

A. M. MAY.

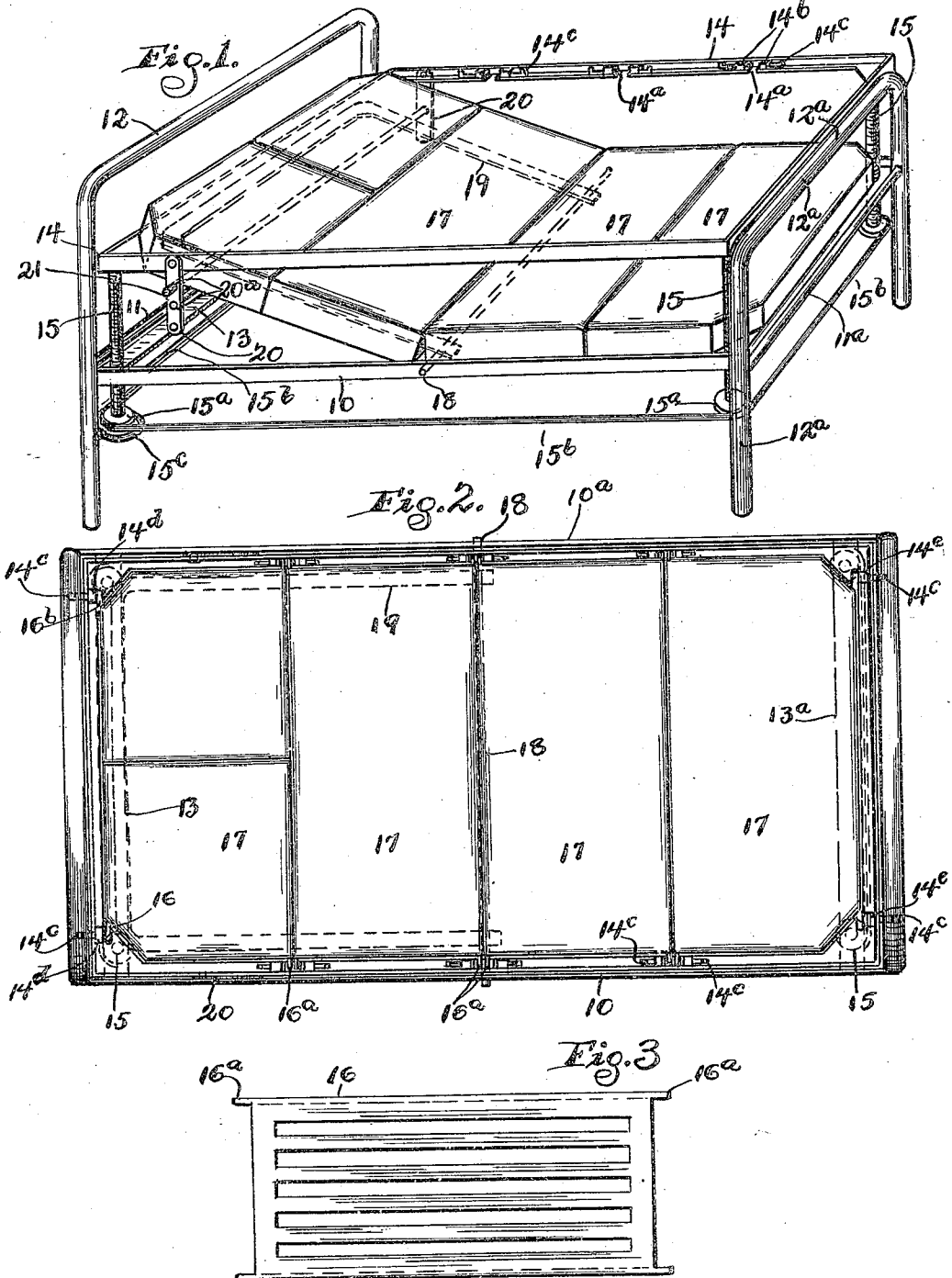
BED.

APPLICATION FILED MAR. 16, 1908.

Patented Feb. 15, 1910.

949,655.

2 SHEETS—SHEET 1.



Witnesses  
David E. Haly.  
T. L. McDonnell.

Inventor:-  
Albert M. May.  
by Lynch & Dorer  
his Attorneys.

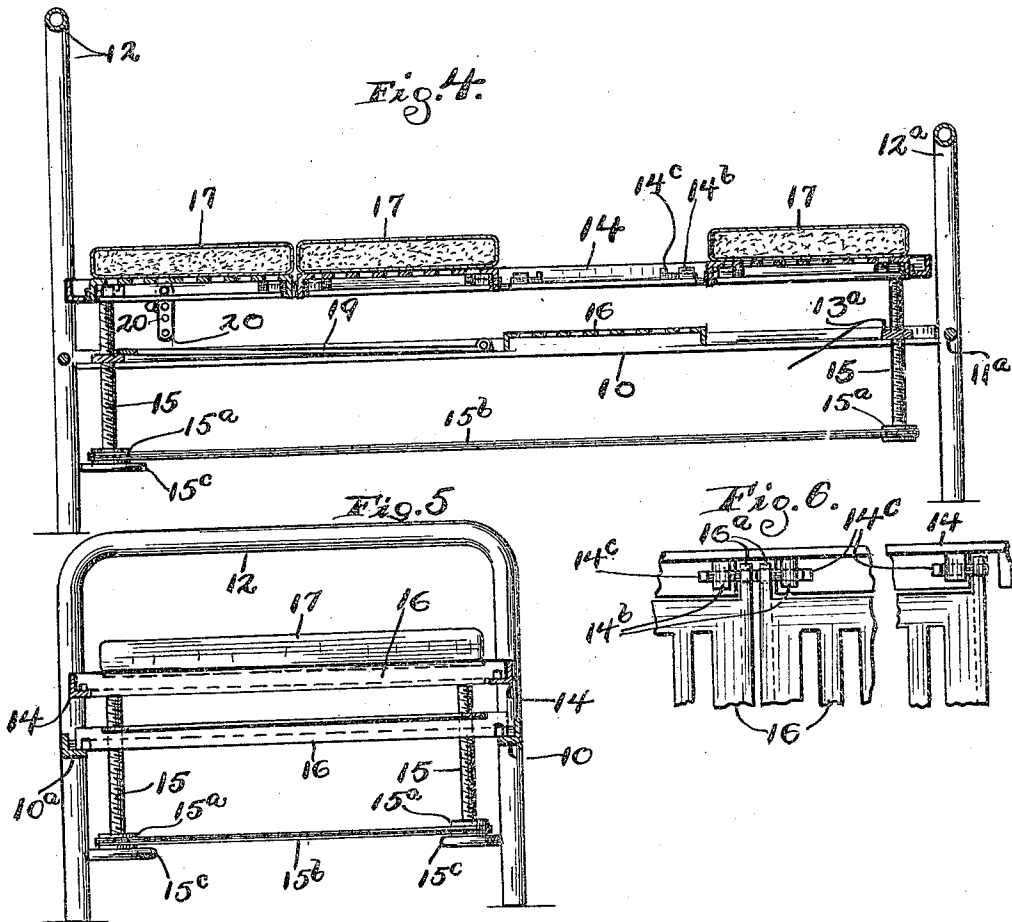
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Inventor:  
Albert M. May,  
by Lynch & Rowe  
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# UNITED STATES PATENT OFFICE.

ALBERT M. MAY, OF CLEVELAND, OHIO.

BED.

949,655.

Specification of Letters Patent. Patented Feb. 15, 1910.

Application filed March 16, 1908. Serial No. 421,291.

To all whom it may concern:

Be it known that I, ALBERT M. MAY, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Beds; and I 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 pertains to make and use the same.

This invention relates to beds and particularly to invalid beds.

One of the objects of the invention is to provide a bed of such a construction that a bed-pan can be easily inserted beneath the patient, the patient can be washed or otherwise cared for, and the bedding changed or otherwise maintained in a sanitary condition without causing the patient any discomfort or rendering necessary a movement of his body.

A further object is to provide means whereby the bedding and patient can be raised or lowered bodily, and whereby the patient can be readily raised and supported in an inclined position.

Further objects will appear from the following detailed description.

In carrying out my invention, I provide a bed having the bed bottom or the portion supporting the bedding, formed in sections which normally rest on the frame, and provide means whereby the sections can be raised and lowered simultaneously, or any one or more of the sections can be raised or lowered with respect to the others. In the specific embodiment of my invention here shown, I provide a movable rectangular frame of substantially the same shape as the main stationary frame of the bed, and which may be raised or lowered with respect to the latter, and provide means whereby when this frame is moved it may shift vertically all, or one or more of the frame sections together with the mattress which is likewise formed in sections, or raise to an inclined position the sections toward the head of the bed.

My invention may be further briefly summarized as consisting in certain novel details of construction and combination and arrangement of parts, which will be described in the specification and set forth in the appended claims.

For a better understanding of my invention reference is had to the accompanying drawings, in which—

Figure 1 represents a bed equipped with my invention, showing the movable frame raised above the main frame and supporting in an inclined position the head sections of the bed bottom and mattress; Fig. 2 is a top plan view of the same; and Fig. 3 is a plan view of one of the movable frames or bottom sections. Fig. 4 is a central longitudinal section showing one of the trays lowered. Fig. 5 is a central transverse section and Fig. 6 is an enlarged detail view showing the method of supporting the ends of the trays.

An ordinary or common form of bedstead is preferably employed in carrying out my invention, and in the drawings I have shown a metal bedstead consisting of a frame having side pieces 10 and 10<sup>a</sup>, end pieces 11 and 11<sup>a</sup> formed of angle iron, a head piece 12 and a foot piece 12<sup>a</sup> of inverted U-form, the ends of which form the legs of the bed. Extending across the bed between the sides 10 and 10<sup>a</sup> are two cross bars 13 and 13<sup>a</sup> near the head and foot of the bed respectively, the former being shown in Fig. 1 and the latter by dotted lines in Fig. 2.

At 14 is shown a movable rectangular frame formed in this case of angle iron and of substantially the same shape as the main stationary frame, but which is slightly smaller and normally lies within the latter. At the corner of the bed and extending through the ends of the cross bars 13 and 13<sup>a</sup> are four vertically movable supporting bolts 15 which engage the lower sides of the frame 14 at the corners and serve to raise or lower the latter and to support it in any desired position. At the lower ends of the bolts are pulleys or similar devices 15<sup>a</sup> and passing around all the pulleys is an endless belt or other suitable operating member 15<sup>b</sup>, and one of the supporting bolts, preferably the one at the head of the bed, is provided with a hand wheel 15<sup>c</sup>. Thus it is seen that when the hand wheel is turned all the bolts 15 will be simultaneously raised or lowered depending upon the direction in which the hand wheel is turned, and that the movable frame 14 will be shifted vertically, the frame always remaining parallel to its original position.

By referring particularly to Figs. 1 and 2

it will be seen that the horizontal flanges of the angle iron sides of the movable frame 14 are notched or cut away at intervals, in this case there being three notches 14<sup>a</sup> on each side. On the upper face of the horizontal flange of each side of the frame and on opposite sides of each notch 14<sup>a</sup> are two lugs 14<sup>b</sup> and passing through each of said lugs is a slide bolt or latch 14<sup>c</sup> which may be shifted inward so as to project over the adjacent notch for a purpose to be described. As is shown in Fig. 2 the end piece 11 is provided with two similar lugs 14<sup>a</sup> and the end pieces 11<sup>a</sup> with the two lugs 14<sup>c</sup>.

Extending across the bed and normally resting upon the horizontal flanges of the sides 10 and 10<sup>a</sup> of the main frame are a number of bottom or auxiliary frame sections 16 in the form of trays, one of which is shown in Fig. 3. These trays which are preferably punched from sheet metal support the bedding and serve as springs. Each tray as is shown in Figs. 2 and 3 is provided at each end with outwardly extending ears or projections 16<sup>a</sup> which are in line with the longitudinal edges or sides of the tray, and all of the ears except two designated 16<sup>b</sup> on the tray at the head of the bed and two designated 16<sup>c</sup> on the tray at the foot of the bed extend over the horizontal flanges of the sides 10 and 10<sup>a</sup> of the main frame, and when the movable frame 14 is in its lowermost position two of these ears or projections on adjacent trays lie in each of the notches 14<sup>a</sup> of the sides thereof. The outer corners of the sections or trays at the head and the foot of the bed are removed so as to permit the supporting bolts 15 to pass upward above the same. As the outer corners of the sections are removed the two ears or projections 16<sup>b</sup> do not extend across the flanges of the sides 10 and 10<sup>a</sup> but are set back and are located adjacent the lugs 14<sup>a</sup> on the head end piece 11 of the main frame and the ears or projections 16<sup>c</sup> on the tray at the foot of the bed are set back adjacent the lugs 14<sup>c</sup> on the foot end piece 11<sup>a</sup> of the frame. Resting upon the trays are mattress sections 17 having substantially the same contour as the trays or frame sections but being slightly less in length than the latter, so as to leave sufficient space between the ends of the mattress sections and the vertical flanges of the sides 10 and 10<sup>a</sup> to allow the movable frame 14 to be moved freely up and down. These mattress sections are arranged side by side in contact with one another, so as to cover the entire bed bottom and are preferably inclosed in separate slips or coverings, upon which the patient will lie. The section at the head of the bed supports two mattress sections each, one half the size of the other. It will be seen therefore from the above description that the frame 14 can be moved upward above the mattress sections inde-

pendently of and without disturbing the latter, or if it is desired to carry upward with the frame all or part of the trays and mattress sections, all that is necessary is to slip the bolts or latches 14<sup>c</sup> under the projecting ears of the trays, in which case, as is apparent when the frame is raised it will carry with it these trays and mattress sections.

Extending across the bed and secured thereto in any desired manner at approximately the center thereof is a cross bar or rod 18, and pivoted on this bar is a U-shaped member 19, shown in dotted lines in Figs. 1 and 2, having an end or cross piece which normally rests upon the cross piece 13 at the head of the bed.

Pivotally secured to opposite sides of the frame 14 and near the head of the bed are two arms 20 each provided with the number of spaced holes or perforations 20<sup>a</sup> adapted to receive the ends of a cross bar 20<sup>b</sup>. In case it is desired to raise the head sections to an inclined position the cross bar 21 is inserted in two corresponding holes 20<sup>a</sup> in the pivoted arms 20, the cross bar 21 being below the U-shaped member 22. It will be seen therefore that when the frame 14 is raised it will carry with it the cross bar 21, the U-shaped member 19, and the two trays or sections toward the head of the bed and the corresponding mattress sections. When the parts are in this position or in the position shown in Fig. 1 with the movable frame 14 in its upper position the sides of the frame 14 form a convenient means for supporting a table board, on which can be placed food, medicine, or reading matter for the patient.

The object of the construction described above will now be explained more fully. In case it is desired to insert a bed-pan beneath the patient all that is necessary is to raise all the trays and mattress sections, except one, by first sliding the bolts or latches under the ears of the trays to be raised and then shift the frame 14 by turning the supporting bolts. If it is desired to wash the patient without moving his body, the lower section, for example, can be supported on the main frame while the remaining sections are raised, after which the lower portion of the body can be washed. The sections which were raised can then be lowered and a different section can be left upon the main frame while the others are raised. When this is done another part of the patient's body can be washed. The same operation can be repeated with the other sections until the entire body is washed. In case it is desired to change the coverings of the mattress sections while the bed is occupied by the patient, this can be readily done by raising all the trays, but one, removing the mattress section supported on the tray, changing the cover and again restoring the section while

the patient is supported on the remaining sections. In a similar manner the other mattress sections can be removed one at a time.

I do not desire to be confined to the exact details shown but aim in my claims to cover all modifications which do not involve departure from the spirit and scope of my invention.

What I claim is,—

1. In a bed, a main frame, a plurality of mattress supporting members resting thereon, and means comprising a frame movable with respect to the main frame for raising said mattress supporting members simultaneously or one or more independently of the others.

2. In a bed, a main frame, a plurality of mattress supporting sections normally resting thereon, an auxiliary frame movable with respect to the main frame, and means for attaching said mattress supporting members to said movable frame so that the former will be shifted with it.

3. In a bed, a main frame, a plurality of mattress supporting members resting thereon, an auxiliary frame of substantially the same contour as the main frame, a plurality of vertically movable bolts for shifting said movable frame and means whereby said mattress supporting members may be attached to said movable frame so as to be shifted with the same.

4. In a bed, a main frame, a plurality of mattress supporting members normally resting thereon, mattress sections resting on said members, a movable frame of substantially the same shape as the main frame, means for shifting said movable frame vertically, and means whereby the sections at the head of the bed may be raised and supported in an inclined position by said movable frame.

5. In a bed, a main frame, a plurality of mattress supporting sections extending

across the same, a movable frame of substantially the same shape as the main frame, means for shifting said movable frame vertically, and means whereby said sections may be simultaneously shifted vertically or one or more independently of the others, or the head sections may be raised to an inclined position by said movable frame.

6. In a bed, a main frame, a plurality of mattress supporting sections normally extending across the same, said sections having outwardly extending ears or projections, and a movable frame having a plurality of slide bolts or latches adapted to be extended under the ears or projections of any one or more of said sections, so as to shift the same vertically when the movable frame is shifted.

7. In a bed, a main frame, a plurality of mattress supporting sections normally resting thereon, an auxiliary movable frame, and means for resting and supporting the head sections in an inclined position comprising a member hinged to the bed and adapted to be raised by the movable frame.

8. In a bed, a main frame, a plurality of mattress supporting sections extending across the same, an auxiliary movable frame of substantially the same contour as the main frame and adapted to be shifted vertically, a U-shaped member hinged to the main frame, a pair of arms depending from the movable frame, and means adapted to engage said depending arms and said hinged member to raise and support the head sections in an inclined position, when the movable frame is raised.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

ALBERT M. MAY.

Witnesses:

VICTOR C. LYNCH,  
N. L. McDONNELL.