(No Model.) 3 Sheets—Sheet 1.

S. S. BRADSHAW.

CABINET BEDSTEAD.

No. 323,267. Patented July 28, 1885.

Fig. 1

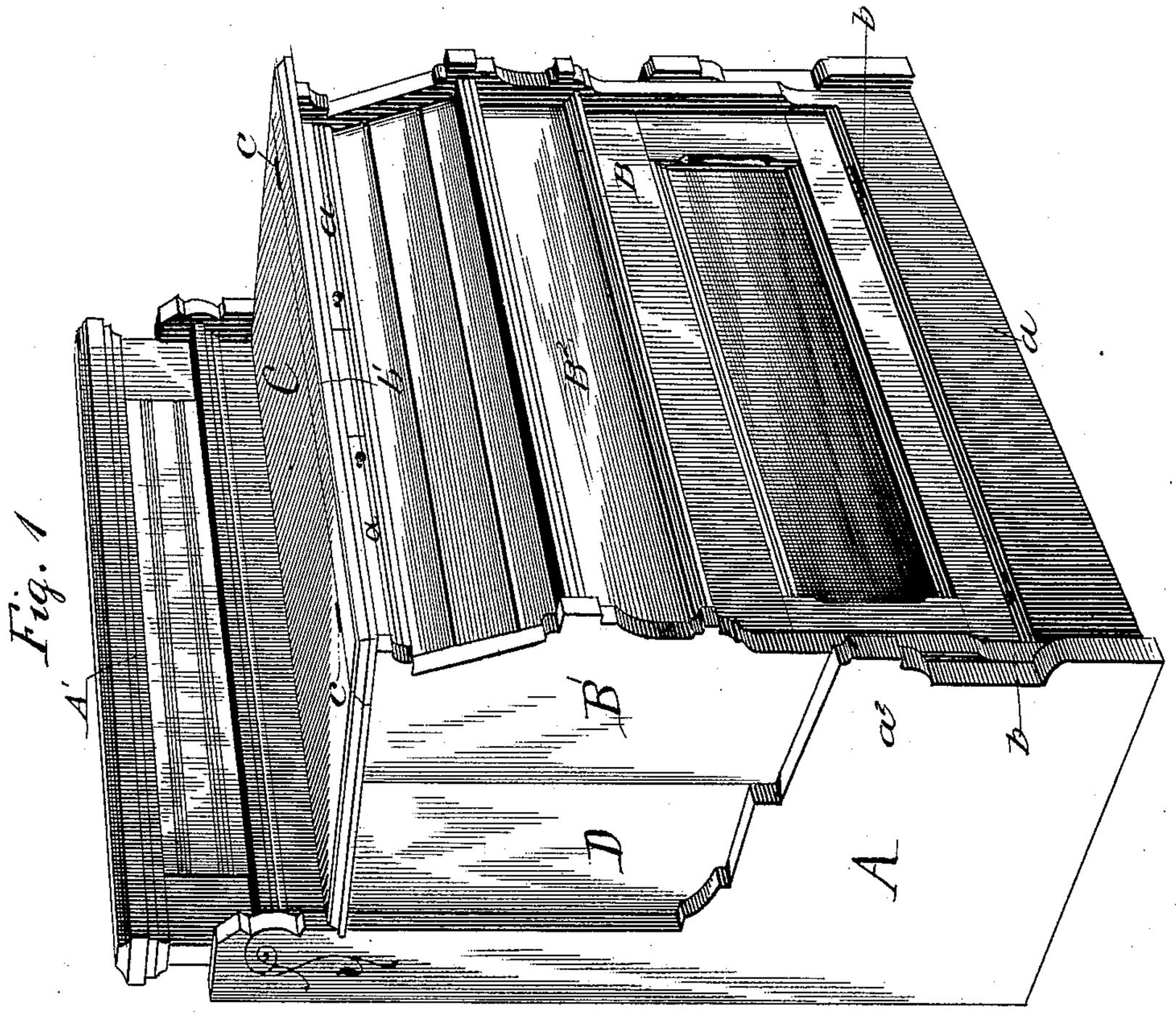
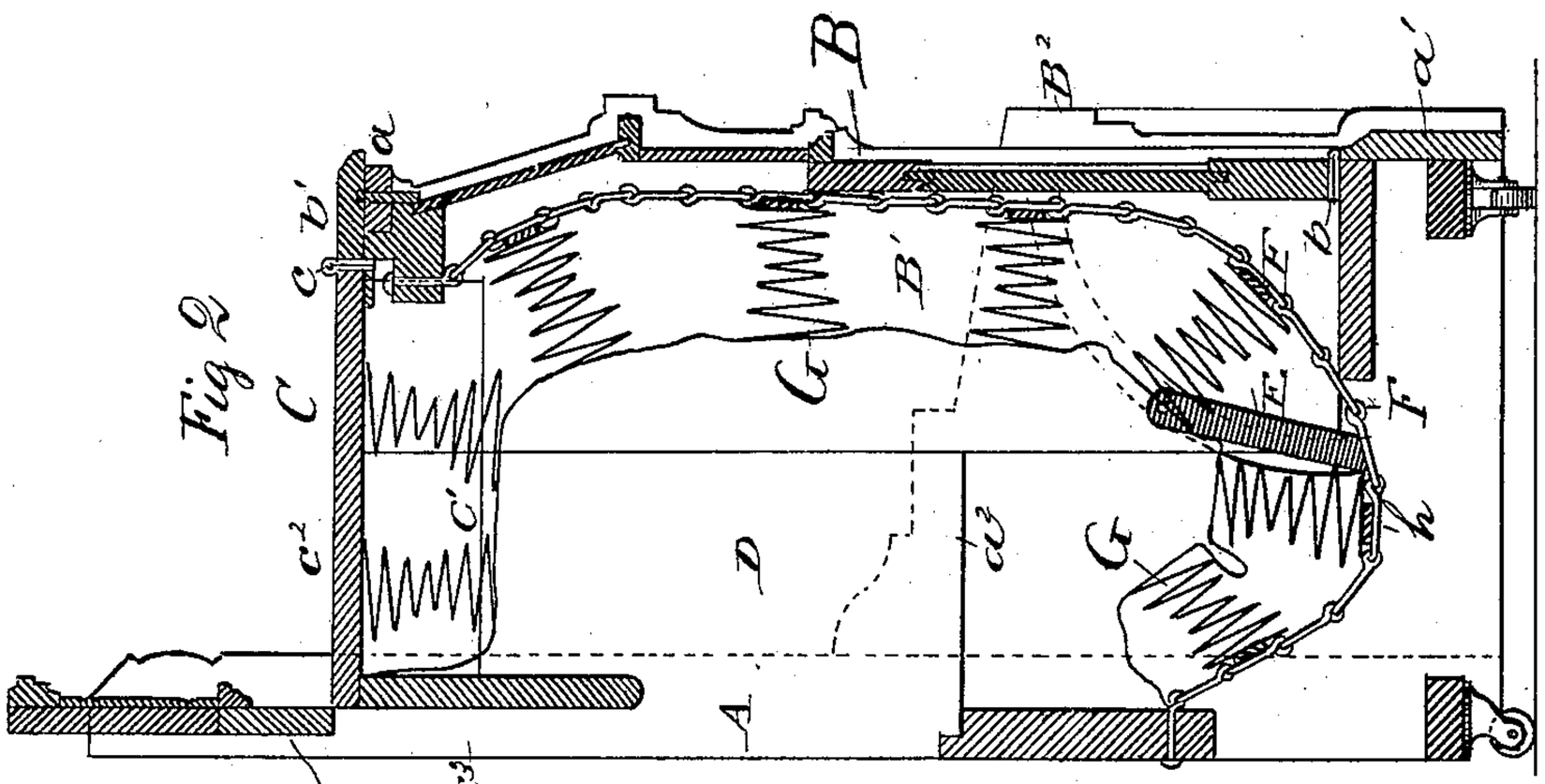


Fig 2



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(No Model.)

3 Sheets—Sheet 2.

S. S. BRADSHAW.

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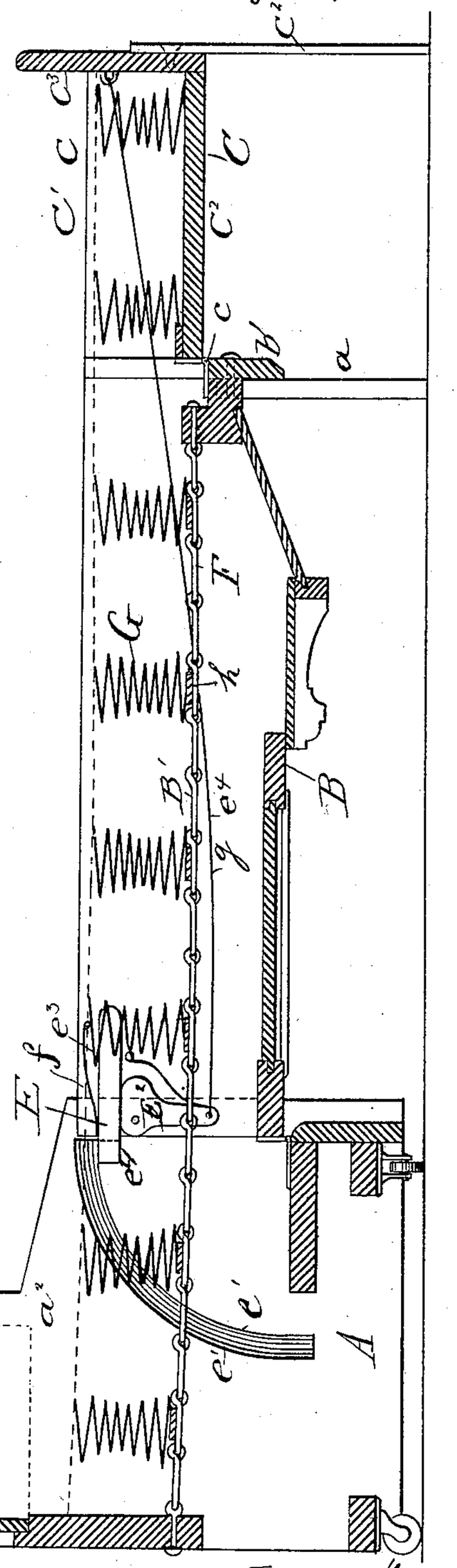

Fig. 3.

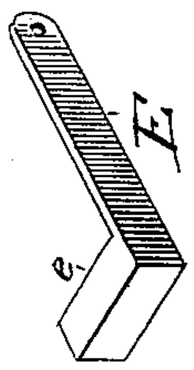

Fig. 4.

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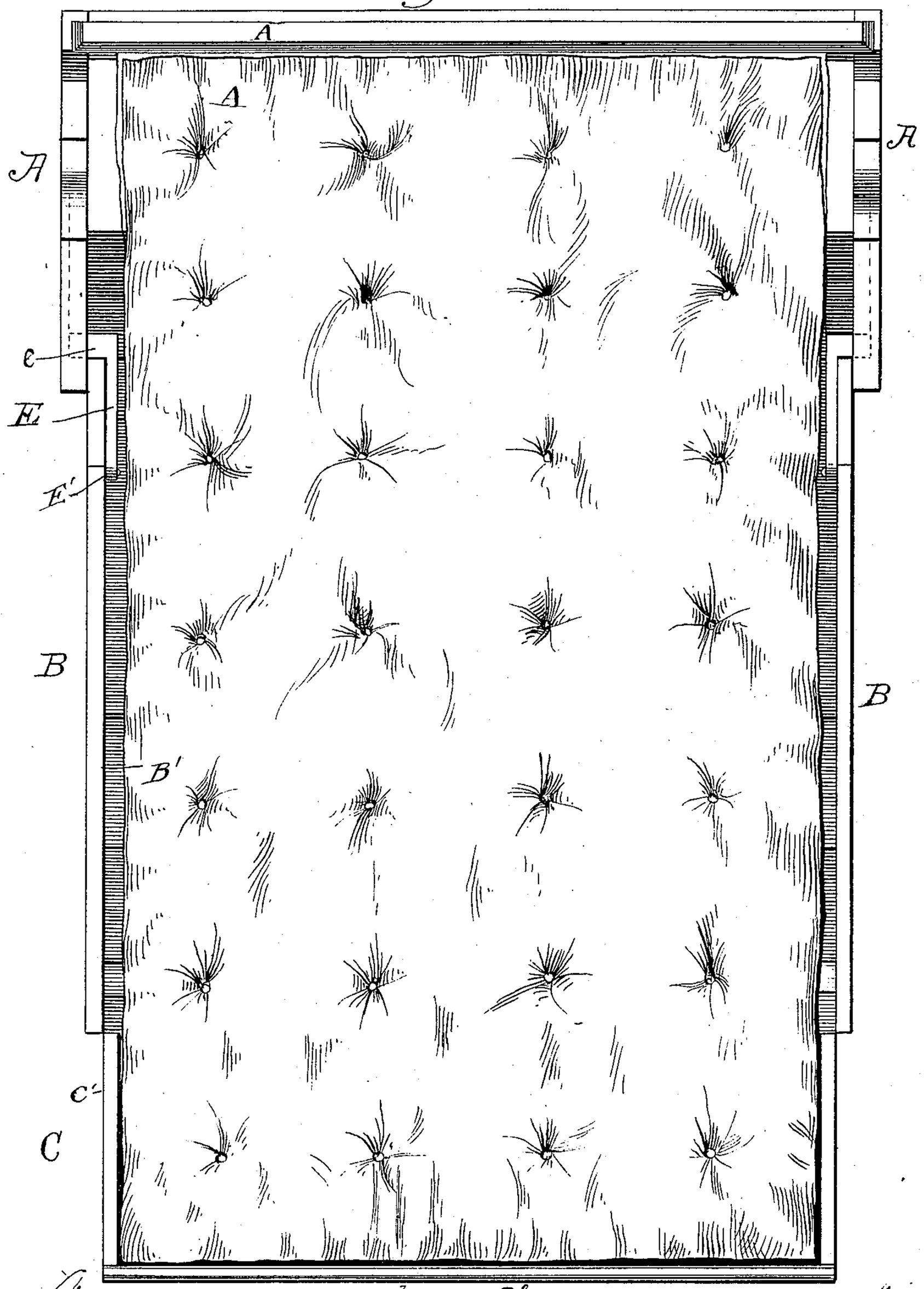
(No Model.) 3 Sheets—Sheet 3.

S. S. BRADSHAW.

CABINET BEDSTEAD.

No. 323,267. Patented July 28, 1885.

Fig. 5.



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UNITED STATES PATENT OFFICE.

SILAS S. BRADSHAW, OF CHICAGO, ILLINOIS, ASSIGNOR TO SAMUEL S. CHISHOLM, OF SAME PLACE.

CABINET-BEDSTEAD.

SPECIFICATION forming part of Letters Patent No. 323,267, dated July 28, 1885.

Application filed January 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, SILAS S. BRADSHAW, 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 Cabinet-Beds, of which the following is a specification.

This invention relates to that class of folding beds comprising a stationary part or casing having a vertical back portion or wall, which forms the head-board of the bed when the latter is unfolded, and a folding bed-frame hinged to the stationary casing and constructed to fold against the latter in such manner that the lower and side walls of the folding frame form, with the stationary casing, an article resembling a cabinet or other similar piece of furniture.

The object of my invention is to improve the construction of folding beds of the character described in several particulars, as will hereinafter appear; and it consists in the matters hereinafter described and pointed out in the claims.

The folding bed herein shown as embodying my invention consists, generally, of a stationary part or casing having a vertical rear wall, which forms a head-board when the bed is unfolded, and a folding bed-frame hinged to the stationary casing at a point at some distance forward from the vertical rear wall of the said casing, and having a folding foot section which is hinged to the main part of the frame in such manner as to fold into a position at right angles with the said main section, the parts being so constructed that when the bed is folded the main section will form the vertical front wall, and the bottom surface of the foot section will be horizontal and form the top surface of the article. The foot section, as shown, consists of two side pieces or rails, a bottom, and a transverse piece forming a foot-board, and the said foot section is hinged to the main section at one edge of its bottom, the side rails of the foot section being constructed at their ends adjacent to the main sections to overlap or pass at the sides of the side pieces of the main section when the foot section is folded into position at right angles with the main section, the side rails of the foot section in the particular form of device shown in the accompanying drawings as one way in which my invention may be carried out, being placed at a less distance apart than the side rails of the main section and adapted to enter between the rails of the latter when the parts are folded. The bed herein illustrated is also provided with swinging panels hinged to swing about vertical axes in the rear vertical wall or head-board of the bed, said panels, when swung outwardly at right angles with the head-board, being constructed to form with the side rails of the bed-frame continuous side walls to the folded structure.

The invention also embraces improvements in devices for supporting the mattress, for automatically locking the folding frame in its open or unfolded position, and in other details of construction in beds of the general character mentioned, as will hereinafter fully appear.

The invention may be more fully understood by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a cabinet or folding bedstead embodying my invention. Fig. 2 is a central section thereof with the sectional bed-frame folded. Fig. 3 is a central longitudinal section with the bed-frame unfolded and ready for use. Fig. 4 is a detail view showing one of the latches. Fig. 5 is a plan view of the bed-frame opened out and ready for use, illustrating more particularly the relation of the foot section to the body section of the bed-frame.

Referring by letter to the several figures of the drawings, in which like letters denote like parts, A is the upright stationary casing of the bed, which comprises a vertical rear portion or wall, A′, forming the head-board of the bed when the latter is unfolded, a relatively low front wall or cross-piece, a', and vertical side pieces or walls, a^2, uniting the back A′ and cross-piece a', said walls a^2 being preferably extended some distance above the cross-piece a' and of considerably less height than the wall A′.

The folding bed-frame comprises two parts or sections B and C, the part B constituting the main or principal portion of the frame, which is pivotally connected or hinged at its

upper end to the stationary casing, and the part C forming a foot section, which is hinged to the outer or free end of the section B. As herein illustrated, the section B consists principally of two side walls or rails, B′, and a front or wall, B^2, and said part B is hinged to the stationary casing by hinges *b*, attached to the cross-piece *a*′, and the lower edge of the front wall, B^2, of the section B. The side walls of the section B are preferably constructed to fit closely between the sides a^2 of the casing A, and the latter are desirably made to come at approximately the same height above the floor as the tops of the side rails, B′, when the parts are unfolded. The section B is, as shown, provided with hinged or folding legs *a*, by which its outer end is supported when the bed is unfolded, said legs, as shown, being arranged to fold into suitable recesses in the face of the outer wall of the section B in a familiar manner.

The foot section C preferably consists of two side rails, C′, a bottom, C^2, and an end piece or foot-board, C^3, and the said foot section is hinged at its inner or upper end to the free or outer end of the section B, preferably by hinges *c* attached to the bottom C^2 and a cross-piece, *b*′, upon the part B. The foot section C is provided with folding legs *c*, pivoted, as shown, upon the foot-board C^3, whereby the outer end of the said foot section is supported in its horizontal position when the bed is unfolded.

The bottom or front wall, B^2, of the part B is constructed to form the front vertical wall of the folded bed structure, and for this purpose will usually be paneled to imitate the front of a desk or cabinet, as shown. It may, however, be made to resemble the front of a chest of drawers or other article of furniture.

The foot section C is constructed to fold into a horizontal position, or at right angles to the part B, so that its bottom C^2 will form a horizontal top surface to the folded structure, the cross-piece *b*′, to which the said bottom C^2 is hinged, preferably being constructed to lie in the same plane with and form a forward continuation of the said bottom C^2 and part of the top surface of the structure when the latter is folded, as clearly shown in Figs. 1 and 2.

In order to prevent the interference of the side rails, C′, of the foot section C with the side rails of the main section B when the former is turned up into its position at right angles to the latter, the adjacent ends of the side rails of the two parts are constructed to overlap each other, and for this purpose are preferably arranged in different vertical planes, whereby each side rail of one part will pass at one side of the adjacent rail of the other part. In the particular construction of the parts herein shown the side rails, C′, of the foot section C are placed at a less distance apart than the side rails, B′, of the main section, whereby the said side rails, C′, pass inside of the side rails, B′, when the bed is folded. This construction is desirable in the particular design for the exterior of the bed herein shown; but in carrying out my invention the rails may be disposed to overlap each other otherwise than as shown, with similarly advantageous results as far as the general construction of the parts B and C is concerned.

It is obvious that when the foot section is hinged to the body section at its bottom, or, in other words, by hinges located at the adjacent lower corners of the foot and bottom sections, the bottom of the foot section will stand at a less distance from the floor at times when the parts are folded than if the parts were hinged at their adjacent upper corners or in line with the top edges of the side rails. The difference in height between the folded structures in the two instances will be about equal to the depth of the foot section, whereby, under the construction herein shown, the bottom of the foot section, which forms the top of the folded bed, will be brought much lower than otherwise, and the structure will therefore be made more compact, while the usual length in the folding bed-frame is at the same time retained.

The rear wall or head-board, A′, of the stationary casing is, as herein shown and preferably constructed, provided with two hinged or swinging panels, D, adapted to swing forward at right angles to the plane of the head-board, and to form parts of the side walls of the folded structure, and also to form, when folded back against the head-board, parts of the ornamental surface of the latter. The panels D are preferably set in openings in the head-board, whereby, when the bed is folded and the said panels are swung forward open spaces will be left for the free admission of air to the interior of the structure. The panels D are hinged in such position that, when brought forward into position at right angles with the head-board, they will lie in the same plane with the side rails, B′, said panels, as shown, being for this purpose hinged with their pivotal axes approximately in the same plane with the outer or front surface of the panels, and in the same planes also with the inner faces of the side walls, a^2, of the stationary casing, so that when said panels are swung outwardly into contact with the said side walls their outer faces will be flush with the side rails, B′, which, as before stated, are fitted to enter closely between the said side walls, a^2. In the construction of the parts herein shown the top edges of the panels D are in the same horizontal plane with the top or outer ends of the side rails, B′, when the part B is in its vertical position, the upper parts of the panels being arranged when the parts are folded to overlap or cover the side rails, C′, of the foot section and to fit closely beneath the projecting ends of the bottom C^2 of the said foot section, as clearly shown in Fig. 1, whereby

a neat and ornamental appearance and finish are given to the structure.

A locking device for holding the folding bed-frame in its open or unfolded position is herein shown, and is constructed as follows: Upon the side rails, B′, of the main section B of the head-frame, and at the end of said rails, adjacent to the stationary casing, are pivoted two swinging latches, E, said latches preferably being located upon the inner faces of the rails and near the upper edges of the latter. Each of said latches consists of a metal bar pivoted at one end to the side rails, B′, with their free ends extending beyond the upper ends of the said rails. The said latches also are provided upon their free ends with right-angled extensions or lugs *e*, Fig. 4, which extend outwardly into position to engage curved grooves *e′*, formed in the inner faces of the side walls, A^2, of the stationary casing. The said grooves *e′* are arranged concentrically with the pivotal axis about which the section B swings, said grooves being provided with lateral notches or extensions e^2, adapted to receive the lug *e* of the latch E when the bed-frame is horizontal. Said lug *e* is adapted to move freely in the groove *e′* when the bed-frame is being swung up and down, and the notch e^2 is preferably made to extend downwardly from the said groove, whereby the said lug may drop into the notch by gravity when said notch and lug are in position for engagement. In order to insure the entrance of the lug to the notch, a spring, e^3, acting upon the latch to throw its outer end downwardly, may, however, be employed.

The latches E may be moved by hand to disengage them from the notches e^2 when it is desired to fold the bed; but, preferably, levers E′, having lateral extensions at their upper ends adapted to engage the latches E, are pivoted upon the rails B′ below the said latches, and rods or cords e^4 are extended from the lower ends of the levers to a point or points upon the lower end of the bed-frame, whereby the lever may be moved and the latches disengaged by a person standing in convenient position for lifting the bed-frame.

In a folding bed constructed, generally, in the manner above set forth, the mattress may be supported from the stationary casing and the sections B and C in any well-known or preferred manner. As herein shown, however, a support for the mattress over the casing A and the main section B is afforded by flexible supports, herein shown in the form of chains F, which are connected at their ends with the lower part of the head-board A′ of the casing, and with the outer end of the section B, suitable transverse slats, *h*, being attached to the chains upon which the mattress is sustained. As shown in the drawings, the chains are so arranged that when the bed is unfolded the slats are in approximately the same horizontal plane with the bottom C^2, of the foot section C, and springs G affording the usual spring support for the mattress, are placed upon the said slats, and also upon the bottom of the foot section.

The chains F will obviously be held under tension so as to support the mattress horizontally when the bed is unfolded, and will fall or yield backwardly against the front wall, B^2, of the main section and otherwise conform to the shape of the casing and of the mattress, so that the folding or bending of the latter at an acute angle will be prevented.

In folding beds of the general character above described, as heretofore constructed, the folding parts of the frame have usually been disposed in such manner that either the mattress is doubled at or about its middle and its ends brought together, or, in cases where the folding frame is in three parts, the end portions of the mattress are folded over upon or against the middle portion. Serious objections to either of these forms of bed are that the mattress, by being bent or folded at an acute angle, in the manner described, becomes in a short time irregular and uneven, and consequently unfit for use. Another and an important objection to beds in which the mattresses are folded as described is, that by the folding of the mattress, in the manner described, access of air to the mattress and bed-clothing, necessary for the proper ventilation thereof, will to a great extent be prevented.

In the folding bed constructed as herein shown the mattress is bent or folded at its end portions only, and said end portions are bent into a position approximately at right angles with the middle part, so that the making of any objectionable sharp or acute bends in the mattress is avoided, while the mattress is at the same time folded into a sufficiently-small compass. By disposing the parts of the frame as described, the mattress is bent at its end portions only, so that its middle part, which is most used, always remains flat, and, also, the mattress is sustained in a position favorable to the access of air to all parts thereof when the bed is folded. In this connection an important advantage is obtained by making the head-board with hinged panels, hung in openings therein, for the reason that when the bed is closed and the upper and lower ends of the mattress are bent or folded toward the head-board, the said openings in the head-board permit a free circulation of air within the space thus inclosed by the mattress and the head-board.

A folding bed such as above described, and comprising a stationary casing and a hinged or folding bed-frame having a main part or section adapted to fold into a vertical position to form the front of the structure, when folded, and a foot section hinged to the outer end of the main section and adapted to fold at right angles with said main section, so that its bottom surface shall form the top of the structure when the parts are folded, may, obviously, so far as its details of construction are concerned, be made

otherwise than as herein shown, and I desire therefore to claim, broadly, all devices embodying the same principles of construction which are present in the bed herein illustrated and described, without limitation to the specific devices shown, except as set forth in the specific claims hereto appended.

I am aware that it has been proposed heretofore to construct a bedstead in the form of a bureau, in which hinged head and foot pieces are adapted to form the back, front, and top of the folded structure. A structure of this kind differs from that claimed by applicant in having no stationary head-board, and in having the bed-frame proper, or the part which supports the mattress, with three hinged joints, so that the mattress is folded in three places instead of in two places, as in applicant's construction.

I am also aware that it has been proposed in a folding bed-frame of the character above set forth, to construct the frame so that the parts thereof may be folded at right angles with each other by mitering the adjacent ends of the parts of the side rails, the said side rails being located in the same plane. In the construction herein claimed in these parts the adjacent ends of the side rails are constructed to overlap each other, with the result of obtaining a more desirable form in the closed structure and of giving the appearance of continuous side rails when the bed-frame is unfolded.

I claim as my invention—

1. In a folding bed, the combination, with a stationary casing provided with a back wall forming a head-board, of a sectional folding bed-frame comprising a main part or section, B, hinged to the said casing, and a foot section, C, hinged to the part A, and constructed to fold into a position at right angles to the latter, said sections B and C forming, respectively, the front and top of the structure when the bed is folded, substantially as described.

2. In a folding bed, the combination, with a stationary casing provided with a back wall forming a head-board, of a sectional folding bed-frame comprising a main part or section, B, hinged to the said casing and having side walls or rails, B′, and a foot section, C, hinged at its bottom to the part A, and adapted to fold into a position at right angles to the latter, said section C having its side pieces or rails, C′, located in position to overlap the side rails, B′, of the section B, substantially as and for the purpose set forth.

3. In a folding bed, the combination, with a stationary casing provided with a back wall forming a head-board, of a sectional folding bed-frame, comprising a main part or section hinged to the said casing, and a foot section, C, consisting, essentially, of side-rails, C′, a bottom, C^2, and a foot-board, C^3, the said foot section being hinged at the edge of its bottom C^2 to the section B, and the sides C′ being located in position to enter between the sides B′ of the section B when the bed is folded, substantially as and for the purpose set forth.

4. In a folding bed, the combination, with a stationary casing, A, and a folding bed-frame comprising a main part or section, B, hinged at its upper end to the casing A, and a foot section, C, hinged to the part B, of a flexible support for the mattress, connected at one end with the rear wall of the casing and at its opposite end with the outer end of the section B, substantially as and for the purpose set forth.

5. The combination, with the stationary casing A and a folding bed-frame hinged to the casing, the said casing being provided with a groove, e', curved concentrically with the axis of the hinged joint, between the casing and bed-frame, and having a notch or lateral extension, e^2, of a latch, E, pivoted to the bed-frame and engaged with the said groove, substantially as and for the purpose set forth.

6. The combination, with the stationary casing A and a folding bed-frame hinged to the casing, the said casing being provided with a groove, e', curved concentrically with the axis of the hinged joint, between the casing and frame, and having a notch or lateral extension, e^2, of a latch, E, pivoted to the bed-frame and engaged with the groove, and a spring applied to throw the latch into position to engage the notch, substantially as and for the purpose set forth.

7. The combination, with the stationary casing A and a folding bed-frame hinged to the casing, the said casing being provided with a groove, e', curved concentrically with the axis of the hinged joint, between the casing and bed-frame, and provided with a notch or lateral extension, e^2, of a latch, E, pivoted upon the frame and engaged with the groove, and a lever, E′, pivoted to the bed-frame in position to engage the latch, whereby the latter may be disengaged from the notch, substantially as described.

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

SILAS S. BRADSHAW.

Witnesses:
M. J. CLAGETT,
LOUIS NOLTING.