

(No Model.)

J. MÜLLER.
FOLDING BED.

No. 438,743.

Patented Oct. 21, 1890.

Fig. 2.

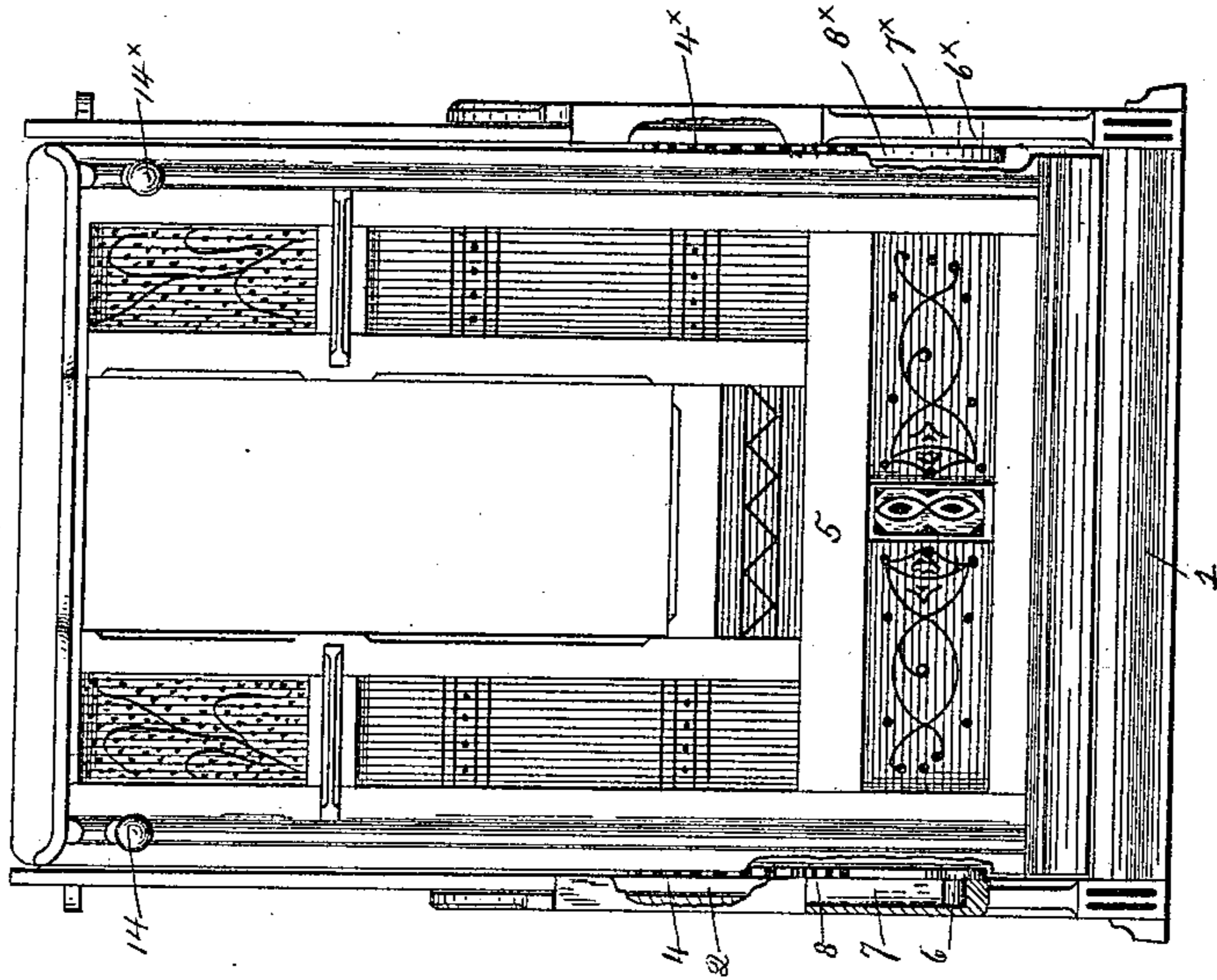
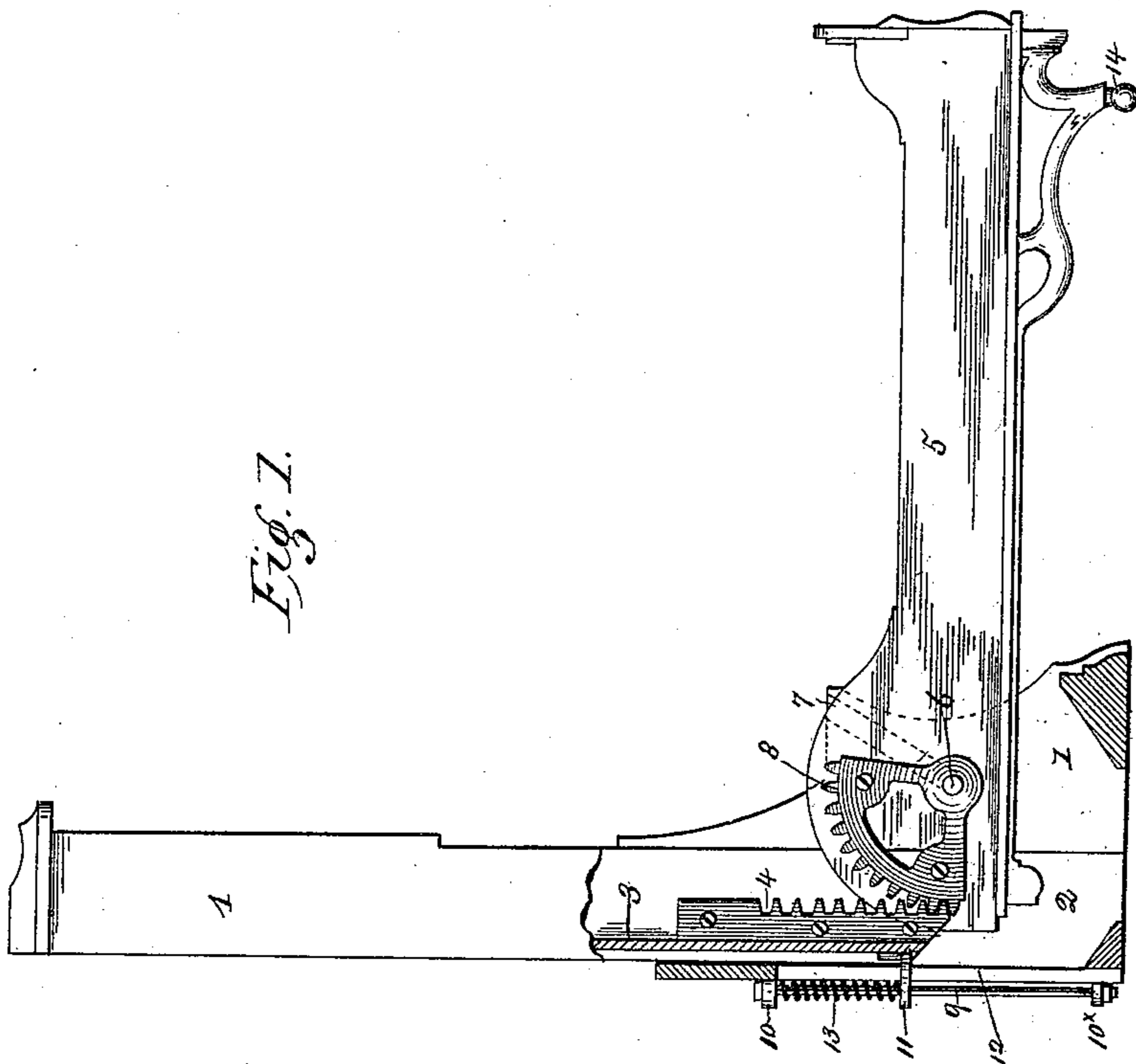


Fig. 1.



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UNITED STATES PATENT OFFICE.

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FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 438,743, dated October 21, 1890.

Application filed April 18, 1890. Serial No. 348,526. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MÜLLER, a citizen of the United States, residing at North St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Folding 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 folding beds, and has for its object the production of a device of this kind which will be simple in construction and reliable in operation. With this end in view I construct the frame-work of the bed with guides in which the head-board is movable and provide each side bar of the head-board with a rack. On each side of the rear end of the bed proper is a toothed segment in engagement with the rack. In this manner I employ the head-board as a counter-balance for the bed. Lugs or pivots projecting from the side boards of the bed proper are entered in slots in the side plates of the frame. In virtue of the construction described both the head-board and the bed can be readily removed from the frame in which they are mounted for any purpose desired. A rod around which a spring is placed may be secured to the foot-board of the frame in which the head-board slides, and an eye on the head-board is fitted over the rod and tends to compress the spring when the head-board is raised by the descent of the bed.

In the accompanying drawings, in which like numerals are placed on like parts throughout the several views, Figure 1 is a side elevation of the invention, partially in section, showing the bed in open position. Fig. 2 is a front elevation representing the bed as closed, with parts broken away to show the gearing.

1 is a frame provided with guides 2, in which the head-board 3 is mounted.

4 4^x are racks attached to the side bars of the head-board.

5 is the frame of the bed proper, which is provided with projecting pivots 6 6^x, fitted in the open slotted bearings 7 7^x of the side

plates of the head-board. 8 8^x are toothed segments, one secured to each side plate of the bed at its rear end.

9 is a rod suitably secured in brackets 10 10^x on the rear side of the head-board frame, and 11 is a perforated bracket projecting from the rear side of the head-board through a slot 12 in the frame and fitted over the rod.

13 is a spiral spring surrounding the rod 9.

14 14^x are the usual ornamental brackets having projections which serve as supports for the bed when lowered to its open position.

The operation of the invention is as follows: When it is desired to raise or lower the bed, the bed-section is pulled down or raised up, turning on its pivots, the racks being in continuous engagement in all positions of the head-board and the bed. The head-board is so constructed that when the change in leverage afforded by the racks is considered it will counterbalance the bed with the necessary difference in the extreme positions. The fulcrum remains constant; but there is a difference in leverage, according to the position of the bed, so that when the bed is in its horizontal position it slightly overcomes the weight of the head-board, and when in its uppermost position it coacts or co-operates with the head-board to hold itself against the frame. In all other intermediate positions the head-board and bed are substantially counterpoised.

In virtue of the open-ended slots and the rack-connections between the head-board and bed, the bed may be readily separated from the head-board and detached from the frame whenever desired—as, for example, to pack the same for shipment. The re-enforcing spring, as before stated, may be employed, but is entirely unnecessary.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A folding bed comprising an upright frame, a movable head-board mounted in said frame, adapted of itself to counterbalance the bed, a bed pivoted in the frame, vertical racks attached to the lower corners of the head-board, and segmental racks attached to the head-corners of the bed and engagable with said vertical racks, whereby the leverage

shifts, as required, to properly counterbalance the head-board and bed at all points of their movement.

2. The folding bed comprising the frame
5 with vertical head-board guideways and radial slots for the pivots of the bed, open at their outer ends, the head-board movable in said guideways, adapted to counterbalance the bed, and provided with racks on its lower
10 corners, the bed pivoted in said radial slots and having segmental racks on its head-cor-

ners, engagable with said vertical racks, substantially as described, whereby the head-board and bed are counterbalanced, as required, and the bed is readily separable from 15 the head-board and frame for packing.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH MÜLLER.

Witnesses:

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