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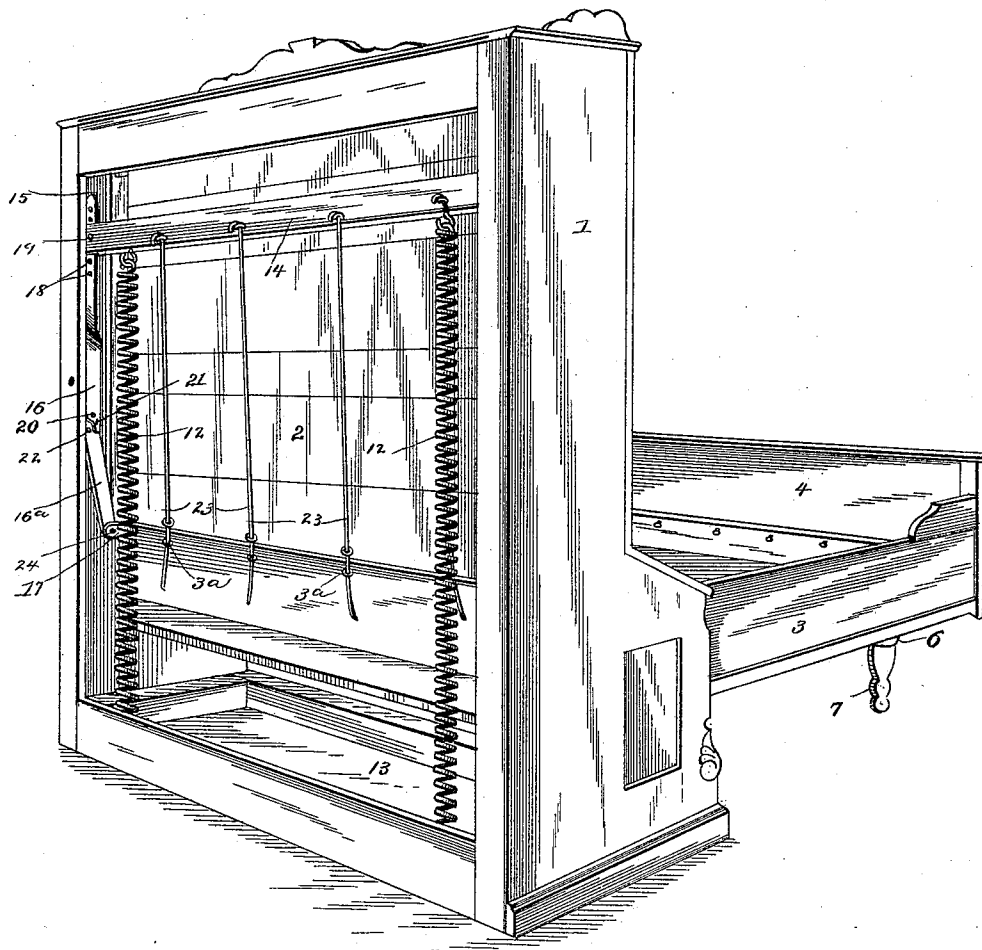
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F. N. POTTER.
FOLDING BED.

No. 451,842.

Patented May 5, 1891.

Fig. I.



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Inventor

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By Knight & Sons
Attorneys

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(No Model.)

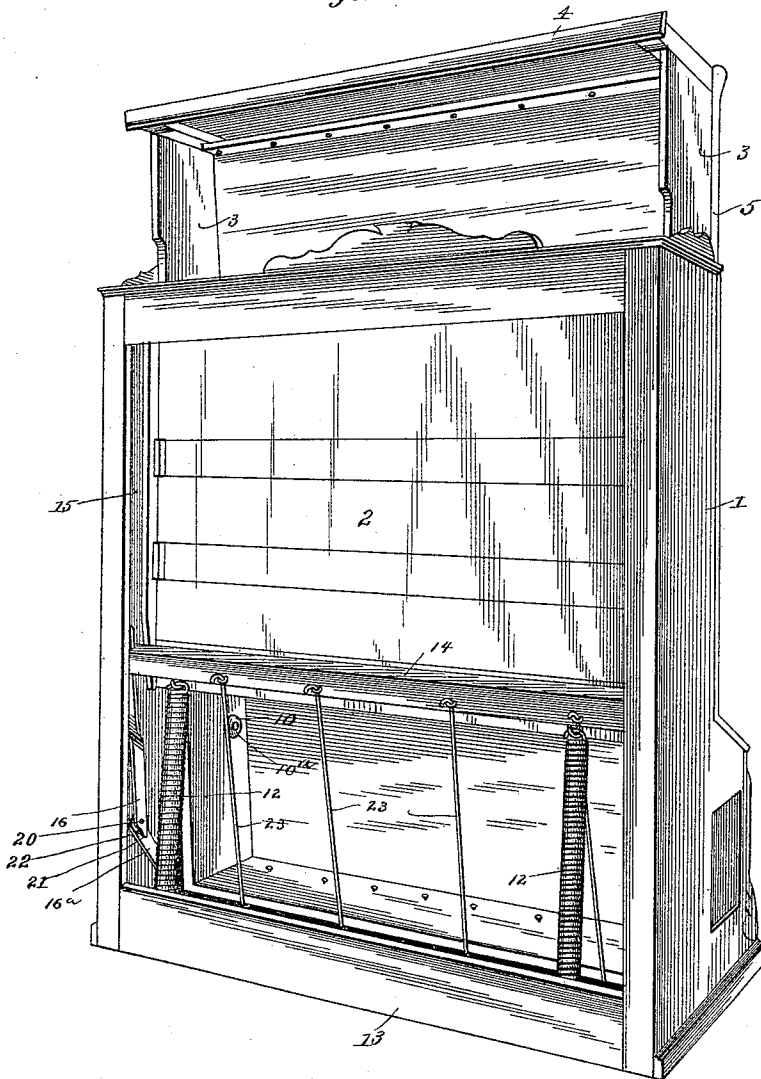
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Fig. II



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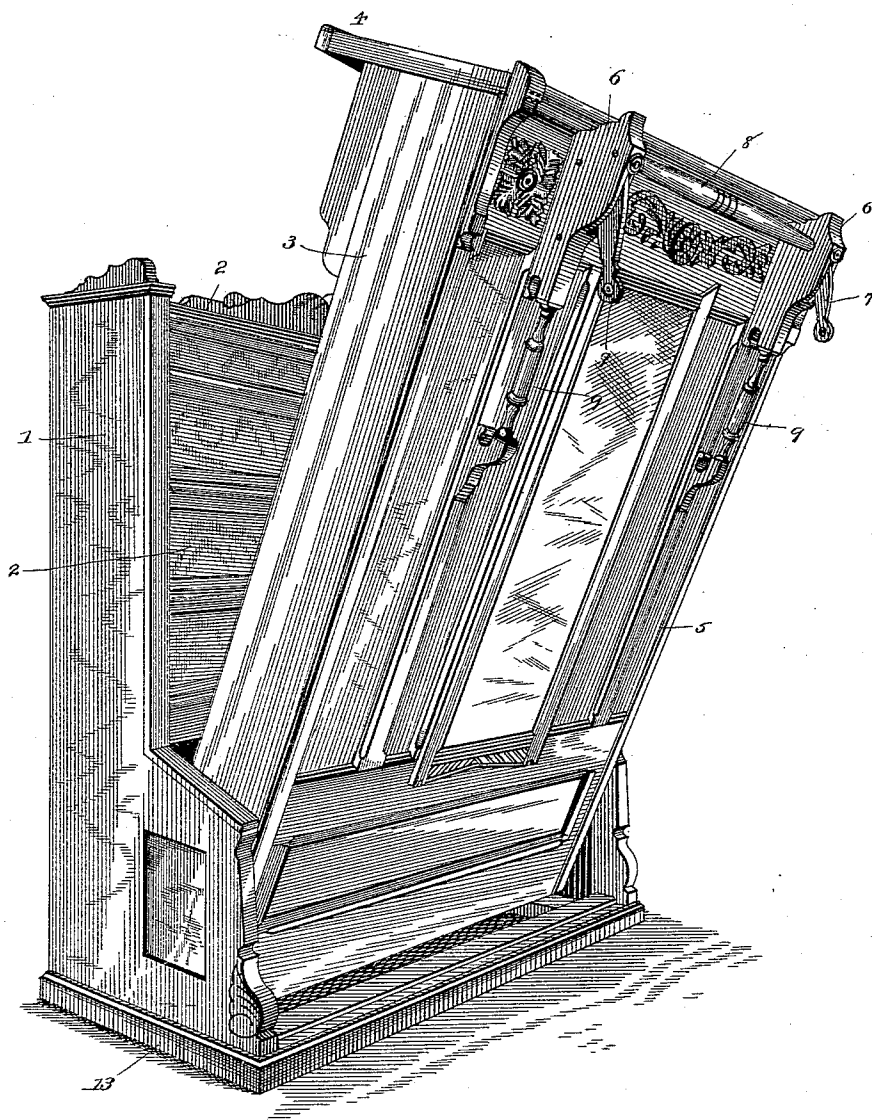
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Fig. III.



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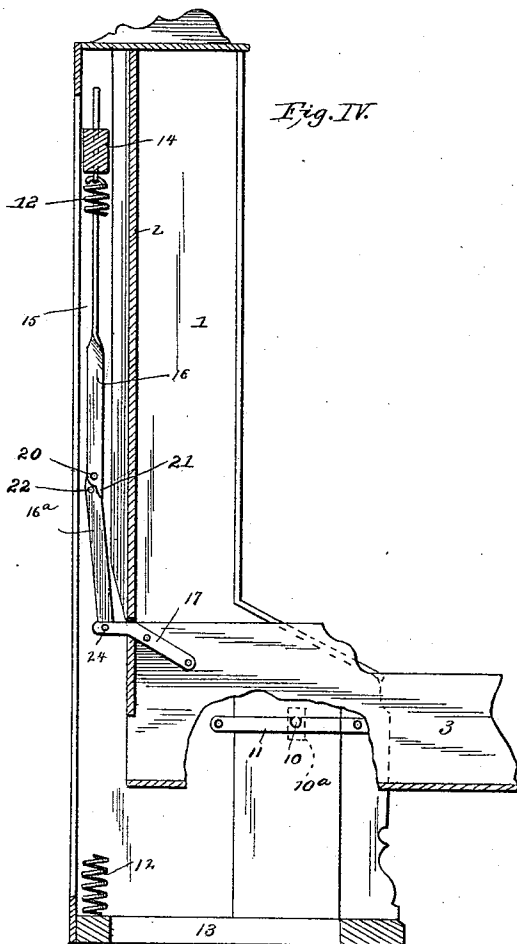
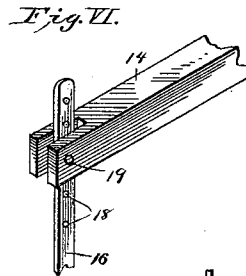
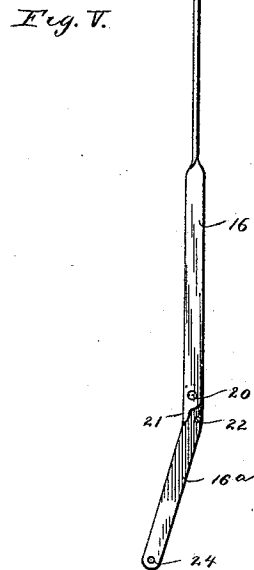
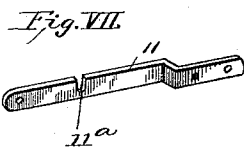
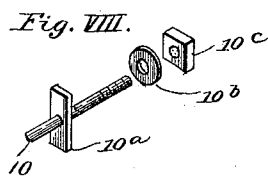
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UNITED STATES PATENT OFFICE.

FRANK N. POTTER, OF ELKHART, INDIANA.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 451,842, dated May 5, 1891.

Application filed April 30, 1890. Serial No. 350,040. (No model.)

To all whom it may concern:

Be it known that I, FRANK N. POTTER, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented a new and useful Improvement in Folding Beds, of which the following is a specification.

The object of my invention is to produce a folding or wardrobe bedstead which is at once simple, light, inexpensive, substantial, and neat in appearance, and which may be readily operated by persons of moderate strength.

The bed is mounted on trunnions secured to the side rails and resting in bearings upon a stationary frame. The weight of the hinged bed is counterbalanced by a vertical tension spring or springs attached at its or their lower ends to the base of the stationary frame and at its or their upper ends to a horizontal beam, which slides in vertical ways in the standards of the frame and is connected to the head of the bed by thrust-bars suitably guided and jointed to permit their lower ends to follow the curve upon which the head of the bed-frame moves, while their upper ends impart a direct thrust to the horizontal sliding beam, as hereinafter described. A pillow holder or support is provided by means of sliding wires attached behind the head-board of the moving bed-frame, so as to be out of sight when the bed is lowered for use, and passing up behind the stationary head-board and through apertures in the horizontal sliding beam, or vice versa, so as to allow the said wires to conform to the variation in distance between the head-board and the horizontal sliding beam as the bed is raised and lowered.

In the accompanying drawings, Figure I is a rear perspective view showing the bed lowered for use. Fig. II is a rear perspective view showing it elevated. Fig. III is a front perspective view showing it partly elevated. Fig. IV is a vertical section showing the mode of mounting the side rails upon trunnions in bearings upon the stationary frame. Fig. V is a detail view of one of the jointed thrust-bars which connect the head of the pivoted bed with the sliding beam. Fig. VI is a perspective view showing the adjustable connection between the upper end of a thrust-bar and an end of the beam. Fig. VII is a perspective view of a hanger which is secured to

a frame-standard. Fig. VIII is a perspective view of a trunnion, plate, washer, and nut, which are secured to a side rail of the bed-frame.

1 represents the standards of the stationary frame, and 2 the stationary head-board attached thereto.

3 3 are the side rails of the hinged bed-frame, connected by the foot-board 4 and with a suitable facing 5, forming a wardrobe-front when the bed is in elevated position, which may be provided with a mirror, as shown, in customary manner. On the said wardrobe-front are mounted brackets 6 6, in which are pivoted feet 7 7, connected by a roller 8, so that they may be placed at right angles to the bed-frame to support the foot thereof when it is lowered for use, or folded against the wardrobe-front when elevated in the day-time. Ornamental handles 9 are also provided on the wardrobe-front for manipulating the bed. To the side rails 3 are secured the trunnions 10, which rest on bearings in hangers 11, fixed to the inner faces of the frame-standards 1.

The trunnions 10 are supported in recesses 11^a in the hangers, are secured by plate 10^a, washers 10^b, and nuts 10^c, and are located a sufficient distance from the head extremities of the side rails 3 to provide for counterbalancing the weight of the hinged bed-frame by means of tension-springs 12, which are attached at their lower ends to the base 13 of the stationary frame, and at their upper ends to a horizontal beam 14, which has a vertical sliding movement in or upon guides 15 on the inner faces of the standards 1, and is connected at its slotted extremities by jointed thrust-bars 16 to lugs 17 upon the inner ends of the side rails 3 of the pivoted bed-frame. The thrust-bars 16 have an adjustable connection at their upper ends with the sliding horizontal beam 14 by a number of holes 18, as shown in Fig. VI, to receive pins 19, passing through the sliding beam 14, so as to adjust the tension of the springs to correspond with the weight of the bed. The upper members of the thrust-bars 16 are guided in the vertical grooves 15, and are jointed to the lower members 16^a by rivets 20, so as to permit the lower ends of the thrust-bars to conform to the arc described by the extremities of the lugs 17, by which the said thrust-bars

have a hinge attachment to the side rails of the moving bed-frame, the movement of the joint 20 being limited by projecting heel 21 on the lower extremity of the upper member 5 16 of the thrust-bar with a stud 22 upon the lower member.

The head of the bed-frame is brought in line with the fixed head-board and fits against the latter when the bed is unfolded, so that 10 the projecting ends of the lugs and the thrust-bars are concealed from view when the bed is unfolded. It will be seen that when the bed is unfolded the lugs project rearwardly and occupy a position to the rear of the head-board beneath the thrust-bar and the beam. 15

For single and very light bedsteads a single counterbalance, spring 12 will suffice; for very heavy bedsteads three or more may be used; for ordinary double beds of medium weight 20 two such springs as shown in the present illustration are found to operate with good effect, permitting the bed to be raised or lowered with ease by a child. By the varying leverage thus afforded in the attachment between the pivoted bed-frame and the vertical sliding beam the resistance of the springs 25 12 increase, with the increasing weight of the bed-frame as it is lowered. Where greater resistance is required to counterbalance a heavy wardrobe-front or additional bedding, 30 this is provided by changing the connection between the thrust-bars 16 and the sliding beam 14 by means of the pins 19.

For the purpose of a pillow-holder, when 35 the bed is in an elevated position for the day-time, I provide a number of sliding wires 23, attached at their upper ends to the sliding horizontal beam 14 and passing downward through eyes in the head-boards 2 and 3^a, so 40 as to conform to the slightly varying distance between the head-board 3^a of the pivoted bed-frame, which moves in the arc of a circle, and the sliding beam 14, which has a rectilinear movement. When the bed is lowered in position for use, the wires 23 are concealed behind the fixed head-board 2 of the stationary 45 frame and the head-board 3^a of the bed-frame.

The pivoted bed-frame may be readily detached from the stationary frame by removing 50 the pins 24, which connect the lower members 16^a of the thrust-bars to the lugs 17 on the bed-rails 3. The trunnions 10 may then be freely lifted out of their bearings and the 55 bed-frame removed.

Having thus described my invention, the

following is what I claim as new therein and desire to secure by Letters Patent—

1. The combination of the frame having standards 1, provided with guides 15 on the 60 inner faces thereof, the fixed head-board 2, secured to the standards in front of the guides, the hinged bed-frame having a head adapted to assume a position in line with the head-board and to fit against the latter, the rearwardly-projecting lugs 17, secured over the 65 head of the bed-frame, the beam 14, sliding in the guides at the rear of the head-board, the jointed thrust-bars 16 16^a, located at the rear of the head-board, secured to the ends of the beam at their upper ends, and pivoted to the lugs at the rear of the head at their lower ends, and a tension-spring 12, secured at its upper end directly to the beam and at its lower end attached to the base of the frame, 75 substantially as described.

2. The combination of the frame having standards 1, provided with guides 15, the fixed head-board, the hinged bed-frame having a head, the rearwardly-projecting lugs 17, 80 secured over the head of the bed-frame, the beam 14, having slotted ends and sliding in the guides, the jointed thrust-bars 16 16^a, having their upper members provided with a number of holes 18 and adjustable in the 85 slotted ends of the beam and having their lower members pivoted to the lugs, the cross-pins 19 for securing the upper members of the thrust-bars to the slotted ends of the beam, and a tension-spring 12, secured at its upper 90 end directly to the beam and at its lower end attached to the base of the frame, substantially as described.

3. The combination of the frame having standards 1, provided with guides 15, the 95 head-board 2, secured to the standards, the hinged bed-frame, the lugs 17, secured to the inner end of the bed-frame, the beam 14, sliding in the guides at the rear of the head-board, the jointed thrust-bars 16, secured to 100 the beam at their upper ends and pivoted to the lugs at their lower ends, a tension-spring 12, secured at its lower end to the base of the frame and at its upper end to the beam, and the sliding wires extending from the beam 105 to the head of the bed-frame, substantially as described.

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Witnesses:

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