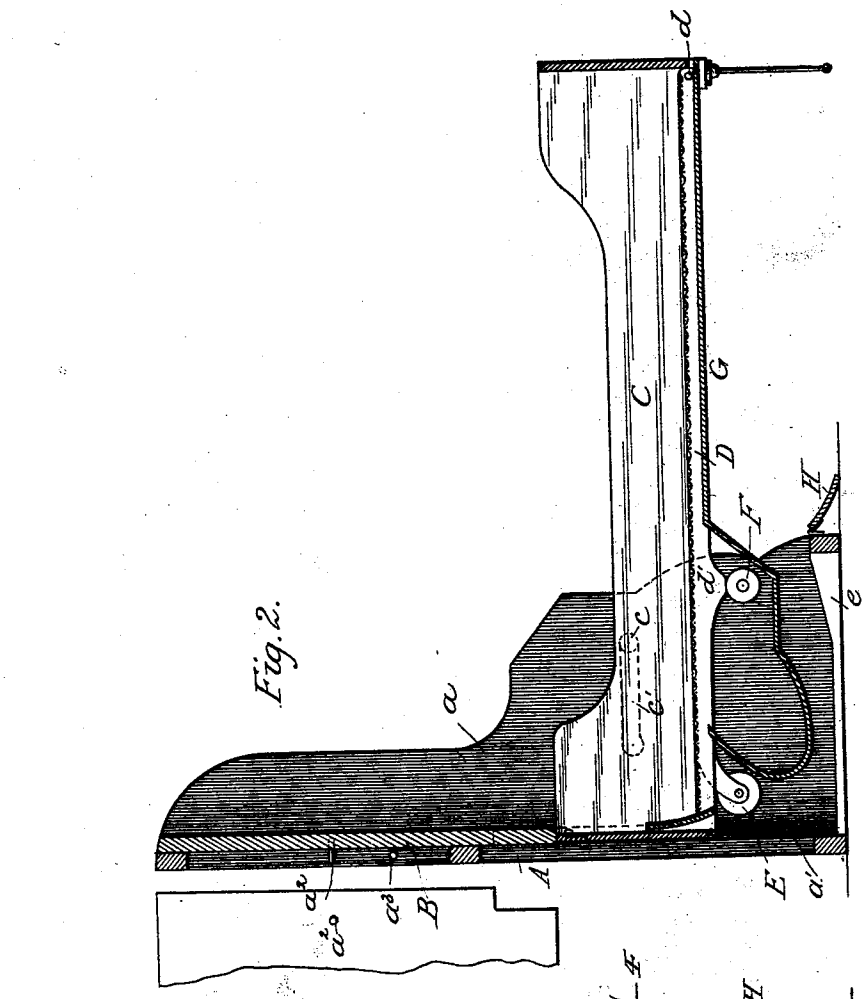
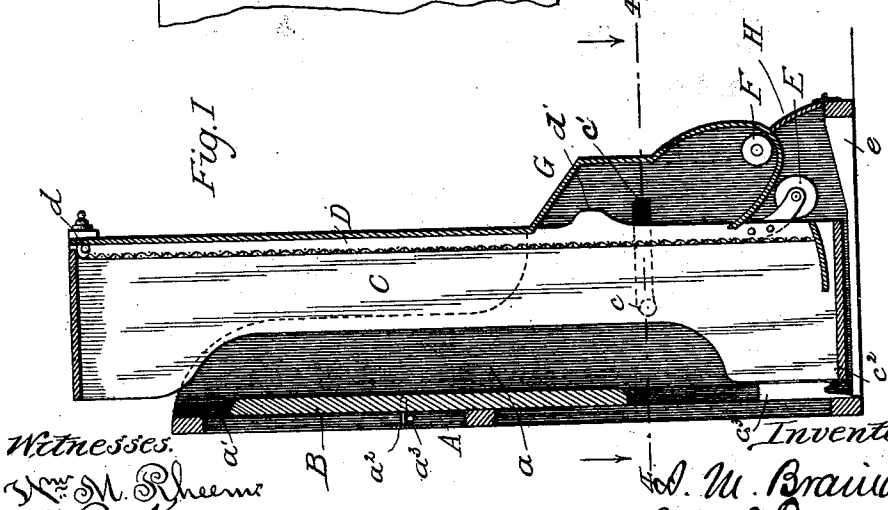
(No Model.) 2 Sheets—Sheet 1.

A. M. BRAINARD.

WARDROBE BED.

No. 482,158. Patented Sept. 6, 1892.





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

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

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

A. M. BRAINARD.

WARDROBE BED.

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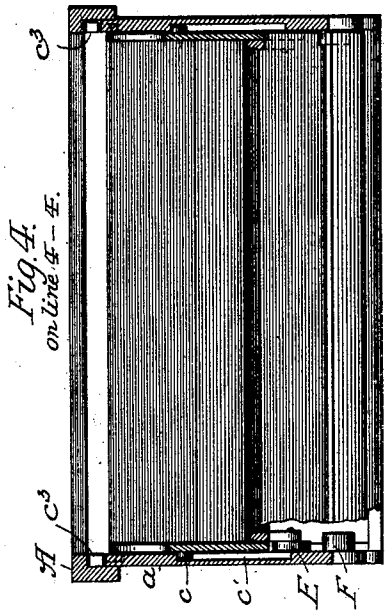

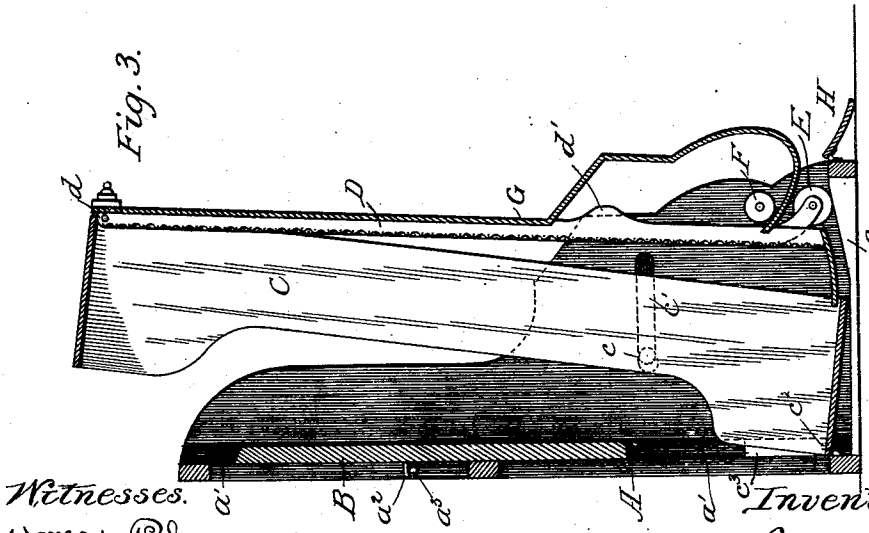

Witnesses.
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ADELBERT M. BRAINARD, OF CHICAGO, ILLINOIS.

WARDROBE-BED.

SPECIFICATION forming part of Letters Patent No. 482,158, dated September 6, 1892.

Application filed October 19 1891. Serial No. 409,208. (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 relates to that class of folding beds in which the wire or spring mattress-frame turns upward bodily within or against the stationary casing, commonly denominated the "head-frame."

The principal object of the invention is to provide for the counterbalancing of the bed-frame as it swings upward and downward in such manner that it may be easily operated and that the employment of heavy counter-weights or powerful springs may be avoided. To this end I hinge or pivot the mattress-frame or that portion of the frame by which it is supported to the bed-frame, so that it may swing outward and inward independently and combine it with supporting devices in the manner hereinafter explained to secure the proper balancing action.

In the accompanying drawings, Figure 1 is a vertical cross-section through my bed as it appears when folded. Fig. 2 is a section of the same on the same plane as it appears when extended for use. Fig. 3 is a similar section showing the bed with the folding frame in an intermediate position. Fig. 4 is a horizontal section on the line 4 4 of Fig. 1.

Referring to the drawings, A represents a stationary frame, commonly known as the "casing" and consisting, mainly, of the two standards or side boards *a*, rigidly connected by cross-bars.

B represents the head-board, arranged to slide vertically in grooves *a'* in the casing, its downward motion being limited by a pin a^2, fixed thereto and arranged to encounter a stationary pin a^3.

C represents what is commonly known as the "bed-frame," intended to receive and sustain the mattress and composed of the two side and end boards. The bed-frame is provided on opposite sides at intermediate points in its length with projecting studs or rollers *c*, arranged to turn and slide in horizontal grooves *c'* in the sides of the casing. The bed-frame C is also provided at or near the head corners with studs c^2, arranged to engage and be guided by slides c^3, which move upward and downward in grooves in the casing below the head-board. As the frame is turned upward the supporting-studs *c* slide in the groove *c'* toward the head-board, while at the same time the studs c^2 move downward, these turning and shifting pivots permitting the frame to be turned upward with comparative ease and compactly against the head. The grooves *c'* curve downward slightly at their inner ends to form seats into which the studs *c* drop when the bed is closed, as in Fig. 1, and which serve in a measure as stops to hold the parts in proper closed position. The frame C may be provided at or near the pivots c^2 with a moderate counter-weight, if required. As the frame C is turned downward the pivots *c* slide forward and the pivots c^2 upward and the end of the frame encounters the lower edge of the head-board, which serves as a counter-weight to ease the downward motion of the bed-frame.

D represents the mattress-frame, which, instead of being fixed in the bed-frame, as usual, is connected thereto at the foot end by horizontal pivots *d*, so that as the bed-frame is turned upward and downward the mattress-frame may swing inward and outward with a pendulous action. This pendulous mattress-frame is provided at the head end with a roller E, and the head-frame provided at the base with a track *e*, inclined or curved for a portion of its length, so that as the frames are turned downward the roller riding on the track will assist in giving support to the parts, and thus relieve the attendant. The sides of the casing are also provided with fixed rollers F in such position that as the frame is turned downward the outwardly-swinging mattress-frame will finally encounter and ride upon these rollers and receive support therefrom. As the parts approach a horizontal position the frame D slides along upon the supporting-rollers F, so that the fulcrum or point of bearing is shifted toward the foot end of the frame, this action also tending to maintain a proper poise or balance of the parts.

In order to render the action more perfect than would otherwise be the case, I may provide the mattress-frame on the under side

with inclined elevations or shoulders d', which ride upon the rollers as the frames complete their downward movement, so as to lift the mattress-frame snugly to its place against the under side of the frame C, the action being also advantageous, in that a more perfect balance of the parts is maintained.

The under side of the mattress-frame, which forms the front of the bed when folded, may be closed in any suitable manner. I prefer, however, to attach rigidly to the mattress-frame a shield or front G, so shaped at its lower end as to cover and conceal the rollers and other operative parts when the bed is closed. The opening which exists below this front may be closed by a hinge door or flap H.

The essence of my invention lies in the combination of a bed-frame arranged to turn upward and downward with a mattress or mattress-frame hinged or pivoted thereto so as to have an independent swinging motion and independent supports for sustaining and controlling the movement of the mattress-frame, and it is manifest that the details may be variously modified without departing from the limits of my invention. It will of course be understood that the bearings E and F are made in the form of rollers for the purpose of reducing the friction and that the rollers F may be replaced by fixed studs or other bearings and the rollers E omitted, in which case the lower end of the frame D will slide directly upon the sustaining-track.

Having thus described my invention, what I claim is—

1. In combination with the casing, the bed-frame jointed thereto to turn upward and downward, the mattress-frame hinged to the bed-frame to swing inward and outward, and means for automatically and positively controlling this motion of the mattress-frame as it is carried up and down with the bed-frame.

2. The casing and the bed-frame jointed thereto to turn upward and downward, in combination with the mattress-frame jointed to the bed-frame to move inward and outward at the head end and rails or guides whereon said end travels, whereby the motion of the mattress-frame in relation to the bed-frame is controlled and a balancing action of the parts secured.

3. In combination with the casing, the gravitating head-board therein, the bed-frame sustained and guided, respectively, by the horizontally and the vertically movable pivots, the mattress-frame jointed thereto, the tracks whereon the mattress-frame is sustained during part of its movements, and supports F, whereon it is sustained during the remainder of its movement.

4. The casing and the bed-frame jointed thereto to fold therein, in combination with the mattress-frame hinged to the bed-frame and provided with rollers, the track whereon said rollers travel, and the fixed rollers whereon the mattress-frame pivots and slides.

5. In combination, the casing, the gravitating head-board, the bed-frame sustained by shifting pivots, the mattress-frame hinged to the bed-frame and having the shoulders or inclines, and the fixed rollers or bearings on which the mattress-frame bears at its free end.

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.