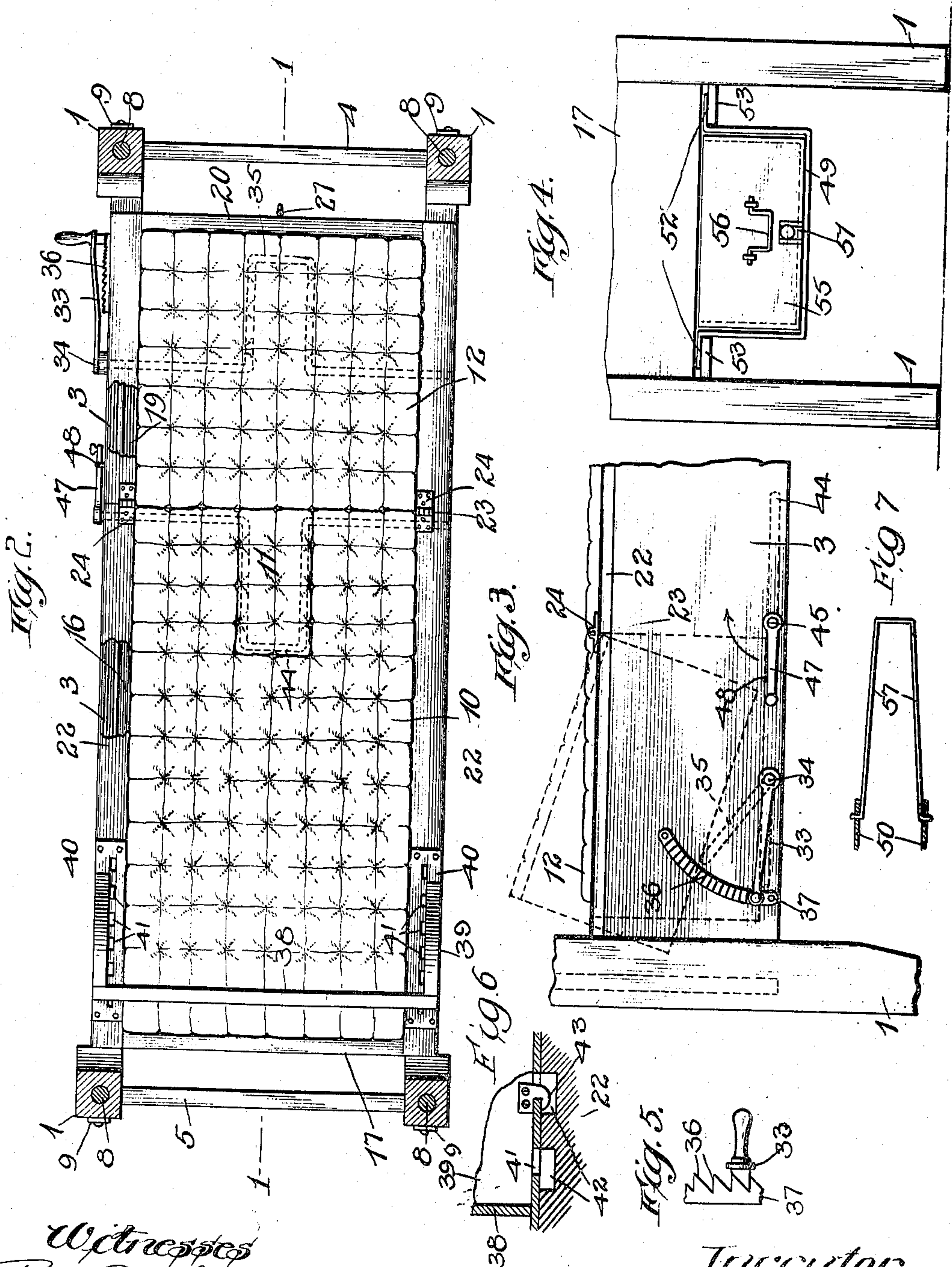
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# UNITED STATES PATENT OFFICE.

ANDREW G. ELO, OF CHICAGO, ILLINOIS.

## HOSPITAL-BED.

No. 867,712.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed March 25, 1907. Serial No. 364,325.

*To all whom it may concern:*

Be it known that I, ANDREW G. ELO, a subject of the Emperor of Russia, and a resident of Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Hospital-Beds, of which the following is a specification.

The main objects of this invention are to provide a hospital bed of generally improved construction; to provide a hospital bed having an adjustable head and back rest, and means whereby said head and back rest may be easily adjusted either by the patient himself or by an attendant; to provide an improved form of adjustable foot-board; and to provide improved mechanism for lowering and raising a removable section of the mattress and simultaneously moving a receptacle into and out of position thereunder without disturbing the patient occupying the bed. These objects are accomplished by the construction shown in the accompanying drawings, in which:

Figure 1 is a longitudinal vertical section of a bed constructed according to this invention. Fig. 2 is a sectional plan view on broken line 2—2 of Fig. 1. Fig. 3 is a broken-away side view, looking from the side which is at the top of Fig. 2. Fig. 4 is a broken-away end view of the drawer and adjacent parts. Fig. 5 is a detail of one of the operating levers. Fig. 6 is a detail showing the method of detachably securing the foot-board. Fig. 7 is a detail, on a reduced scale, of the link which connects the receptacle carrier with the pad support, showing also its detachable connection with the carrier.

In the construction shown, the frame of the bed comprises the four jointed corner posts 1, the side rails 3, the head-board 4, the foot-board 5, and a rectangular frame 6, 7 supported by the removable upper parts 2 of the posts 1. The parts of the posts are connected by dowels 8 and auxiliary securing hooks 9. By this construction the bed is easily taken apart for transportation or removal through doorways. The superstructure may also be removed to permit an attendant to have more easy access to the patient. The side and end bars 7 and 6 at the top of the bed posts provide supports from which curtains of net or other fabric may be hung to hide the patient from view or to protect him from flies and mosquitoes, or drafts of air.

The mattress is made preferably in three sections, 10, 11 and 12, supported by suitable springs 13. The main mattress section 10 is mounted in a box-like structure comprising a bottom 14, sides 16, and a lower end 17. The head mattress section is mounted in a similar box-like structure 18 having sides 19 separate from the side rails 3. These boxes are supported by shoulders held by the inner sides of the rails 3. As shown in Figs. 2 and 3, the upper edges of the rails 3, and the sides 16 and 19, are covered by strips 22, jointed at the hinges 24 between the boxes.

Space is provided between the head-boards 4 and 20 to permit the box 18 to be tilted up, for example, to the position shown by dotted lines. Means are provided by which either the patient or an attendant may raise or lower this box with its mattress 12. The first named means comprise a longitudinal bar 25, connecting the middle points of the cross-bars 6, pulleys 26 supported by the bar 25, and a cord 27, connected to the box 18 at 28 and extending along said bar 25. The end of the cord 27 is provided with a handle 29 which may lie on the bed within easy reach of the patient. Secured to the cord at a point along the bar 25 is a handle 30, provided with a loop or eye 31. A row of projecting pins 32 on bar 25 may be engaged by the eye 31 for securing the back rest in different positions of adjustment. If the patient is strong enough in his arms he can, by pulling upon the cord, lift himself to a reclining or sitting position. The eye 31 may then be placed in engagement with whichever peg 32 will hold the parts in the desired position.

The attendant may conveniently adjust the tilting back-rest 18 by means of a lever 33 located at one side of the bed. This lever is fixed upon a rock-shaft 34 extending transversely across the bed below the back-rest 18, and having an arm 35 bearing against the bottom of said back-rest. The operating lever 33 is made of resilient metal so that it may yield outwardly, and be held normally engaged with a quadrant 37 provided with ratchet teeth 36, whereby the mattress section 12 may be supported in any of several elevated positions. The quadrant 37 is secured to the bed-rail 3. The ratchet teeth 36 are so disposed that in lifting the lever 33 it will spring from one notch to the next. To lower the back-rest, the handle of the lever is pulled away from the face of the quadrant 37 and allowed to descend under the weight of the patient and back-rest.

38 is a foot-board, provided with two side pieces 39, the bottoms of which rest upon metal plates 40 secured upon the strips 22. Each plate 40 is provided with a series of slots 41, and beneath each slot, a recess 42 is cut into the wood, the recesses being made longer than the slots in one direction toward the foot of the bed. Each of the foot-board side pieces 39 is provided with a hook-shaped engaging device 43. When these hooks are engaged with the complementary slots in the plates 40, the foot-board will resist any outward pressure exerted upon it by the feet and legs of the patient. The foot-board is adjustable toward and from the foot of the bed, as the hooks will engage any opposite pair of the slots 41. This device will be highly appreciated by patients who are confined to the bed for any length of time, as it enables them to relieve cramps and restlessness of the legs and back by pushing the feet against the foot-board.

The removable mattress section 11, is made fast to its supporting springs, which are in turn secured to the



hinged support 15. The support 15 is secured to the arm 44 of a transverse shaft 45 journaled in the bed rails 3 and provided with an operating lever 47 at one end. The support 15 is seated within an opening 46 in the bottom 14 of the mattress support. The mattress section 11 is supported in its normal position by the engagement of the operating lever 47 with a stop 48 on the bed rail 3.

Mounted to slide longitudinally of the bed, beneath the bottom board 14, is a drawer or receptacle carrier 49, having rearward projections 50 at each side. Said drawer is U shaped in cross section, having out-turned flanges 52 slidably mounted in guides 53 which are secured to the frame of the bed. Fitted within the drawer is a suitable receptacle 55, provided with a handle 56 by which it may be withdrawn, and with a spring catch 51 for securing it. The drawer is connected to the end of the support 15 by a link 57, preferably of resilient metal of the form shown in Fig. 7. The middle part 58 of the link is hinged to the support 15 and the ends 59 are sprung into openings in the parts 50 of the drawer.

To remove the mattress section 11, the crank 47 is disengaged from its stop 48 and turned in the direction of the arrow. The support 15 and mattress section 11 swing with the shaft 45 and the link 57 pulls the drawer 49 toward a position under the opening 46. When the lever 47 is turned as far as it will go, the parts will be in the position shown by dotted lines in Fig. 1. The

cushion 11 will now be out of the way and the receptacle 55 will be directly under the opening in the mattress and its support. The operator turns the lever 47 in reverse direction to return the parts to the normal positions. The receptacle is preferably of such form as to fit closely against the bottom 14 of the mattress support.

The link 57 may be readily sprung out of engagement with the drawer so that the mattress section 11 may be withdrawn without shifting the drawer. This is particularly useful in cases where a patient is too weak to move as it provides ventilation for his back and prevents bed sores.

What I claim as new and desire to secure by Letters Patent is:

In a hospital bed, the combination of a mattress-support jointed on a transverse line intermediate of its ends, the section at the head end being adapted to be tilted to support a patient in a reclining position, the foot section having an opening therein, a mattress-section adapted to fill said opening a support for said mattress section hinged at one end of said opening, a receptacle carrier slidably mounted below said mattress support, and a link connecting said receptacle carrier and hinged section and adapted to shift said carrier into and out of registering position with said opening through the movement of said hinged support.

Signed at Chicago this 19th day of March 1907.

ANDREW G. ELO.

Witnesses:

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