

(No Model.)

J. P. MILLER.  
SOFA BED.

No. 482,262.

Patented Sept. 6, 1892.

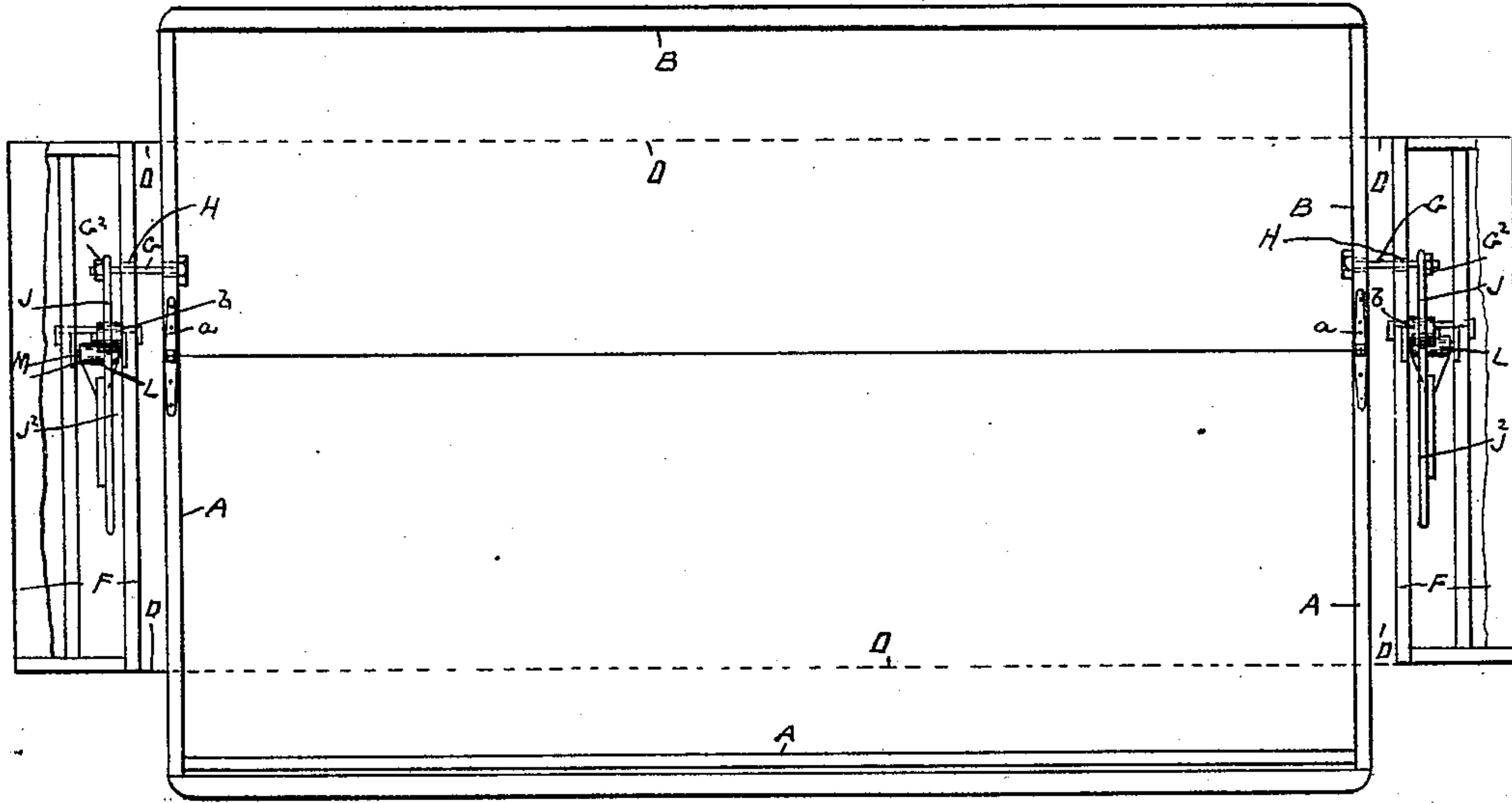


Fig. 1.

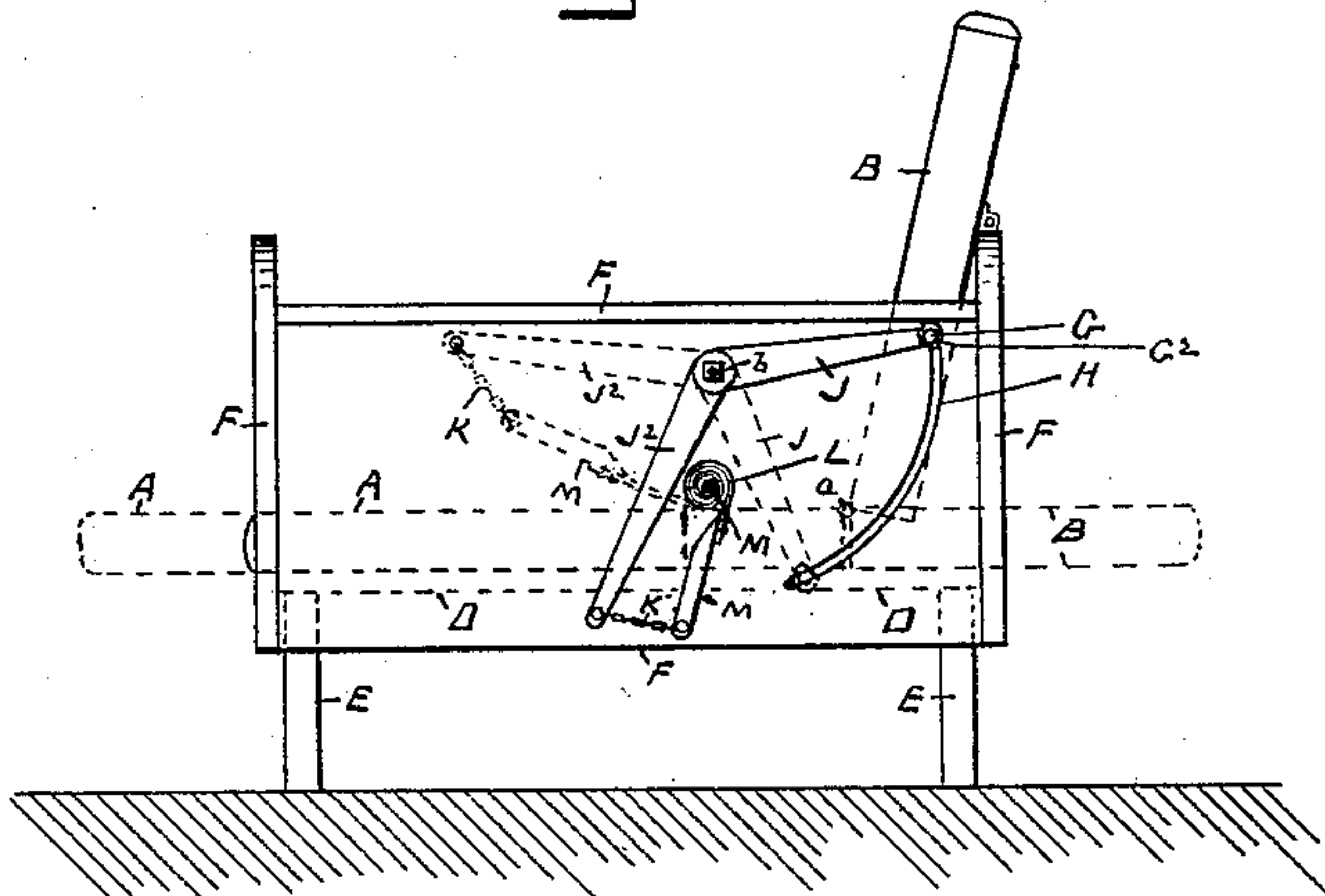


Fig. 2.

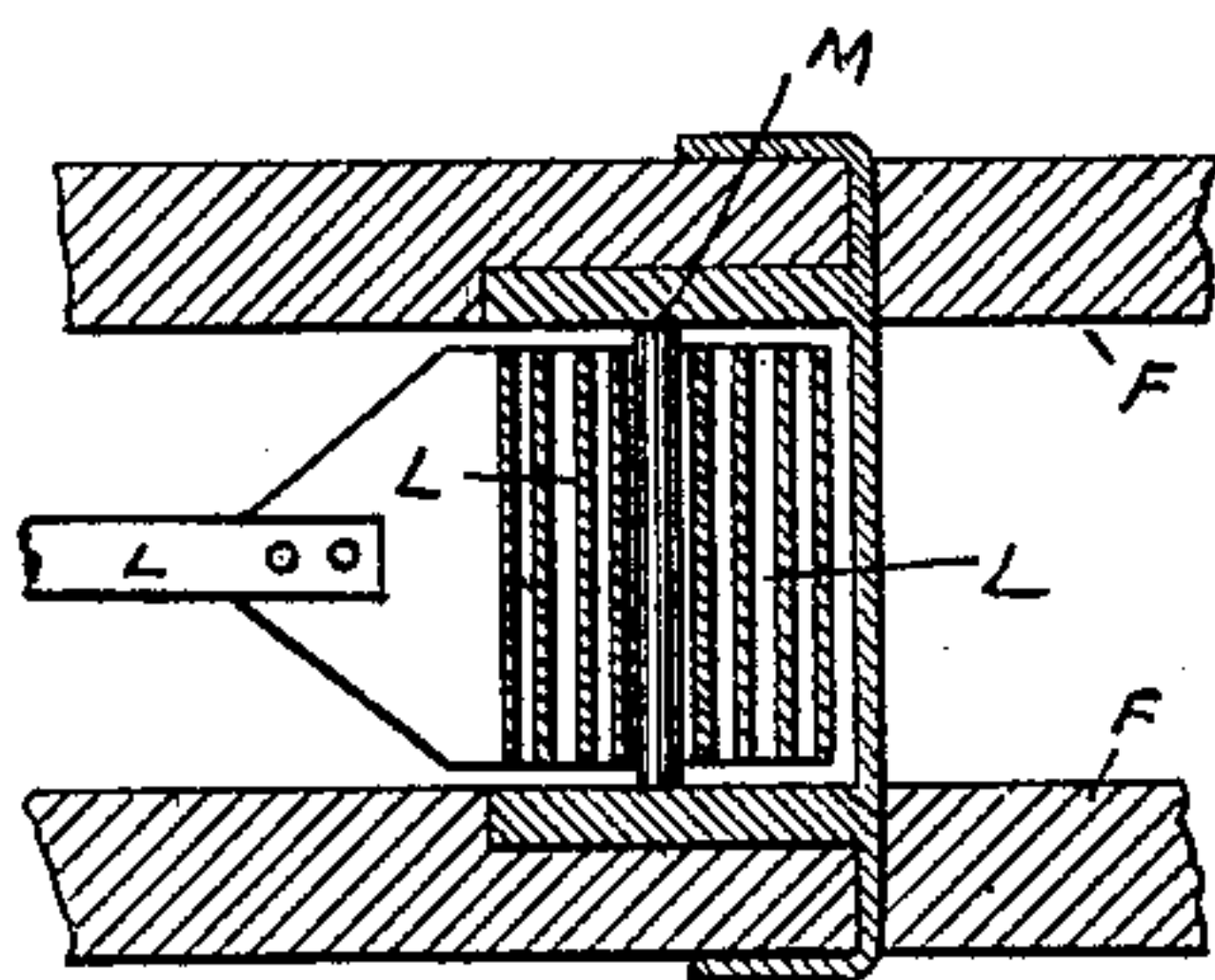


Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## SOFA-BED.

SPECIFICATION forming part of Letters Patent No. 482,262, dated September 6, 1892.

Application filed May 10, 1892. Serial No. 432,504. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES P. MILLER, a citizen of the United States of America, and a resident of the city of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sofa-Beds, of which the following is a full, clear, and exact description.

This invention relates to that class of sofa-beds having stationary arm-frames and the seat and back hinged together and adapted for movement relative to the arm-frames and otherwise suitably supported to place the back in the horizontal position of the seat and thereby the two properly situated for use as a bed, and to place the back in an upright position and at the same time place the seat in suitable position for it and the back to constitute, with the arm-frames, a sofa in every particular, it being of course understood that the back in its upright position is to be fastened and held, all as well known.

The invention particularly consists of mechanism, hereinafter described, connecting the back to the arms of the sofa, whereby on moving the back from a vertical to a horizontal position, or vice versa, the back is guided and confined to turn on the hinge connecting it to the seat, and in the first movement to force the seat forward and at the same time to accumulate spring-tension on the back to assist in raising it from its horizontal position, and in the second movement to draw the seat backward, all as hereinafter described, and pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a plan view of the sofa-bed with its back and seat in position for use as a bed and each arm-frame broken out so as to show the mechanism of this invention. Fig. 2 is an end elevation broken out. Fig. 3 is a horizontal section in detail, as hereinafter appears.

In the drawings, A is the seat and B is the back, of a sofa-bed, hinged together at *a*.

D is a frame-support with legs E at each of its several corners, (only two legs being shown), and at each of its opposite ends an arm-frame F, all of which, Fig. 2, make, with the seat resting on the frame D and the back in an upright position and there supported on the arm-frames F in any of the well-known

manners, a sofa in all respects. The seat and back are both free to move between the arm-frame and so the back to be placed horizontally on the frame D in the same plane as the seat A, by swinging the back, on the hinges connecting it to the seat, downward to the frame D, and on which frame D, at the same time, the seat is moved forward, as will hereinafter appear.

G G are horizontal headed screw-bolts, one at each end of the back and each passing through a similar circular running slot H of the arm-frame next adjacent to and secured by screw-nuts G<sup>2</sup> from accidental disengagement from said slots. Each slot H is concentric with the fulcrum *b* of an angular lever J J<sup>2</sup>, hung on each of the arm-frames. One arm J of each lever J J<sup>2</sup> is engaged with the bolt G of the slot H and the other arm J<sup>2</sup> at its outer end is connected by a chain K or other flexible connection with the free end of a coiled spring L, which has its inner coil in any well-known or other suitable manner rigidly attached to a fixed horizontal center bar M of the arm-frame, and all so that on swinging down the back the seat is forced forward and on swinging up the back the seat is drawn backward in the former case against and thereby accumulating tension in the spring L and in the latter case with and thereby reducing the tension of said spring.

Means (not shown, for they may be such as well known or others) are to be provided to hold the back in its upright position, and as on swinging the back down the tension of the springs L is increased, obviously when it is desired to lift the back and change from a bed to a sofa said springs by their reaction assist in the raising, while with the back in its horizontal position, whatever tendency, if any, they might have to then raise the back, is overcome by the weight and then position of the back.

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

In a sofa-bed of the character described, the combination, with the back and opposite arm-frames, of bolts G, held on said back-frame at its opposite ends, curving slots H in said arm-frames, receiving said bolts G, angular levers J J<sup>2</sup>, fulcrumed on said arm-frames and



concentric with said slots H and by their arms  
J engaging said bolts G, coiled springs L at  
one end rigidly held on said arm-frames, and  
chains K, joining the free end of said springs  
5 L and the arms J<sup>2</sup> of said angular levers J J<sup>2</sup>,  
substantially as described, for the purposes  
specified.

In testimony whereof I have hereunto set  
my hand in the presence of two subscribing  
witnesses.

JAMES P. MILLER.

Witnesses:

ALBERT W. BROWN,  
MARY W. STORER.