

(No Model.)

2 Sheets—Sheet 1.

L. C. BOYINGTON.
FOLDING BED.

No. 320,837.

Patented June 23, 1885.

Fig. 1.

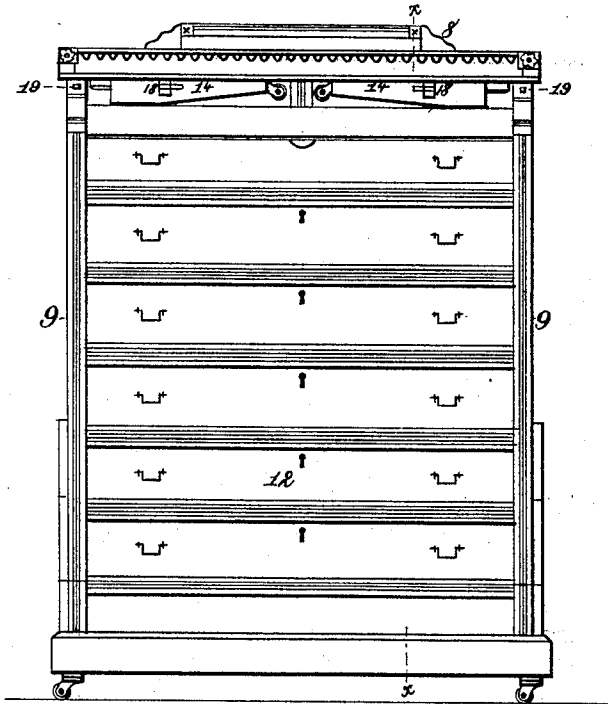
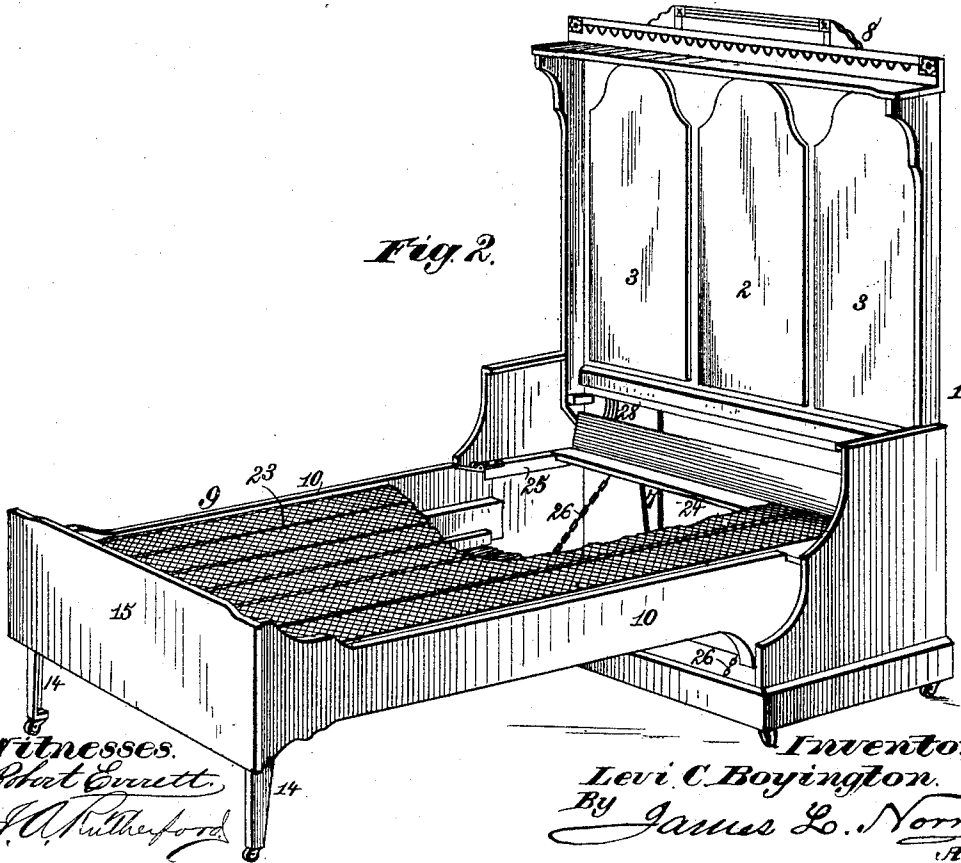


Fig. 2.



Witnesses.
Robert Emmett,
J. A. Rutherford

Inventor:
Levi C. Boyington.
 By *James L. Norris,*
 Atty.

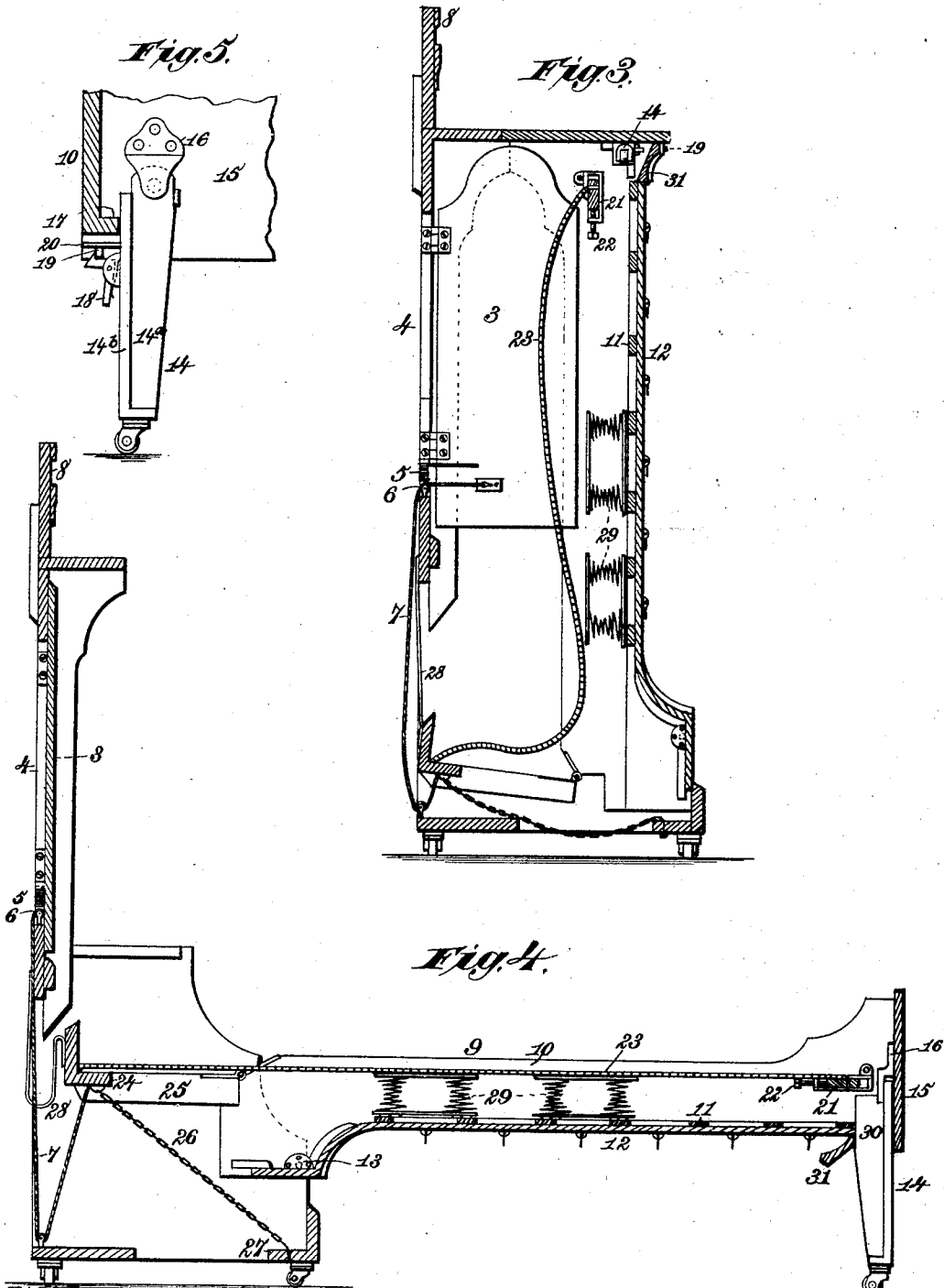
(No Model.)

2 Sheets—Sheet 2.

L. C. BOYINGTON.
FOLDING BED.

No. 320,837.

Patented June 23, 1885.



Witnesses.
Robert Emmett,
J. C. Withersford

Inventor
Levi C. Boyington,
 By *James L. Norris,*
 Atty.

UNITED STATES PATENT OFFICE.

LEVI C. BOYINGTON, OF CHICAGO, ILLINOIS.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 320,837, dated June 23, 1885.

Application filed May 26, 1885. (No model.)

To all whom it may concern:

Be it known that I, LEVI C. BOYINGTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Folding Beds, of which the following is a specification.

My invention has for its object to provide a folding bed made in two sections, of unequal lengths, and so constructed that when closed the short section lies horizontally in the bottom of the case, while the long section is perpendicular.

It is also the object of my invention to provide a folding bed so constructed and combined that the height of the structure when closed shall be less than the length of the extended bed-bottom, whereby the bed may be moved in an upright position through ordinary passage-doors, such connection also permitting the inclosing-case to be finished in the style of a chiffonier or other article of furniture more suitable for a parlor than the casings generally used.

It is also the purpose of my invention to secure a free and complete ventilation of the bed when folded; to diminish the weight of the structure; to utilize the tension of the elastic bed-bottom as a counter-balance for the folding bed, avoiding the necessity of using heavy weights or powerful and expensive springs for such purpose; to provide simple and effective means for imparting the necessary tension to the bed-bottom; to improve the construction of the folding legs upon the end of the bed, whereby the same may be provided with casters, enabling the bed to be moved from place to place when opened; and, finally, to effect a material improvement in the form and appearance of the structure, whereby it is converted into an ornamental article of furniture appropriate for the parlor or other rooms of a dwelling.

To these ends, therefore, my invention consists in the construction and combination of parts hereinafter fully described, and definitely pointed out in the claims.

Referring to the drawings, forming part of this application, Figure 1 is a front elevation showing the bed folded. Fig. 2 is a perspective view showing the bed unfolded. Fig. 3 is a central vertical section of Fig. 1, taken

from front to rear. Fig. 4 is a vertical longitudinal section of Fig. 2. Fig. 5 is an elevation of a portion of the foot-board, showing the folding leg and the devices for locking the same when unfolded.

In the said drawings, the reference-numeral 1 denotes the upright casing within which the bed folds when not in use. Preferably, this case is made in the form of a chiffonier, as shown; but this pattern is not essential, as it may be a desk or any other suitable article. The casing consists of a head-board having a permanent central panel, 2, and two swinging panels, 3, one upon each side of the central panel, each hinged to the adjacent corner-post 4. Mounted upon the post, behind each panel, is a spiral spring, 5, having one end resting against the rear face of the panel and normally turning it outward into the position shown in Fig. 3, where it forms part of the casing inclosing the bed. Attached to each panel, and passing over pulleys 6 upon the head-board, are cords 7, connected with the inner end of the pivoted bed-frame. As the bed is unfolded these cords swing the hinged panels 3 inward, causing them to lie in the same plane with the permanent panel 2, in which position they form a portion of the head-board. The casing 1 is mounted upon casters, and may be topped off with suitable ornament, 8. Upon the front lower portion of the upright casing is pivoted the folding bed-frame 9. This frame consists, substantially, of the side rails, 10, having the transverse slats 11, which support the auxiliary springs of the bed-bottom, and at the same time stiffen and protect the false front 12, which forms the outside of the case when the bed is folded. The rails 10 are supported at the head by the pivots 13 and at the foot by legs 14, pivoted between the foot-board 15 and an ear-plate, 16, mounted upon the latter. These legs fold into substantial parallelism with the foot-board, and are pivoted in such proximity to the side rails, 10, that when unfolded they rest against the inner flange, 17, upon said rails. They are locked in this position by spring-latches 18, mounted upon the outer part of each leg, and engaging with a latch-pin, 19, upon the end of the side rail. These pins are centrally formed upon metallic plates 20, which are attached to each upper angle of the front of the casing and form

part of the ornamentation thereof. Upon the side rails at the foot is mounted a transverse bar, 21, adjustable by means of set screws 22, and supporting one end of the woven-wire bottom 23. At its opposite end this bottom is attached to a rail, 24, which is mortised upon the outer end of a short section, 25, hinged to the pivoted ends of the side rails, 10.

To the rail 24 are attached chains or other inelastic connections 26, the other ends thereof being secured to a transverse brace, 27, at the front lower part of the casing. The length of these connections is equal to the distance between their points of attachment when the side rails of the long section 10 and the hinged rails of the short section 25 are lying in substantially the same horizontal plane. The tension-bar 21 is so adjusted in use that when the parts are in the position shown in Fig. 4 the wire bottom will be stretched to the required tension. Straps 28 are attached to the rail 24 and to the head-board, having such length that they will support said rail from contact with the floor of the casing 1. Auxiliary springs 29 may be placed beneath the central portion of the wire bottom, to sustain a portion of the weight and prevent the wire fabric from sagging. An open space, 30, is left between the false front 12 and the foot-board 15, through which the legs 14 turn in and out, being concealed when folded by a cornice, 31, hinged to the false front and engaging with the inner face of the foot-board. When the legs are unfolded, their edges lie against the beveled hinged end of said cornice and hold it open, as shown in Fig. 4.

In preparing the bed for use the legs 14 are first unfolded and the bed is then lowered. After the foot has swung out far enough to raise the hinged short section 25 to the limits imposed by the chains 26 its further movement causes an increasing tension of the bed-bottom 23, which will relieve the weight of the bed at the point where its weight is most severely felt—viz., throughout the latter part of its outward or the first part of the inward or folding movement. This action of the elastic bottom continues through thirty or thirty-five degrees of arc, and aids so materially in the handling of the bed as to bring its operation within the strength of any lady, or even of a child.

In folding the bed the rail 24 and short section 25 are sustained by the straps 28 and prevented from coming in contact with the floor of the casing.

The legs 14 are composed of two strips, one of which, 14^a, is pivoted upon and when unfolded lies flat against the inner face of the foot-board, while the other, 14^b, has lateral support upon the flanges 17 of the side rail, 10. The edge of the strip 14 also lies against the edge of the false front, which is stiffened by one of the transverse slats 11. Against stress exerted upon the outer lateral faces of the legs they are supported by the spring-

latches 18. This construction gives a firm support upon all sides without straining the pivots upon which the legs turn, and permits the use of casters upon the legs, whereby the bed may be easily moved from place to place when open.

By my invention the weight of the structure is materially decreased, perfect ventilation is secured, the height of the casing is lessened, the bed is rendered movable when closed or unfolded with equal facility, the movement of the pivoted bed is greatly facilitated, and the proportions and ornamental appearance of the article are materially improved.

It is evident that the legs folding upon the hinged or pivoted side rails, 10, may be made solid and still accomplish all the results I have described without departing from my invention.

I do not herein claim the mechanism shown and described whereby the hinged panels are automatically opened and closed when the bed is unfolded and folded, as such mechanism constitutes the subject-matter of my application for Letters Patent filed September 29, 1884, Serial No. 144,258.

Having thus described my invention, what I claim is—

1. In a folding bedstead, the combination, with side rails composed of two sections of unequal lengths, hinged together, the inner end of the long section being pivoted to the base of the casing, of an elastic bed-bottom suspended from end bars fastened to the outer end of each section, the construction being such that when the bed is folded the short section will lie horizontally in the bottom of the case, while the long section is perpendicular, substantially as described.

2. In a folding bedstead, the combination, with side rails composed of two sections of unequal lengths, hinged together, the inner end of the long section being pivoted to the base of the casing, of an elastic bed-bottom suspended from end bars fastened to the outer end of each section, inelastic connections limiting the upward movement of the short section, and straps limiting its downward movement, substantially as described.

3. In a folding bedstead, the combination, with the pivoted side rails, of legs pivoted between the foot-board and an ear-plate mounted thereon, and a hinged cornice closing a space between the foot-board and the false front, through which the legs turn in and out, substantially as described.

4. In a folding bedstead, the combination, with the pivoted side rails, of legs pivoted between the foot-board and the false front, and having support upon the same and upon the flange of the side rails, and spring-latches mounted upon said legs and engaging with catch-pins upon the outer angles of the side rails, substantially as described.

5. The combination, with the casing 1, of the pivoted side rails, 10, the hinged short rails 25, the elastic bottom 23, and chains 26,

connected to the rail mounted on said short rails and to the lower front part of the case, substantially as described.

5 6. The combination, with the pivoted side rails, 10, of the legs 14, the spring-latches 18, and latch-pins 19, substantially as described.

10 7. The combination, with the pivoted side rails, 10, of the legs 14, pivoted to the foot-board 15, said legs receiving support upon the foot-board, the side rail, and the edge of the false front 12, substantially as described.

8. The combination, with the side rails, 10, of the pivoted legs 14, the spring-latches 18, latch-pins 19, and hinged cornice 31, substantially as described.

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

LEVI C. BOYINGTON.

Witnesses:

J. A. RUTHERFORD,
JOS. L. COOMBS.