(No Model.)

3 Sheets—Sheet 1.

A. M. BRAINARD.

WARDROBE BEDSTEAD.

No. 479,624. Patented July 26, 1892.

Fig. 2.

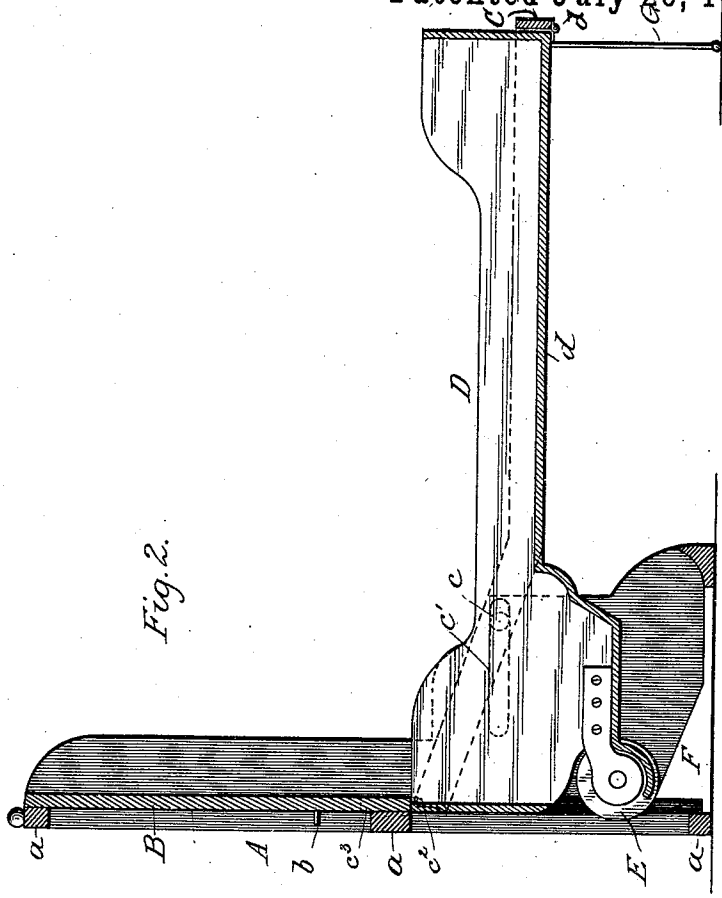
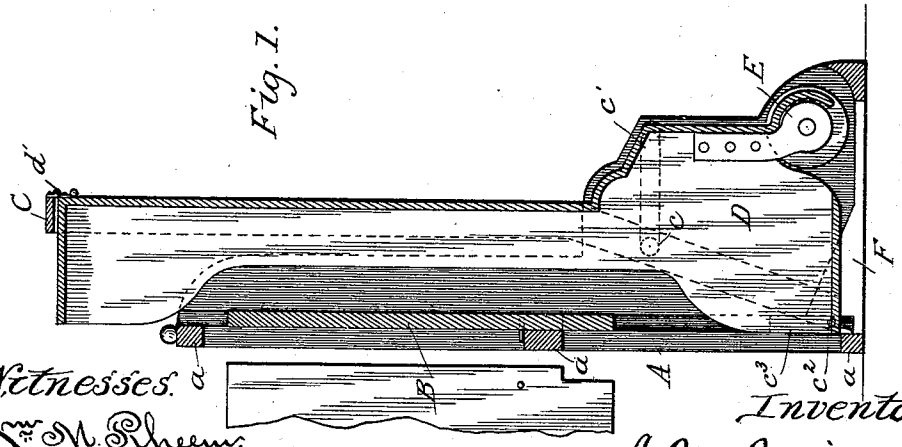


Fig. 1.



Witnesses.
Wm. M. Rheem.
N. A. Kennedy.

Inventor.
A. M. Brainard
By Phil T. Dodge
Atty.

(No Model.) 3 Sheets—Sheet 2.

A. M. BRAINARD.

WARDROBE BEDSTEAD.

No. 479,624. Patented July 26, 1892.

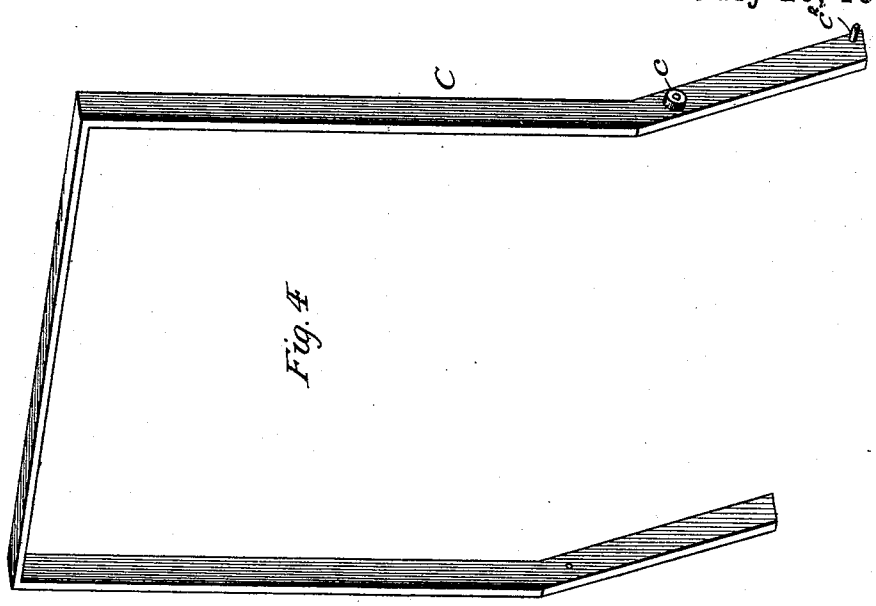


Fig. 4

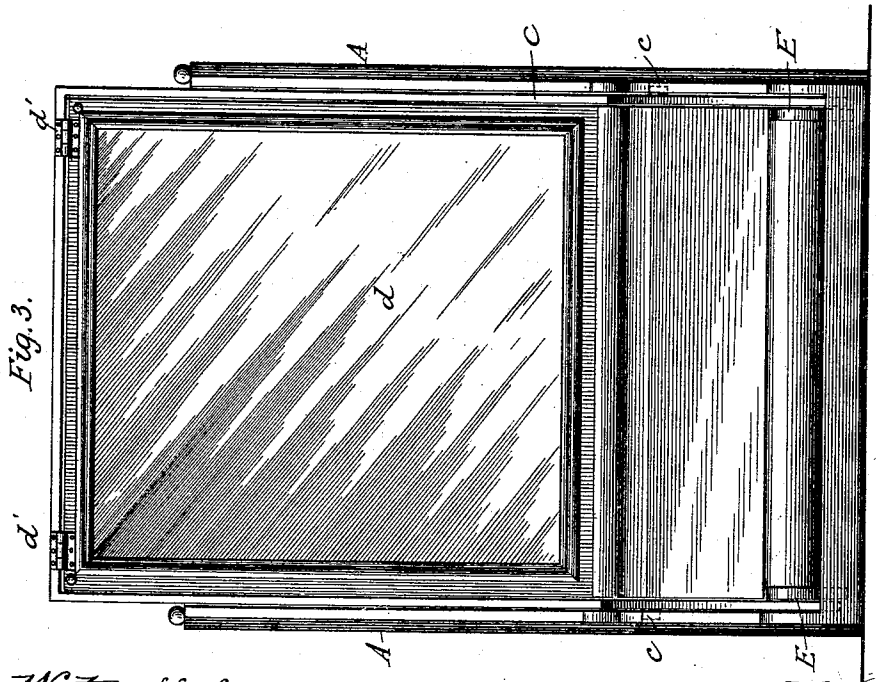


Fig. 3.

Witnesses.
Wm. M. Rheem.
W. R. Kennedy.

Inventor.
A. M. Brainard
By Phil. T. Dodge, atty.

(No Model.)

3 Sheets—Sheet 3.

A. M. BRAINARD.

WARDROBE BEDSTEAD.

No. 479,624. Patented July 26, 1892.

Fig. 6

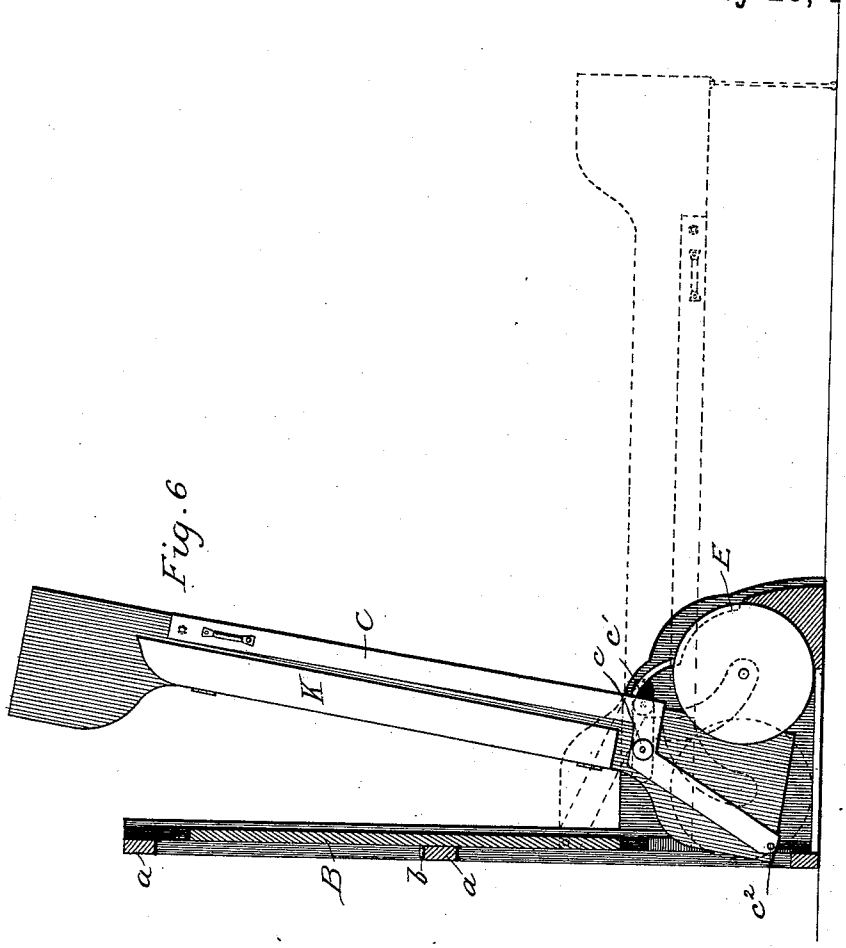
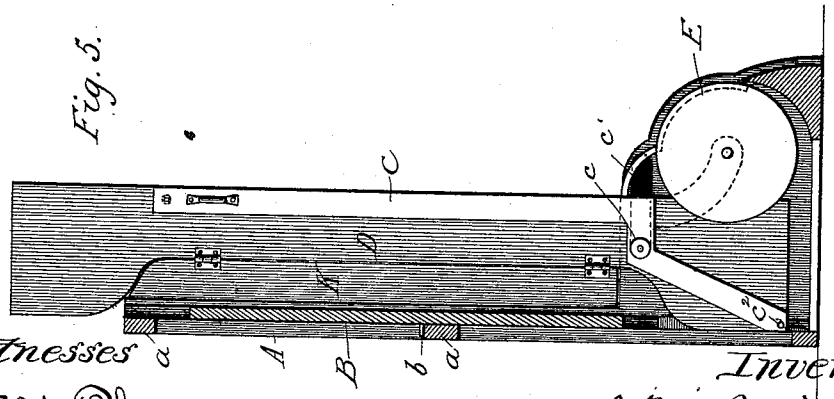


Fig. 5.



Witnesses

W. M. Rheem.

N. R. Kennedy.

Inventor.

A. M. Brainard.

By Phil. T. Dodge

Atty.

UNITED STATES PATENT OFFICE.

ADELBERT M. BRAINARD, OF CHICAGO, ILLINOIS.

WARDROBE-BEDSTEAD.

SPECIFICATION forming part of Letters Patent No. 479,624, dated July 26, 1892.

Application filed October 19, 1891. Serial No. 409,210. (No model.)

To all whom it may concern:

Be it known that I, ADELBERT M. BRAINARD, of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Folding Beds, of which the following is a specification.

This invention has reference to that class of folding beds in which a rigid or continuous bed-frame is arranged to turn bodily upward and downward in relation to the stationary casing or head-frame.

The objects of the invention are to simplify the construction and secure an easy action of the parts in opening and closing.

To this end it consists, essentially, in the combination, with the casing, of a secondary frame jointed thereto to turn upward and downward and a bed-frame hinged to and sustained at one end by the secondary frame and at the opposite end by rollers traveling on a stationary track, as hereinafter explained.

In the accompanying drawings, Figure 1 is a vertical section through my improved bed as it appears when folded. Fig. 2 is a similar view of the same extended for use. Fig. 3 is a front elevation of the bed when folded. Fig. 4 is a perspective view of the secondary frame. Figs. 5 and 6 are vertical sections of a slightly-modified construction.

Referring to Figs. 1 to 4, A represents the stationary casing, consisting, mainly, of two side boards or standards rigidly connected by cross-bars *a*.

B is a gravitating head-board arranged to slide at its ends in vertical grooves in the casing and limited in its downward motion by a stud *b*, which encounters one of the cross-bars.

C is the secondary frame, constructed, as shown in Fig. 4, of two vertical arms and a cross-bar connecting them at the outer or foot end. This secondary frame C is provided at an intermediate point in its length with side studs or rollers *c*, arranged to slide and turn in horizontal grooves *c'* in the casing. The secondary frame is also provided at the ends of its arms with pins or rollers c^2, which engage in slides c^3, arranged to move in the vertical grooves in the casing. By means of the pivots *c* and pins or rollers c^2, moving in paths at right angles to each other, the frame C is guided and supported in such manner that it may be turned from a vertical to a horizontal position, its ends encountering and lifting the head-board, which serves as a counter-weight as the downward movement of the frame is completed.

D represents the bed-frame proper, in which the mattress-frame or bedding will be fixed and supported. This bed-frame D consists of the usual side and end boards and the front *d*, fastened rigidly together. The entire frame D is inserted within the secondary frame C and connected thereto at the foot end by hinges *d'*, so that as the secondary frame is turned upward and downward the foot end of the bed-frame is carried therewith and supported therefrom by the hinges. As the secondary frame commences to swing outward from a vertical position the bed-frame will be suspended therefrom, after the manner of a pendulum. At its head end on the under side the bed-frame D is provided at its sides with two supporting-rollers E, arranged to travel on fixed tracks F in the base of the casing, or the rollers may travel directly in the floor. These rollers serve to support the head of the bed-frame when it is extended for use. At the foot the bed-frame may be provided with the usual folding legs G to rest upon the floor and give it additional support. When the bed is folded, the secondary frame C and the bed-frame D stand in a vertical position, as shown in Fig. 1. In opening the bed the upper ends of the folding frames are turned forward and downward, as usual. As the secondary frame C swings forward to an inclined position the bed-frame, suspended by the hinges, maintains a vertical position, its lower end swinging forward out of the secondary frame until finally the rollers E begin to ride rearward on the track-rails F, whereby the end of the bed-frame is supported and lifted to its operative position. During the opening action nearly the entire weight of the bed-frame and bedding is sustained by the rollers.

In practice it is found that by thus mounting the bed-frame to swing independently of the secondary frame and supporting its ends by rollers, as described, a smooth and easy action of the parts is secured and a substantially perfect balance of the parts maintained during the entire movement of the frames

without the necessity of employing heavy counter-weights or strong springs, demanded by other constructions.

In the construction shown in Figs. 1 to 4, in which the supporting-rollers *c* are located below the angles in the side bars of frame C, the base of the casing necessarily extends above the grooves *c'* to the height of the angles in the frame-bars, in order to afford a proper and sightly finish. By forming the frame C with right angles, as shown in Figs. 5 and 6, and locating the supporting-rollers *c* on the angular portions the angles are brought farther toward the bottom or foot of the bed, whereby I am enabled to reduce the height of the base, since it is not necessary in such case to extend the same above the grooves *c'*.

In order that I may reduce the width of the sides of the casing and the weight of the bed, I propose to hinge to each side of the bed-frame, as shown in Figs. 5 and 6, a board K. When the bed is extended, these boards will be turned down, as in Fig. 6, leaving the side rails of the ordinary width; but when the bed is closed the boards are turned out, as shown in Fig. 5, so as to close the openings at the sides. These folding side boards may be used in the structure shown in Fig. 1 or in any other folding bed.

It will be perceived by the skilled mechanic that the rollers E are merely anti-friction supports for the traveling end of the bed-frame and that the rollers may be omitted and the end of the frame arranged to slide directly on the rails or equivalent supports or guides. It is also manifest that although it is preferable to utilize the head-board as a counterbalancing-weight an independent weight may be used. It is also evident that in place of the horizontally and vertically movable pivots as a means of connecting the main and secondary frames I may employ any other jointed connection which will permit a similar motion of the bed-frame. Various connections of this character are now known in the art.

While I prefer to locate the pivots or hinges by which the bed-frame is sustained at its extreme outer end, as shown, it is to be understood that they may be located at any reasonable distance from the outer or foot end.

Having thus described my invention, what I claim is—

1. In a folding bed, the combination of a rigid casing, a secondary frame jointed thereto near the base to turn outward and downward, and a bed-frame hinged to the secondary frame at or near the foot end.

2. In a folding bed, the combination of a rigid casing, a secondary frame supported on a movable bearing near the base of the casing and adapted to turn outward and downward, and a bed-frame hinged to the secondary frame above the movable support of the latter.

3. The casing, the gravitating head-board, the secondary frame connected with the casing by the vertically and horizontally moving pivots, the bed-frame hinged at its foot end to the secondary frame, and the tracks to sustain the head end of the bed-frame.

4. The casing, in combination with a secondary frame jointed thereto to swing from a vertical to a horizontal position, a gravitating weight on which it acts, a bed-frame jointed at its foot end to the secondary frame, and an inclined track on which the head of the bed-frame travels as the bed is extended for use.

In testimony whereof I hereunto set my hand, this 1st day of October, 1891, in the presence of two attesting witnesses.

ADELBERT M. BRAINARD.

Witnesses:
W. R. KENNEDY,
F. S. ELMORE.