

(No Model.)

I. N. MILLER.  
SOFA BED.

No. 411,966.

Patented Oct. 1, 1889.

Fig. 1.

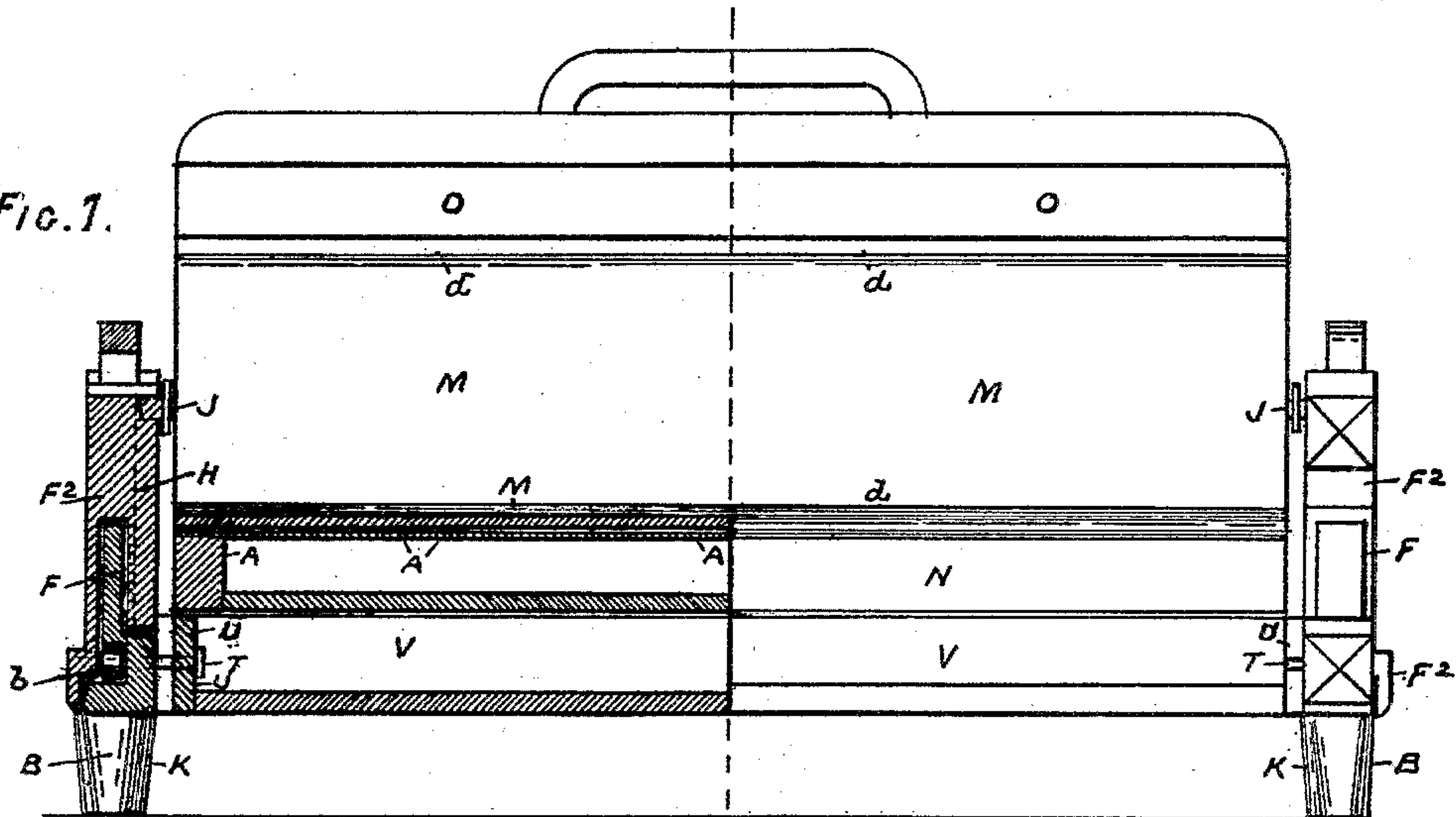


Fig. 2.

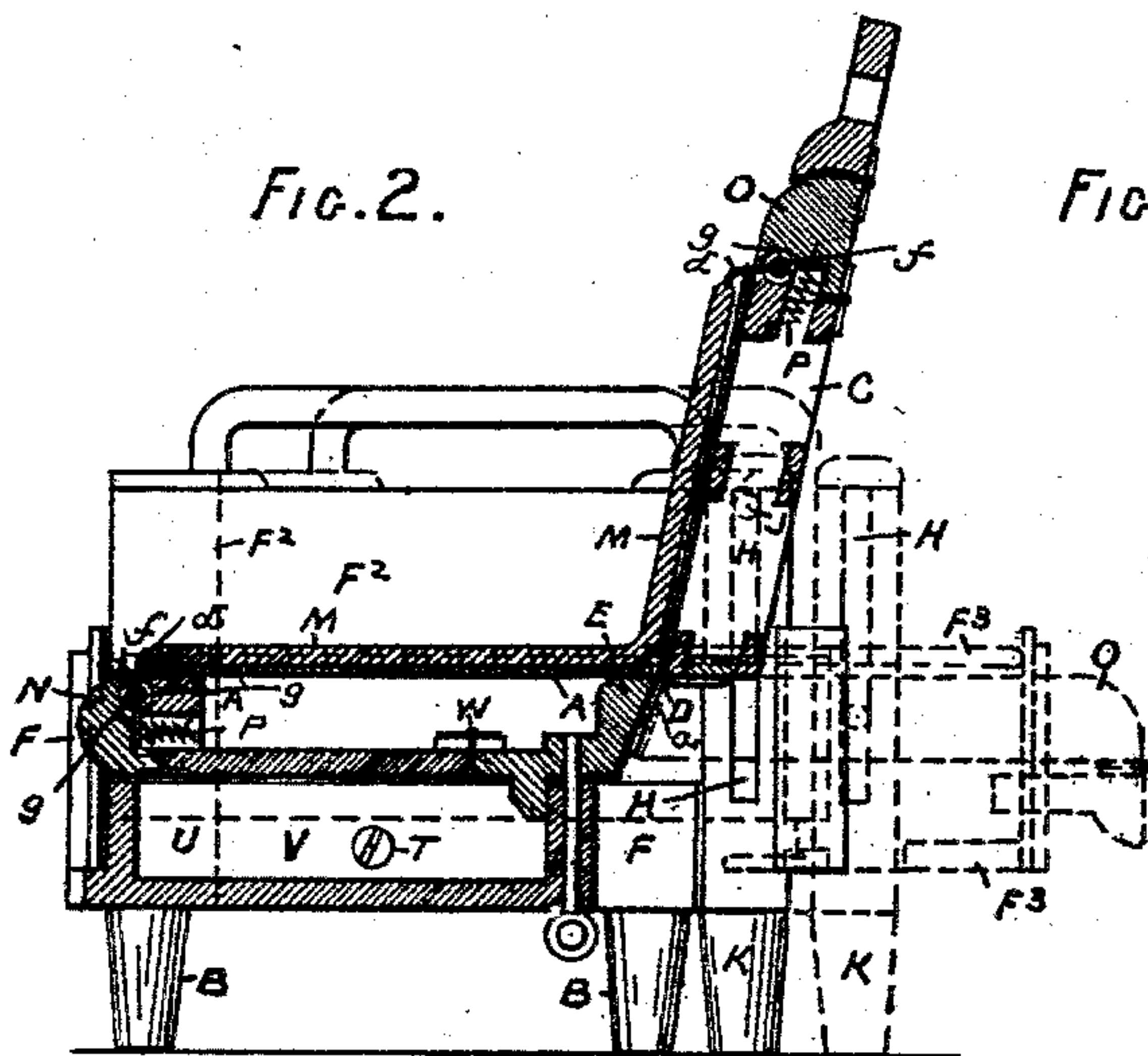
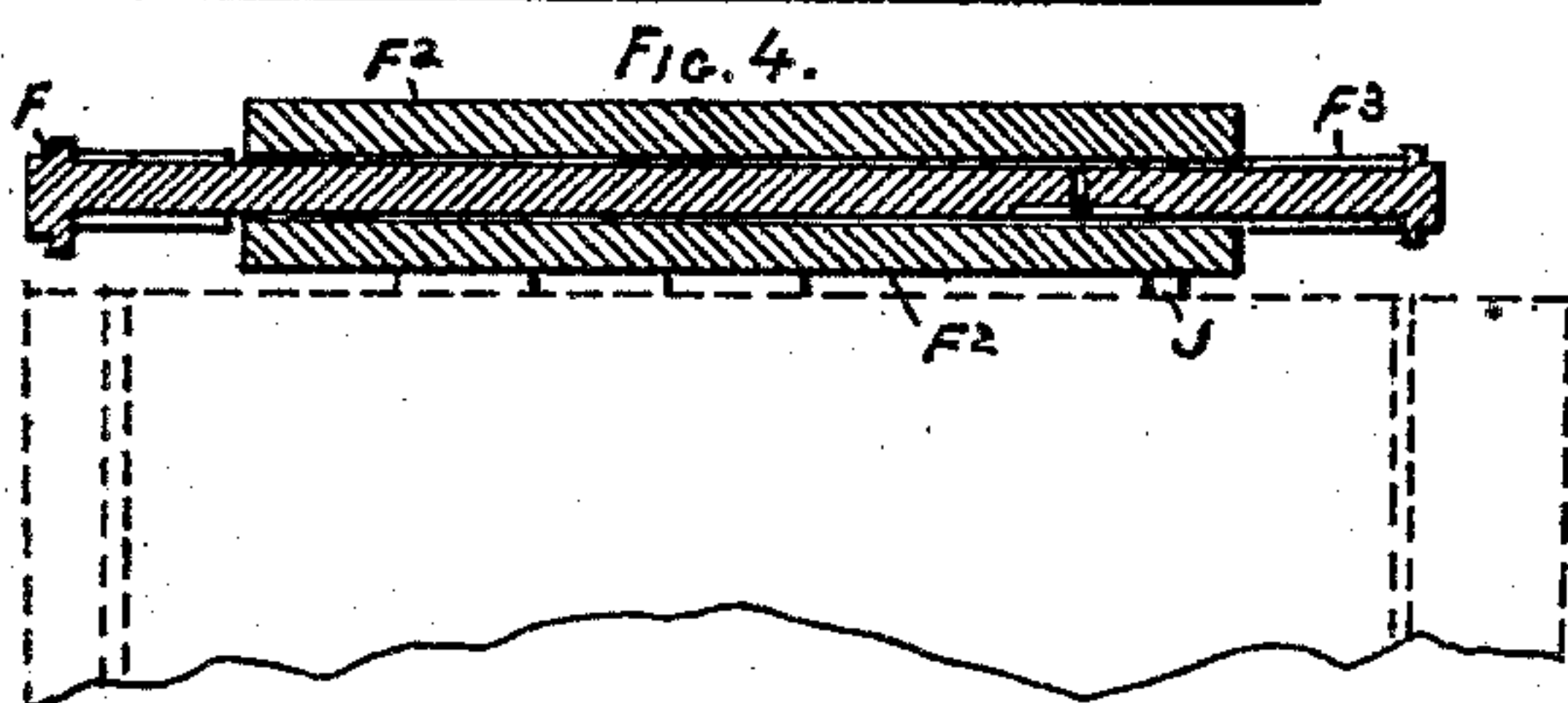
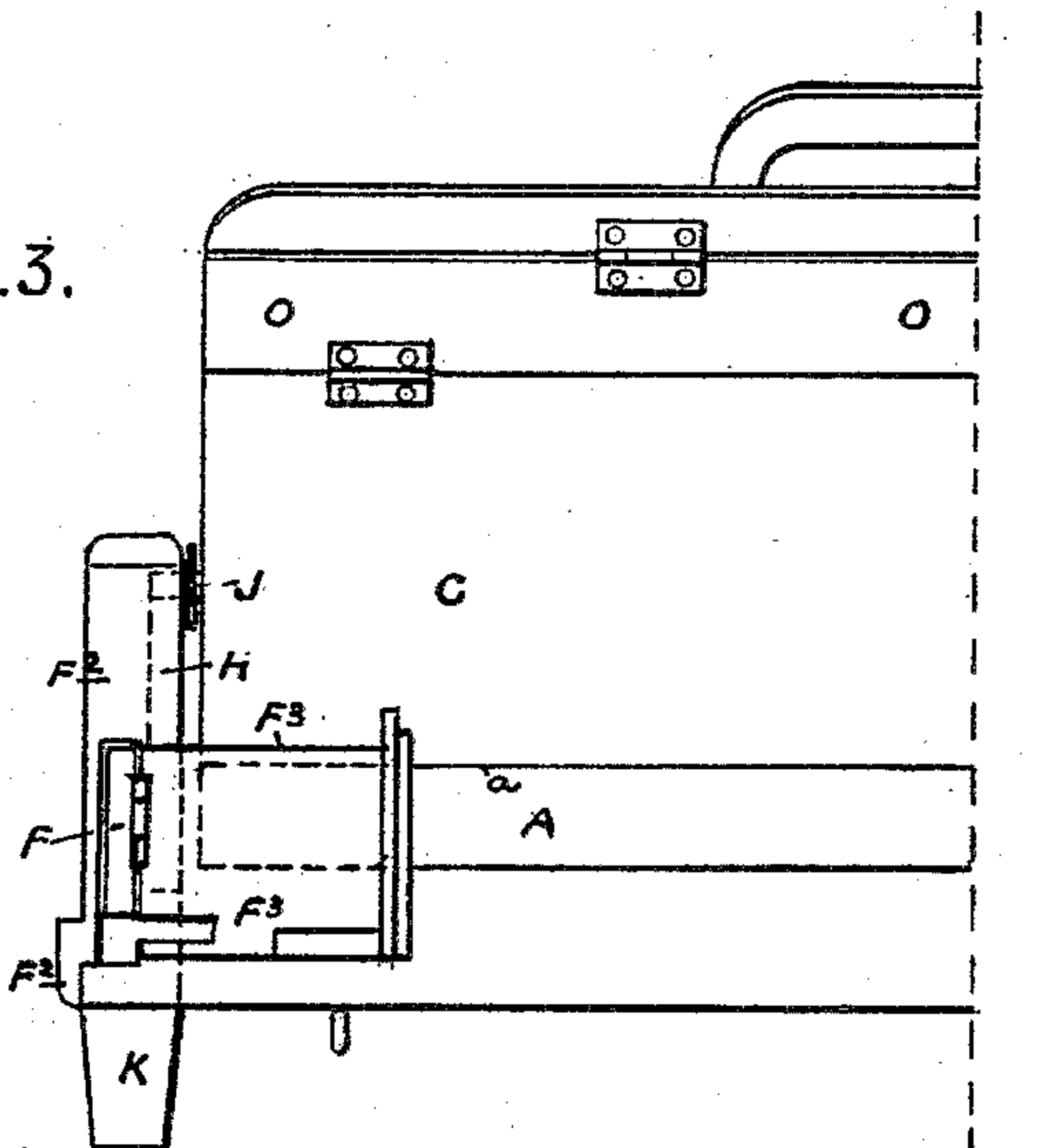


Fig. 3.



WITNESSES.  
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# UNITED STATES PATENT OFFICE.

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## SOFA-BED.

SPECIFICATION forming part of Letters Patent No. 411,966, dated October 1, 1889.

Application filed July 16, 1888. Serial No. 280,145. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC N. MILLER, 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 particularly relates to sofa and lounge beds having the back at its lower edge hinged to the seat at its rear edge and the back at its ends connected with vertical guideways of the rear ends of arm-pieces sliding horizontally upon the sofa-frame, all so that in the swing of the back to move it from its vertical position as a back for the seat to a position to serve with the seat as a bed said arms are moved horizontally on their support toward the rear of the sofa, and in the swing of the back to return it to its vertical position as a back for the seat said arms are moved horizontally on their supports toward the front of the sofa; and the invention consists in providing each supporting-guide for the sliding arms with an extension hinged to it to be placed in and out of line with the guide, and as and for reasons hereinafter explained.

In the drawings forming part of this specification, Figure 1 is a longitudinal vertical section at one end and a front view at the other end of a sofa-bed of the improved construction of this invention. Fig. 2 is a transverse vertical section of Fig. 1, showing in dotted lines the sofa as adjusted for use as a bed. Fig. 3 is a rear elevation of the sofa, Fig. 1, at one end thereof. Fig. 4 is a horizontal section, as hereinafter appears.

In the drawings, A is the seat-frame, and B B B are the legs, of the sofa.

C is the back, hung by butt-hinges D to the upper edge *a* of a rail back of the rear rail of the seat-frame A and at its opposite ends fastened to the stationary part F of opposite end and two-part frames F F<sup>2</sup> of the sofa. Each end frame F F<sup>2</sup> makes an arm to the sofa, and part F<sup>2</sup> of each is arranged to move horizontally on stationary part F of each.

H is a vertical groove at the rear of each sliding part F<sup>2</sup> of the arms F F<sup>2</sup>, and J J are horizontal pins at each end of the back, and each is entered into one of said grooves.

K K are legs at the rear portion of the slid-

ing arm part F<sup>2</sup> and supporting it thereat, it being otherwise supported, and preferably by a friction-roller *b*, upon the stationary arm part F. Swinging the back down into a horizontal position carries the sliding part F<sup>2</sup> of each arm F F<sup>2</sup> toward the rear of the sofa, and the sofa is made useful as a bed. Swinging the back up into a vertical position carries the sliding part F<sup>2</sup> of each arm F F<sup>2</sup> toward the front of the sofa, and the sofa is made fit for use as a sofa-seat with back.

The sofa, all as described, is practically the sofa-bed of the Letters Patent of the United States issued to me dated June 28, 1887, No. 365,619, and of itself constitutes no part of this invention.

Each stationary part F of the arms F F<sup>2</sup> extends entirely through the part F<sup>2</sup>, sliding thereon, and at its rear end each has an extension F<sup>3</sup> hinged to it to be placed in line and out of line with it against the sofa-back. Each extension F<sup>3</sup> in line with the stationary part F of the arm F F<sup>2</sup> receives the sliding part F<sup>2</sup> when it is carried rearward by swinging down the back, and its length is such as then to project in distance rearward of the rear end of said sliding part, substantially corresponding to that of the then forward projection of the stationary part of the arm. The extensions F<sup>3</sup>, with the sofa made into a bed, enable a head and a foot of the same width of projection from the opposite sides, front, and rear of the bed to be secured, and they also give uniformity of appearance and width to the head and foot as to the bed, which extends between and at each of its sides projects beyond them. Again, as in swinging down the back the sliding parts F<sup>2</sup> of the two-part arms F F<sup>2</sup> pass upon and are received by the hinged extensions F<sup>3</sup> of the stationary parts F, an increased steadiness of movement and an additional support and stiffening of the sliding parts are secured. Each extension F<sup>3</sup> is swung against the back of the sofa when the back is in its vertical position, and so serve to prevent the downward swing of the back until it is swung outward therefrom sufficiently to allow of it.

Slide-bolts, such as the "bolts L" of the contrivances of the Letters Patent aforesaid, may, however, be provided to fasten the back to



the arms, all as described in said patent. The means of fastening the back in a vertical position form no part of this invention, except in so far as the extensions  $F^3$  serve to  
 5 act in that relation, as before explained.

The seat, back, and arms of the sofa herein described are to be upholstered or otherwise suitably finished for use and as may be desired, and the several parts of the sofa may  
 10 be made of any suitable material, wood, metal, &c., and the seat at one end only in lieu of both ends, as particularly shown and described, provided with an arm and connected to the back, as explained.

15 M is a covering to the seat and back of the sofa. This covering M is attachable and detachable at pleasure, and is secured by means hereinafter explained. The covering M is continuous from end to end of seat and of  
 20 back and from front to rear of seat and bottom to top of back. Again, the covering M, as desired, may be a mattress or other stuffed, upholstered, or other covering.

N is a rail at and along the front of the seat, and O is a rail at and along the top of the back.  
 25 The front rail N is divided lengthwise and vertically into two parts, and the top rail O is divided lengthwise and horizontally, but slightly upwardly inclining toward the rear  
 30 side of back into two parts. The rear part of front rail N and lower part of top rail O are both stationary. The front part of front rail N at its lower edge is hinged to the rear stationary part, and upper part of top rail O  
 35 at its rear lower edge is hinged to lower and stationary part. Each two-part rail N O, constructed as explained, can be opened and closed, swinging in each case the hinged part on the stationary part. The opposite ends of  
 40 a spring P are secured to each part of rails N O, and otherwise each spring is applied to the rails to hold by its tension hinged part of each closed on stationary part and to allow hinged part of each to be opened against

spring tension. The front and top edges  $d$  45 of covering M are entered between and inclosed by the parts of rails N O, and preferably each edge  $d$  is rounded and by the rounded part, as at  $f$ , entered into and engaged with a correspondingly-rounded recess  $g$  of the opposite contiguous faces of the two parts of  
 50 rails N O. Divided and hinged rails N O of seat and back of a sofa relatively constructed and combined with a continuous covering M for seat and back, all as described, plainly  
 55 enable a covering to be attached and detached at pleasure, and, further, the covering attached is securely held against accidental detachment, all important and advantageous without particular mention. Preferably the  
 60 seat-frame A is chambered and closed on all sides and its top hinged, as at W, to be opened and closed, all so that it can be used as a receptacle for bedding, mattress, &c.

Having thus described my invention, what I 65 claim, and desire to secure by Letters Patent, is—

In a sofa-bed, &c., the combination, with a seat A, a back C, hinged to the seat, and a horizontal arm or arms made in parts  $F$   $F^2$ ,  
 70 one stationary and the other adapted to travel on the stationary part and also connected through a vertical way H to the back, and the back adapted to travel on said way H, of a horizontal extension  $F^3$  at one end, hinged  
 75 to the rear end of the stationary part F of the arm  $F$   $F^2$ , to be placed in and out of line with said part F, and when in line with said part F the other and sliding part  $F^2$  can travel over it, substantially as described, for the pur-  
 80 pose specified.

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

I. N. MILLER.

Witnesses:

ALBERT W. BROWN,  
 W. O. SHAW.