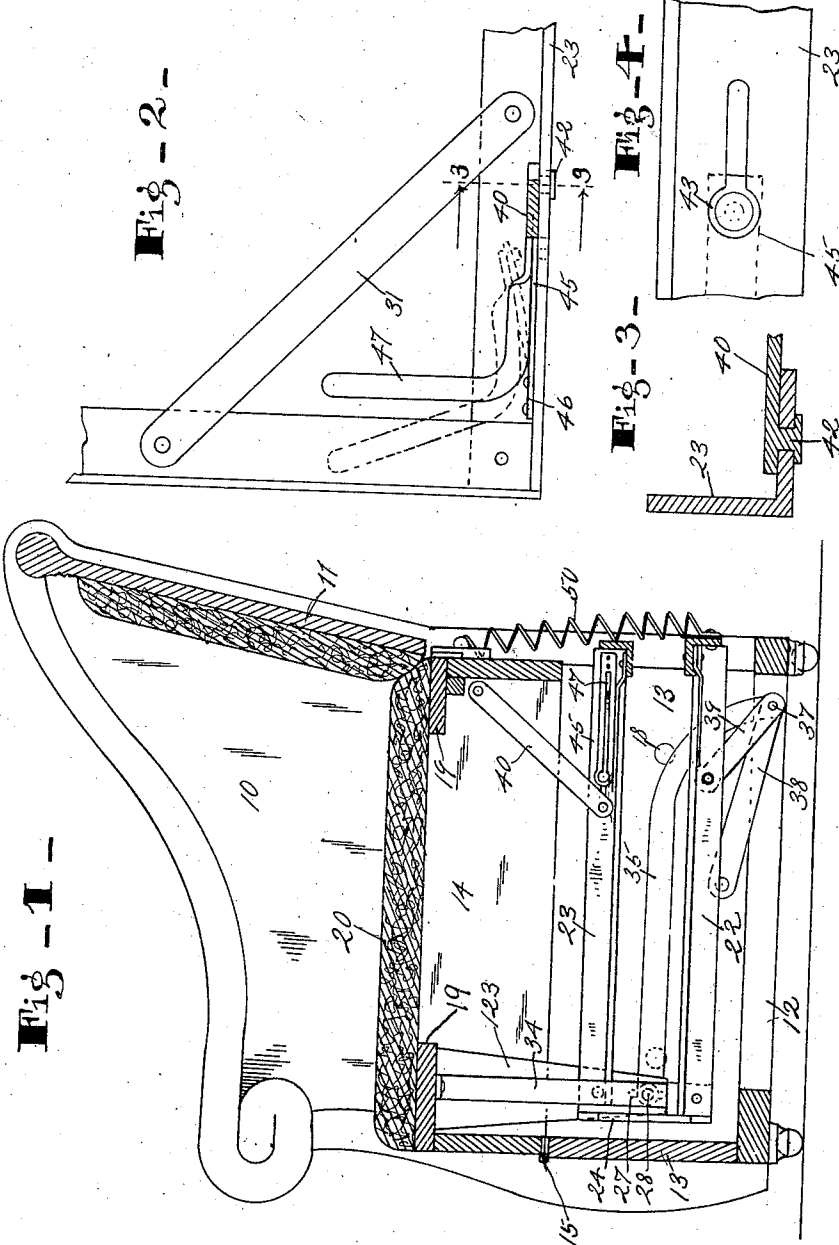


1,027,183.

Patented May 21, 1912.

3 SHEETS-SHEET 1.



WITNESSES:

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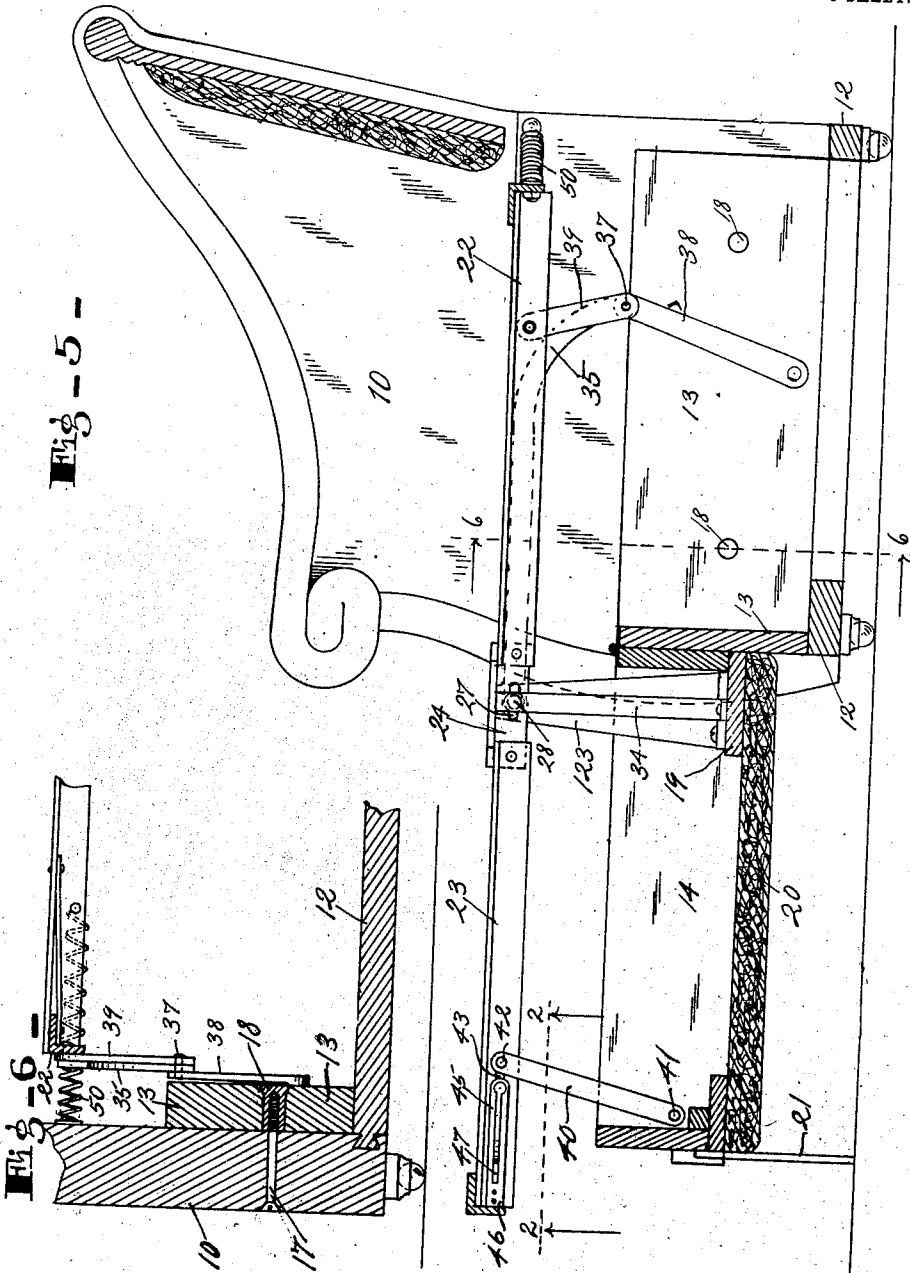
M. CLUNE.
SOFA BED.

APPLICATION FILED JUNE 8, 1911.

1,027,183.

Patented May 21, 1912.

3 SHEETS-SHEET 2.



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3 SHEETS-SHEET 3.

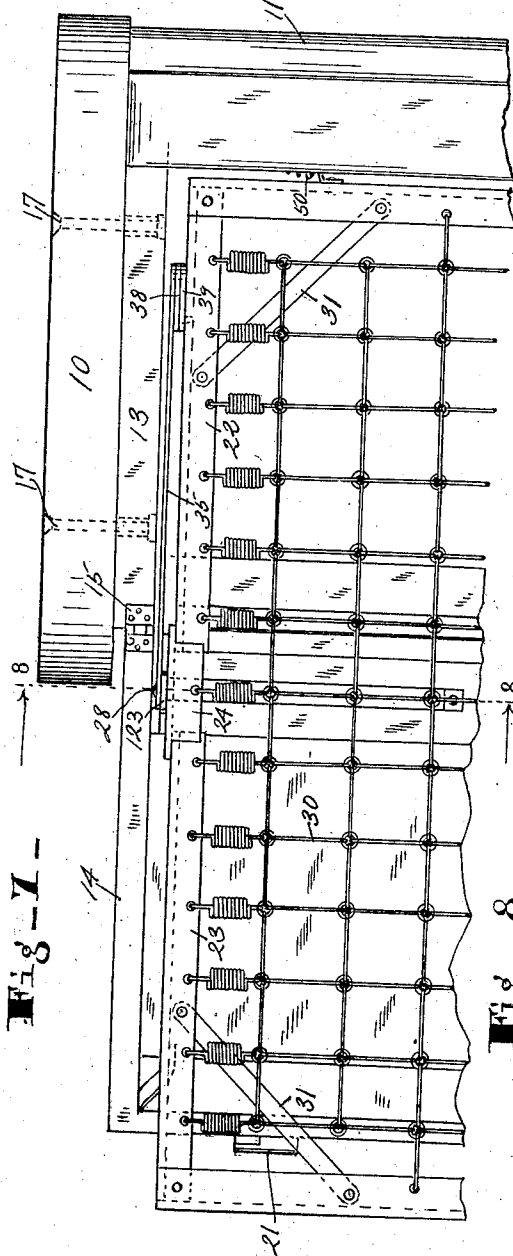


Fig. 7 -

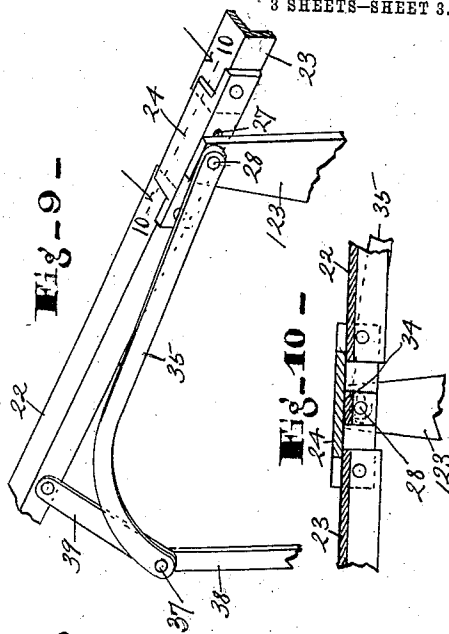


Fig. 9 -

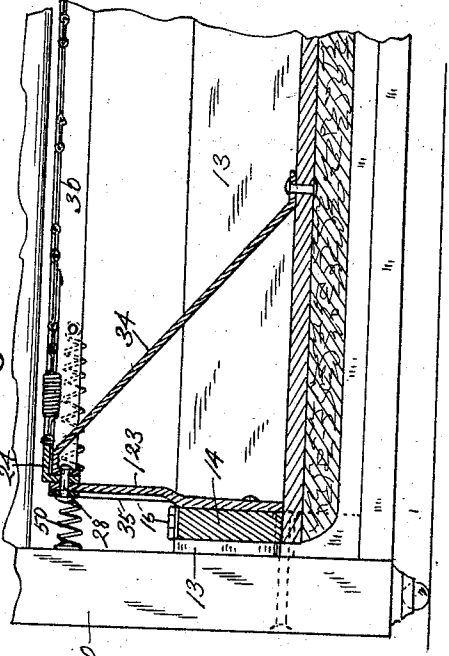


Fig. 10 -

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SOFA-BED.

1,027,183.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed June 8, 1911. Serial No. 631,895.

To all whom it may concern:

Be it known that I, MICHAEL CLUNE, a citizen of the United States, and a resident of Indianapolis, county of Marion, and State of Indiana, have invented a certain useful Sofa-Bed; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The object of this invention is to improve the construction of sofa beds.

The features of the improvement will appear from the accompanying drawings and the following description and claims.

In the drawings Figure 1 is a central vertical transverse section through a sofa bed when it is folded up. Fig. 2 is a bottom view of an outer corner of the wire mattress frame unfolded on the line 2—2 of Fig. 5. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a side elevation of a portion of the angle bar shown in Fig. 2. Fig. 5 is a central vertical section through the sofa bed when it is unfolded. Fig. 6 is a section on the line 6—6 of Fig. 5, through a part of the device. Fig. 7 is a plan view of one end of the device when it is unfolded, showing the wire mattress, parts being broken away. Fig. 8 is a vertical section on the line 8—8 of Fig. 7. Fig. 9 is a perspective view of a portion of the mattress frame and its associated parts, parts being broken away. Fig. 10 is a section on the line 10—10 of Fig. 9.

One feature of the invention consists in having, what may be termed herein, a seat frame practically independent, or at least, quite readily detachable, from the sofa frame. The sofa frame consists of the ends 10, back 11 and the bottom frame 12. This latter is a rectangular frame consisting of front, rear, and end bars and is secured at its ends to the ends 10. The seat frame consists of a stationary member 13 and a folded seat member 14 hinged together by the hinges 15 at one side. They are rectangular frames, the lower member 13 consisting of a front and two end pieces and said frame rests above the bottom 12 of the sofa frame and is held in place thereon by the machine screws 18 which extend through the ends 10 and screw into the nuts 18 embedded in the ends of the lower member 13 of the seat frame. By loosening the bolts 17 the seat frame can be lifted out of the sofa frame.

Hence, the device is easy to ship as the ends and back can be shipped knocked-down and likewise the seat frame can be separately shipped and anybody, without skill, can readily assemble the two frames. The upper member 14 of the seat frame has front and rear top bars 19, when folded up as shown in Fig. 1, on which an upholstered seat 20 is located. When said seat member 14 is unfolded the upholstered portion 20 is on the underside, as shown in Fig. 5, and the outer end of the unfolded seat portion is supported by pivoted legs 21 of familiar type.

The mattress frame consists of three sections, an inner section 22 which is also over the member 13 of the seat frame, an outer section 23 which when the device is unfolded, is over the seat member 14 of the seat frame, and an intermediate section 24 which is pivoted at its ends to the other two sections 22 and 23. These sections 22, 23 and 24 are made of angle iron or any other suitable material, the sections 22 and 23 having three sides. The intermediate section 24 consists of bars at each side of the mattress frame centrally pivoted on a stand 123 which is secured to the inner bar 19 of the seat member 14 of the seat frame, when said seat member is folded up, as shown in Fig. 5. When the device is folded up the stand 123 extends downwardly from the seat frame, as shown in Fig. 1.

A single wire mattress 30, see Fig. 7, is secured to the three sections of the mattress frame and closes in between them when said sections are folded to the position shown in Fig. 1. The sections 22 and 23 of the mattress frame have angle brace bars 31, see Fig. 7, secured at their corners. In the folded position, the section 23 of the mattress frame lies above the section 22 and they are spaced and held apart by the intermediate section 24 which is vertical when the parts are folded up.

To permit the proper play or movement of the intermediate section 24 the bars thereof are provided with longitudinal slots 27, see Fig. 5, through which bolts 28 extend, see Figs. 8, 9 and 10. Each bolt 28 extends through a post 123 and intermediate bar 24, and also through the down-turned end of a brace bar 34 which extends obliquely to the bar 19 of the seat frame on which the posts 123 are mounted and also through a connect-

ing bar 35. This connecting bar extends rearwardly and at its rear end is curved downwardly and is pivoted at 37 to the free ends of the link bars 38 and 39 which are pivoted at their ends respectively to the ends of the member 13 of the seat frame, and the ends of the section 22 of the mattress frame, see Fig. 5. The posts 123 support the mattress frame appreciably above the seat frame when the couch is unfolded, see Fig. 5, and the connecting bars 35 hold the links 38 and 39 almost in vertical alinement with each other and thereby the rear portions of the mattress section 23 are supported at the same elevation and maintained in horizontal position when the mattress frame is unfolded.

The outer portion of the outer section 23 of the mattress frame is supported when the device is unfolded by supporting bars 40 which are pivoted at their lower ends to the ends of the seat frame 14 and at their upper ends are detachably pivoted to the section 23 of the mattress frame so as to support said section 23 in a horizontal position and, in alinement with the other sections of the mattress frame. The bars 40 are pivoted to the section 23 of the mattress frame in the manner shown in Figs. 2, 3 and 4. The bar 40 has a headed pin 42 on its upper end adapted to be inserted in the enlarged portion of a slot 43 in the end of the mattress frame section 23 and when slid into the reduced portion of said slot the head of the pin 42 prevents escape of the parts. The upper ends of the bars 40 are held normally in the reduced portion of the slot 43 by a flat spring 45 which is secured by the rivets 46 on the inner side of the end of the section 23, see Fig. 2, and dotted lines in Fig. 4. An L-shaped hand bar 47 is secured to the free end of the spring 45 so that when the hand bar 47 is moved to the dotted line position shown in Fig. 2, the spring will be moved out of engagement with the bar 40 so that said bar can be slid laterally to disengage it from the slot in the mattress frame section 23. When this is done the forward parts of the mattress section 23 can be lifted up, after the bed is unfolded, as shown in Fig. 5, and bedding placed in or removed from the seat section 14 of the seat frame. The bed mattress is left on the wire mattress all the time and folds in between the sections thereof. But other parts of the bedding may be kept between the seat member 14 of the seat frame and the section 22 of the wire mattress.

A spring 50 at the rear extends from a portion of the end 10 of the sofa frame to the rear part of the inner section 22 of the mattress frame to assist in supporting the latter, particularly in elevating it from the folded position shown in Fig. 1, to the unfolded position shown in Fig. 5.

Assuming the parts to be folded as shown in Fig. 1, in unfolding it catch the seat near its inner edge and turn it over forwardly to the position shown in Fig. 5. Then the main part of the connecting bar 35 is substantially horizontal and the link bar 38 is inclined outwardly. As the unfolding begins, the lower ends of the posts 123 begin to move both upwardly and slightly to the right of the position shown in Fig. 1. That initial movement pushes the rod 35 endwise to the right which causes the link bar 38 to move upwardly to a substantially horizontal position, its right-hand end moving slightly to the right and upward in a line parallel substantially with the line followed by the pivot 28 as the lower end of the post 123 moves upwardly. After a slight opening movement the pivot 28 of the post 123 will pass the center line between the hinge 15 and the connection of the bar 35 with the bar 38. It takes a little force to make the parts pass this center line position in folding or unfolding the same, but after this has been done in the unfolding, the strain of the bars 35 and 38 ceases temporarily and the right-hand ends of said bars drop down practically in the position shown in Fig. 1. Further upward movement of the lower end of the post 123 then begins to pull the bar 35 upward and to the left and the bar 35 draws the outer end of the link 38 upwardly and this movement continues until the parts assume the position shown in Fig. 5, the two links 38 and 35 being opened like toggles due to the movement of the bar 35 to the left as it goes up and said bar forces the links 38 and 35 to the position shown in Fig. 5, and thereby they are enabled to support the mattress frame 22. In folding up the device the parts will operate reversely to what has been described. Therefore, it is observed that in this device, the sofa frame, seat frame and mattress frame are all in a sense independent, or at least separable frames, which may be readily put together or separated for shipping or other purposes and each of these frames possesses, to a certain extent, its own peculiar individuality in construction and operation.

In the second place there is novel means for controlling the movement of the sections of the mattress frame and maintaining the inner section in its elevated position.

In the third place, the means for supporting the outer section of the mattress frame are detachable therefrom so that it can be turned up for the insertion and removal of bedding in the space between the mattress frame and seat.

The invention is not intended to be limited to a direct pivoting of the intermediate mattress frame section to the seat posts, so long as the connection is such as to permit said sections to turn on said posts.

I claim as my invention:—

1. A sofa bed including a main frame, a seat pivoted at its front edge, posts on the seat, a three section mattress frame with the intermediate section pivoted to said posts, pivotal means for supporting the outer section of the mattress frame on the seat, a pair of link bars pivoted together at their adjacent ends with the lower end of one bar pivoted to the main frame and the upper end of the other bar pivoted to the inner portion of the inner section of the mattress frame, and connecting bars extending from the pivots between said link bars to the ends of said posts.

2. A sofa bed including a main frame, a seat pivoted at its front edge, posts on the seat, a three section mattress frame with the intermediate section pivoted to said posts, pivotal means for supporting the outer section of the mattress frame on the outer portion of the seat, a pair of link bars pivoted together at their adjacent ends, the lower end of one bar being pivoted to the main frame and the upper end of the other bar being pivoted to the inner portion of the inner section of the mattress frame, connecting bars extending from the pivots between said link bars to the ends of said posts, and springs extending between the sofa frame and the inner section of the mattress frame so that the tension thereof will be increased as the mattress frame section moves downward.

3. A sofa bed including a main frame, a seat pivoted at its front edge, posts on the seat, a three section mattress frame with the intermediate section having longitudinal slots, pivots extending through the posts and said slots, a pair of links pivoted together at their adjacent ends and the lower end of one link pivoted to the main frame and the opposite end of the other link pivoted to the inner portion of the inner sec-

tion of the mattress frame, and connecting bars extending from the pivots between said links and the ends of said posts.

4. A sofa bed including a main frame, a seat pivoted at its front edge, posts on said seat near its pivoted edge, a three section mattress frame with the intermediate section mounted in the ends of said posts and the outer section pivoted to the intermediate section, said outer section of the mattress frame having slots with enlarged ends, supporting bars pivoted to the seat and at their upper ends having headed pins insertible in the enlarged portions of said slots and capable of entering the reduced portions of said slots, and releasable means for holding said bars with their pins in said reduced portions of the slots.

5. A sofa bed including a main frame, a seat pivoted at its front edge, posts on the seat adjacent its pivoted edge, a three section mattress frame with the intermediate section mounted in said posts and the outer section pivoted to the intermediate section, said outer section of the mattress frame having slots with enlarged ends, supporting bars pivoted to the seat and at their upper ends having headed pins insertible in the enlarged portions of said slot and capable of entering the reduced portions thereof, springs secured to the mattress frame for holding the bars with their pins in the reduced portions of the slots, and an L-shaped handle secured to each spring for moving it from its holding position and enable the outer section of the mattress frame to be detached from said supporting bars.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

MICHAEL CLUNE.

Witnesses:

G. H. BOINK,

O. M. McLAUGHLIN.