(No Model.) 2 Sheets—Sheet 1.

I. R. VAN SLYKE.

FOLDING BED.

No. 340,688. Patented Apr. 27, 1886.

Fig. 1.

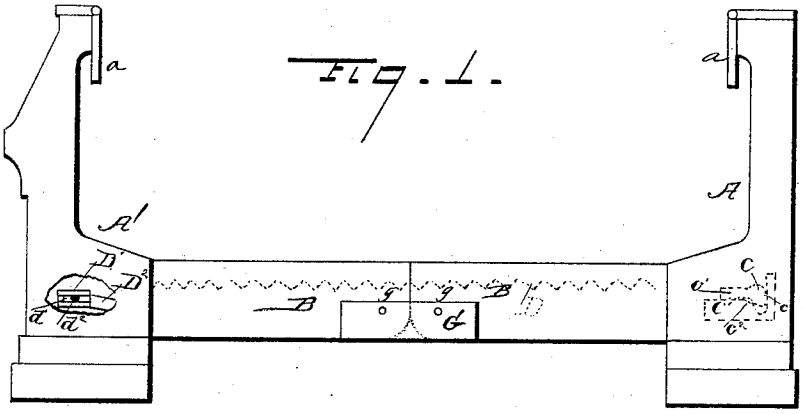


Fig. 2.

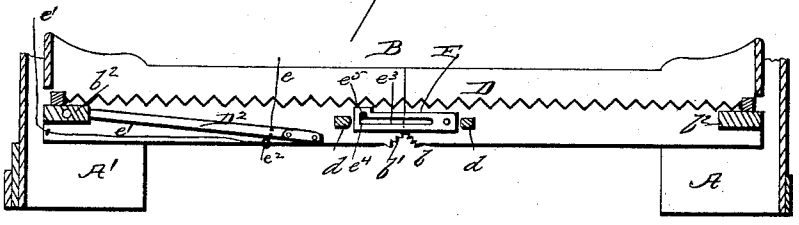


Fig. 3.

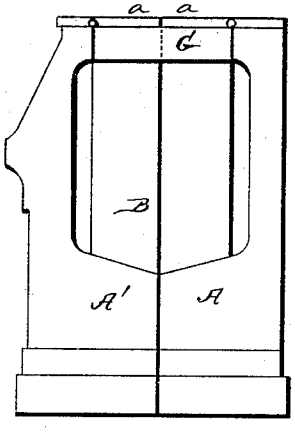
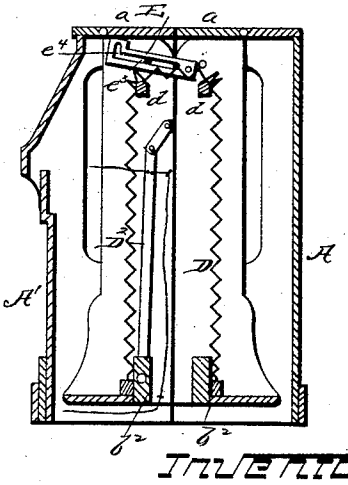


Fig. 4.



Witnesses

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(No Model.) 2 Sheets—Sheet 2.

I. R. VAN SLYKE.

FOLDING BED.

No. 340,688. Patented Apr. 27, 1886.

Fig. 5.

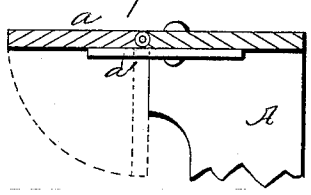


Fig. 6.

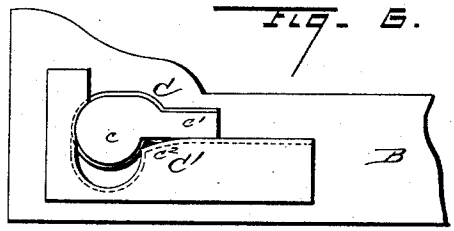


Fig. 7.

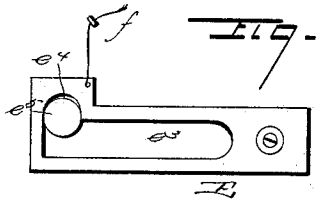


Fig. 8.

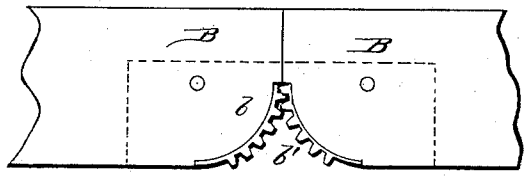


Fig. 9.

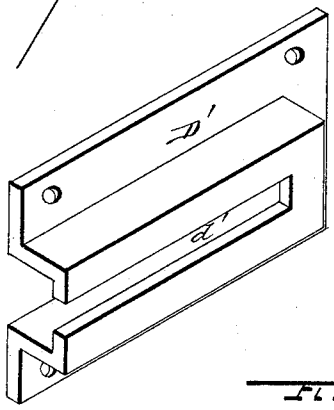


Fig. 10.

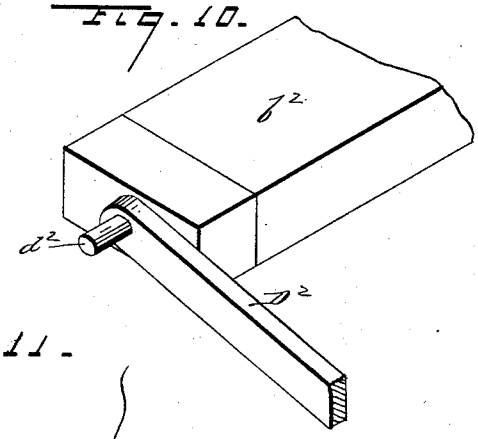
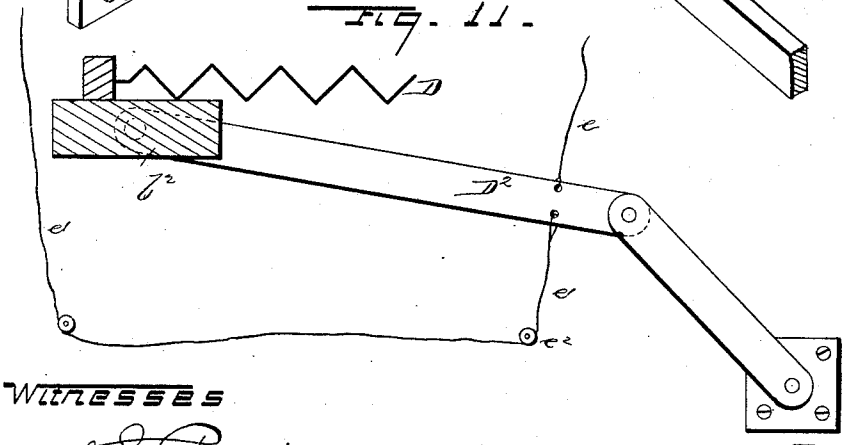


Fig. 11.



Witnesses

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UNITED STATES PATENT OFFICE.

ISAAC R. VAN SLYKE, OF CHICAGO, ILLINOIS.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 340,688, dated April 27, 1886.

Application filed September 6, 1884. Serial No. 142,348. (No model.)

To all whom it may concern:

Be it known that I, ISAAC R. VAN SLYKE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Folding Beds, of which the following is a specification, to wit:

This invention relates to an improvement in folding beds; and it consists in certain peculiarities of the construction and arrangement of the same, substantially as will be hereinafter more fully set forth and claimed.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawings, in which—

Figures 1 and 2 are respectively a side elevation and a longitudinal section of my bed extended. Figs. 3 and 4 are similar views folded. Fig. 5 shows the hinged leaf; Fig. 6, the bed-hinge. Fig. 7 is a view of the locking device for locking the bed open. Fig. 8 is a portion of the divided side rail with its teeth, and Figs. 9, 10, and 11 are details of the device for tightening the spring bed-bottom when the bed is extended as in Figs. 1 and 2.

A A′ represent the head and foot frames of my folding bed, which are made to represent when folded up a side-board, bureau, wardrobe or other desired article of furniture. The side rails, B B, of this bed are divided vertically in the center, and at this division their lower corners are rounded, as at *b*, to facilitate folding, and to insure the parts moving together. These rounded corners are provided with a series of cogged teeth, *b′*, which intermesh, as fully shown in Fig. 8. To the head and foot of the side rails are secured the pieces C, which are formed with a large head, *c*, of oval shape, and a shank, *c′*, as shown. These hinge-pieces C rest in similar-shaped sockets C′, secured upon the inner sides of the head and foot frames, and having a convex curved part, c^2, upon which the arm *c′* rests when the bed is opened out, as in Fig. 6.

The ends of the bed-frame or side rails, B B, are provided with cross-bars b^2, to which are secured the ends of a woven-wire bed-bottom, D, and across the bed from rail to rail, near their central joint, are two bars, *d d*, which serve to prevent the bottom from sagging, and also support it in proper position when folded, as in Fig. 4.

One of the bars b^2, to which the woven-wire bottom is secured, is made adjustable, to enable the bottom to be loosened when folded, and tightened when opened out, as follows: To the side rails, B, are secured castings D′, having a slot, *d′*, opening through one end, and the ends of the bar b^2 are provided with lugs or pins d^2, which are received in these slots and move back and forth therein as the bar is operated. To these pins d^2 are attached the jointed braces D^2, formed somewhat like the top-props of a carriage-top, and secured at their other ends to the side rails, B, as fully seen in Figs. 2, 4, and 11. When the bed is to be folded, this jointed brace is bent to the position shown in Figs. 4 and 11, and thereby allows the bar to be retracted to loosen the bed-bottom, and when the bed is opened the braces are straightened out, thereby extending the bottom by advancing the cross-bar in its slotted support, as will be evident; and to facilitate this operation I secure to the brace D^2, near its joint, a cord, *e*, which is led upward beside the side rail, and serves to break the joint in the brace. To the lower side of the brace, at the same point, is attached a second cord or wire, *e′*, which is led downward around a small pulley, e^2, secured on the side rail, and thence to any convenient point, preferably the foot of the bed, as shown, where it may be used at any time to pull down the brace and tighten the bottom.

To lock the side rails of the bed in their opened position, and prevent their sinking or spreading under weight in use, I provide each of the side rails, B, on its inner side with a slotted arm, E, which is hinged or pivoted upon one portion of the side rail near its central joint, and extends over upon the other portion of the rail, and its slot e^3 is at its outer end made with a short right-angled extension, e^4, as in Fig. 7. This slot engages with a pin, e^5, upon the side rail, which travels in and out in the slot as the bed is opened or closed, and when entirely open lies in the angular extension of the slot and firmly locks the parts from any movement, as will be evident. To

the locking-arms E are secured cords or wires *f*, by which they may be lifted sufficently to unlock the bed when it is to be closed.

To insure a proper registry and simultaneous movement of the two portions of the side rails in opening and closing, their lower corners at the central joint are rounded, as in Fig. 8, and provided with cogged segments F, the teeth of which mesh and insure the parts moving together. Upon the outer sides of the rails B at this point is a bar, G, secured by two pivotal bolts, *g g*, which pass through the rails at the points from which the radius of the segments F are struck, and serve to hold the two parts of the rails together, moving up and down always in a horizontal position as the bed is folded or unfolded, and covering the segments G, protecting them from catching in the clothes or other annoyances.

The head and foot frames A A′ are each provided with a hinged leaf or extension, *a*, which, when the bed is folded, are turned up and held in a horizontal position by the pivoted supporting-bars *a′*, similar to a table-leaf, and thus form a smooth and sightly cover for a bed.

When the bed is folded up in the position shown in Figs. 3 and 4, the device forms a compact case resembling any desired article of furniture, and occupies very little room. When it is desired to extend it for use, the foot-frame A′ is pulled away from the head-frame A, and the two parts of the bed-frame turn upon their hinges C, the jointed center falling as the bed is extended, and the pin e^5 traveling outward in the slotted plate E from the position shown in Fig. 4 to that in Fig. 2, when the angular extension of the slot drops over the pin and locks the bed open. Both plates E are lifted by their cords or wires to unlock the bed for folding. The peculiar shape of the hinge-pieces C and their sockets C′ enables their fulcrum or contact point to shift to or from the ends of the bed a short distance in raising or lowering it, and thus aid in balancing the jointed bed-frame and relieving the operator of much or all of the weight to be lifted. This hinge is the one I prefer to use for this reason, and it was covered by a former patent granted to me for a folding bed.

I am aware that it is not new, broadly, to cover the joint of the hinged side rails by a plate which is so attached as to preserve the same position in all the movements of the jointed side rails, and I do not desire to claim such as my invention; neither do I desire to be understood as claiming, broadly, a bed-bottom secured at one end to a sliding bar and provided with means for shifting this bar to loosen or tighten the bed-bottom, as I am aware that this has already been done by somewhat similar means to that herein described.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a folding bed, the head and foot frames, A A′, and the side rails, B B, hinged in their center, and also in the head and foot frames, in combination with the woven-wire bottom D, cross-bars b^2, one of which is provided with pins d^2, resting in a slotted casting, D′, on the side rails, the jointed braces D^2, connected to the cross-bar and to the adjacent portion of the side rail, and the cords *e e′*, connected to said braces and led to a convenient point for operating them, substantially as and for the purpose set forth.

2. The bed-frame B B, hinged at its ends, and arranged to fold upward at its center, in combination with the head and foot frames, A A′, having hinged covering-leaves *a a*, and pivoted supporting-bars *a′*, substantially as and for the purpose set forth.

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

ISAAC R. VAN SLYKE.

Witnesses:

W. C. McARTHUR,

CHAS. KRESSMANN.