(No Model.) 3 Sheets—Sheet 1.

H. M. STOKES.

SOFA BED.

No. 569,679. Patented Oct. 20, 1896.

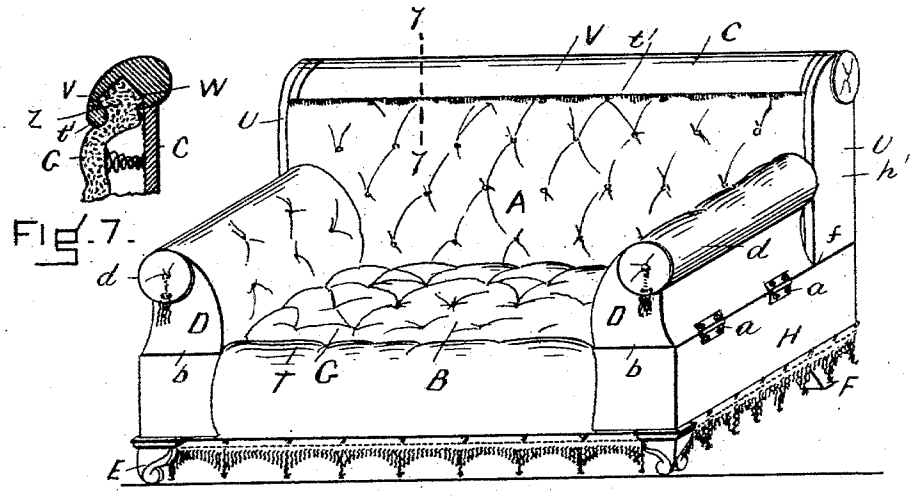

Fig. 7.

Fig. 1.

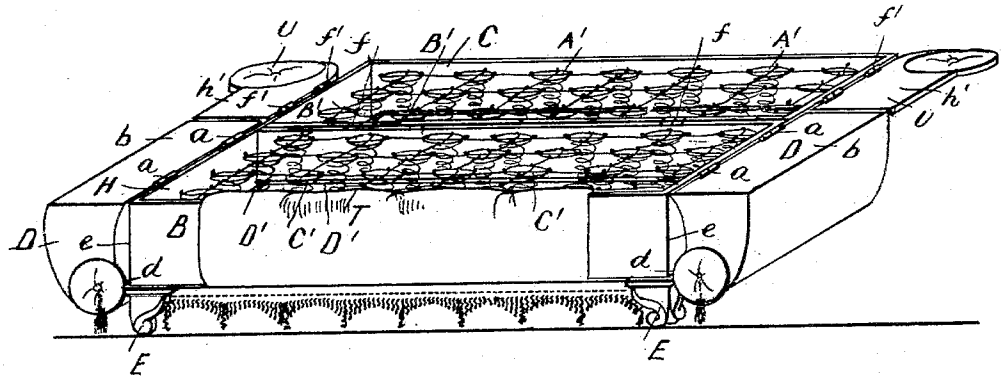

Fig. 2

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H. M. STOKES.

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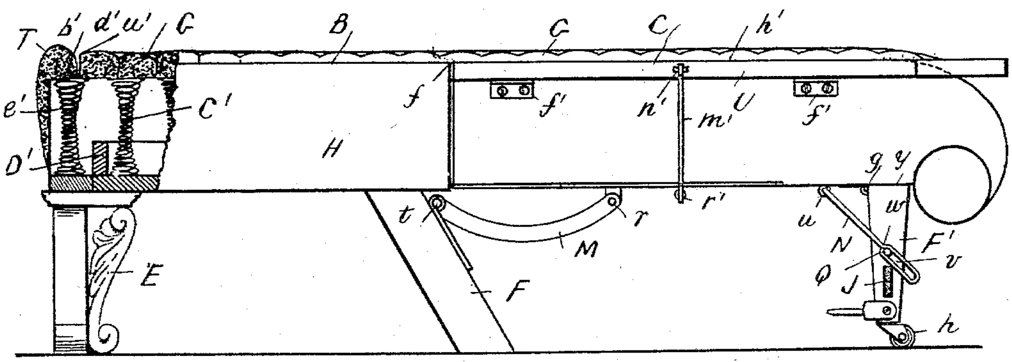

Fig. 3.

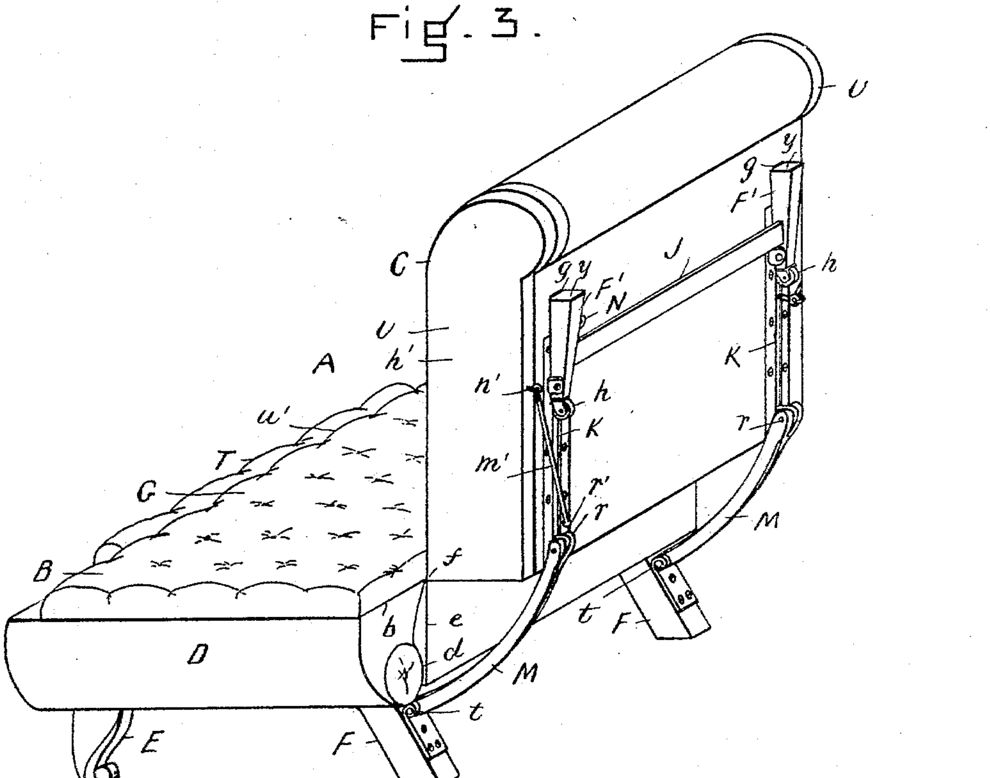

Fig. 4.

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(No Model.) 3 Sheets—Sheet 3.

H. M. STOKES.

SOFA BED.

No. 569,679. Patented Oct. 20, 1896.

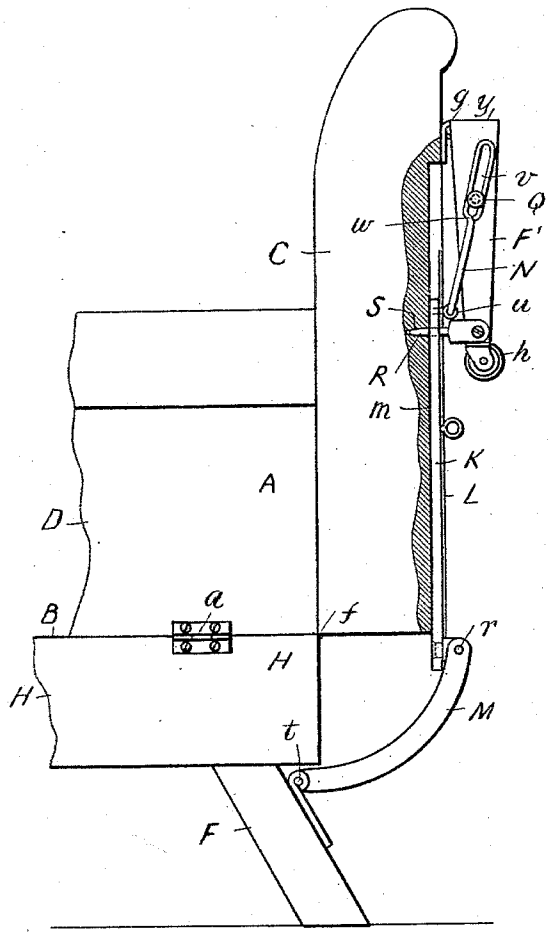

Fig. 5

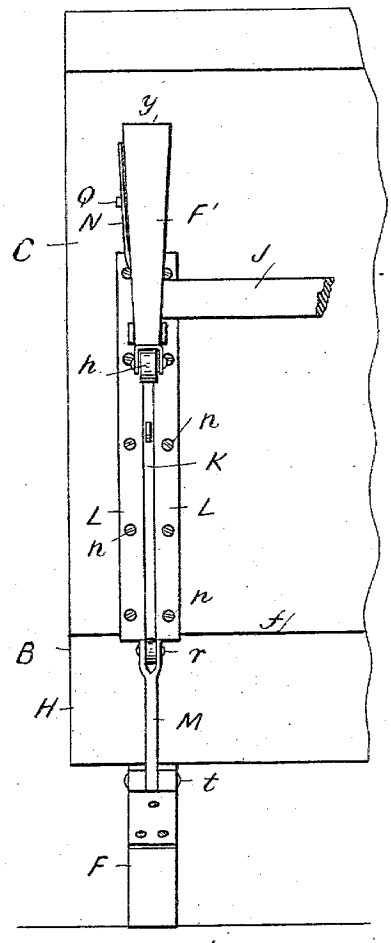

Fig. 6.

WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY M. STOKES, OF BOSTON, MASSACHUSETTS.

SOFA-BED.

SPECIFICATION forming part of Letters Patent No. 569,679, dated October 20, 1896.

Application filed April 10, 1895. Serial No. 545,182. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. STOKES, 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.

The principal object of this invention is to so construct a short sofa or divan and arrange its several parts that it can be easily and quickly changed from the sofa into a bed that will be of a length somewhat longer than the usual bed changed from the same length of sofa; and the invention consists of a sofa or divan constructed and arranged to be changed into a bed, all substantially as hereinafter fully described, reference being had to the accompanying sheets of drawings, in which is illustrated a sofa or divan bed constructed in accordance with this invention.

Figure 1 is a perspective view of the sofa in position for use as a sofa. Fig. 2 is a perspective view of the sofa opened and folded out into position for use as a bed, but without the mattress. Fig. 3 is an end view of Fig. 2 with parts broken out and the mattress in position. Fig. 4 is a rear perspective view with the back up in position for use as a sofa, but other parts opened for use as a bed. Fig. 5 is a detail end view with a part in section. Fig. 6 is a detail back view. Fig. 7 is a detail section on line 7 7, Fig. 1.

In the drawings, A represents a sofa, of which B is its seat, C its back, D its end arms, E its front legs, F its rear legs, and G its cushion, all constructed and arranged for use as a sofa, and to be opened out or unfolded into position for use as a bed, as will be now described.

Each arm D is hinged at *a* to the seat-frame H at its respective end, so it can be swung outwardly from the position shown in Fig. 1 down into the position at the end of the frame shown in Fig. 2, for its side or end *b* to be then flush and substantially in the same horizontal plane of the bed-frame H, which is maintained by the outer side *d* of the arm abutting against the end *e* of the frame, as shown more particularly in Fig. 2.

The back C is hinged at *f* to the frame H, and is arranged to be swung back and down for its front side to be in the horizontal plane and continuous with the seat-frame H, as shown in Fig. 2. On the rear side of the back are hinged at *g* legs F′, one at each end, having casters *h* and connected together by a bar J.

K is a bar adapted to move back and forth or up and down in a groove *m*, formed in the back and held therein by plates L, secured to the back by screws *n*, and connected to the lower end of this bar by a pivot *r* is a curved arm M, which extends forward and under the back and is pivoted at *t* by its other end to the back leg F.

To an eye *u* of the sliding bar K is connected an arm N, having a longitudinal slot *v* in its other end, which engages with a headed pin Q, secured to the side of the leg F nearest thereto, as shown in Figs. 3 and 5 more particularly.

As the back is swung down the bar K by means of its connection with the curved arm M slides up the groove *m*, and in such movement the end *w* of the slot *v* in the arm N abuts against the pin Q and forces the leg F′ outward, swinging it on its hinge, so that when the back is down the leg will be at right angles and resting on the floor, there held by the slot end *w* and abutment of its end *y* with the back of the sofa, which supports the back in the horizontal position desired for the bed. As the back is swung up the legs F drop, so that when up they are close to the back, and in such position a projecting pin R of the leg is pushed through a hole *a′* in the sliding bar K into a socket S in the back, which locks the parts together and holds the back up in position for use as a sofa-back.

The front of the seat-frame is upholstered, as at T, which extends up above the frame sufficiently high for its upper surface *b* to be flush or on a level with the top surface of the cushion G when in place. Its upper part extends back and lies over, as at *d′*, rests by such projecting part on a longitudinal row or series of springs *e′*, secured to the frame along the front, which makes along the front edge of the sofa a spring yielding surface which is practically continuous with the surface of the cushion.

Each end of the back has a panel or board U, which is hinged at *f′* to the front edge *g′*

of the back-frame, so it can swing forward and have its outer surface h' in the same plane as the arms, the back, and seat when opened out for the bed, to make the whole surface level or flat on which to place the cushion G to make the bed.

To operate the end panels U automatically, each is connected by an arm m', pivoted by one end at n' near the edge of the panel and by its other end pivoted at r' to the sliding bar K nearest thereto, by which as the back is let down and the sliding bar moved up it forces outward its panel connected thereto, swinging it on its hinges into the proper position, (shown in Figs. 2 and 3,) and as the back is swung up the bar as it slides down pulls the panel back into its closed and normal position, close to the end of the back.

The cushion G is made separate and independent of the framework, substantially like a mattress, and when used on the sofa is of a length to extend between the two arms D and of a width to extend from the front portion T along the seat and up the back.

The top edge of the back projects forward somewhat, as at V, and has a longitudinal recess W in its under side, in which the upper edge Z of the cushion lies when the parts are in position for a sofa, the downwardly-projecting front part t' of which prevents the cushion from moving forward.

The front edge u' of the cushion abuts against the front part T, preventing the cushion from being pushed farther forward, but maintaining, practically, a continuous seating-surface for the sofa.

Making the front edge of the sofa yielding and springy, as described and shown, is a great advantage over the usual front of sofa-beds, which generally consist of a board set up edgewise, the cushion being back of it, presenting a hard and unyielding edge.

The turning of the arms back and down is of great advantage in that when the arms are up in the position for a sofa the sofa can be quite short and when turned down in position for a bed the length of the seat is increased by the width of the two arms, as shown, so that quite a long bed is obtained, which is very important, especially in apartment-houses, where the rooms are generally quite small, and the space saved by such an arrangement is very desirable.

The springs A′ for the back of the sofa are preferably secured in a separate frame B′, which sets freely in the frame C, and also the springs C′ for the seat are preferably secured in a frame D′ separate, which sets freely in the seat-frame, so that these two spring-frames, being independent of the back and seat frames, can be easily and quickly removed from their positions when desirous of cleaning them or for other purposes.

The seat back and arms can be upholstered in any of the usual ways, the invention not being limited to any special manner of upholstering the various parts, although it is preferable to have the cushion for the sofa made independent and separate from the back and seat, as is obvious.

The two legs F′ of the back-frame being connected together by the bar J, in lowering and raising the back causes both legs to move together. The frames B′ and C′, carrying the springs of the sofa, are made low, so as not to interfere with the free movement of the springs; also the front board of the seat-frame is preferably dispensed with to allow free movement of the front part T.

The curved arm M, which is pivoted to the sliding bar and to the back leg F, can be pivoted by its lower end to the back-frame in lieu of the back leg. It is preferable, however, to connect it to the back leg.

Having thus described my invention, what I claim is—

1. In a sofa-bed, in combination, a seat-frame, a back-frame hinged thereto, a leg pivoted to the back, a bar adapted to slide in grooves or guideways on the back, a rod pivoted to said sliding bar, a slot in said rod engaging with a shoulder on the leg, a curved bar pivoted to the lower end of said sliding bar and to the seat-frame or its leg.

2. In a sofa-bed, in combination, a seat-frame, a back-frame hinged thereto, a bar adapted to slide in grooves or guideways on the back, a panel or board hinged at the front of the back, a rod pivoted by one end to said panel, and by its other end to the sliding bar, and a curved bar pivoted to the lower end of said sliding bar and to the seat-frame or its leg.

3. In a sofa-bed, in combination, a seat-frame, a back-frame hinged thereto, a leg pivoted to the back, a bar adapted to slide in grooves or guideways on the back, a rod pivoted to said sliding bar, a slot in said rod engaging with a shoulder on the leg, a panel or board hinged at the front of the back, a rod pivoted by one end to said panel and its other end to the sliding bar and a curved bar pivoted to the lower end of said sliding bar and to the leg.

4. In a sofa-bed, in combination, a seat-frame, a series or line of springs along the front, an upholstered piece extending along the front, and backward over the top and resting on the line of springs and a movable cushion for the seat-frame which lies up against and meets the back edge of the front upholstered piece.

5. In a sofa-bed the combination with a seat-frame, of a back-frame provided at its top with an overhanging longitudinally-recessed projection, and a cushion arranged upon the seat and back frame and having its upper edge seated in the recess of the overhanging projection, substantially as described.

6. In a sofa-bed, in combination, a seat-frame and a back-frame, a series of springs in said frames, an upholstered piece in front of the seat-frame projecting over the top edge

of the frame and resting on a line of springs at the front, a recess in the upper part of the back-frame and a cushion extending from the front piece, along the seat and back and its upper edge being disposed in said recess in the back.

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

HENRY M. STOKES.

Witnesses:
EDWIN W. BROWN,
LEONA C. ARNO.