

No. 632,053.

Patented Aug. 29, 1899.

S. KARPEN.
SOFA BED.

(Application filed July 19, 1899.)

(No Model.)

2 Sheets—Sheet 1.

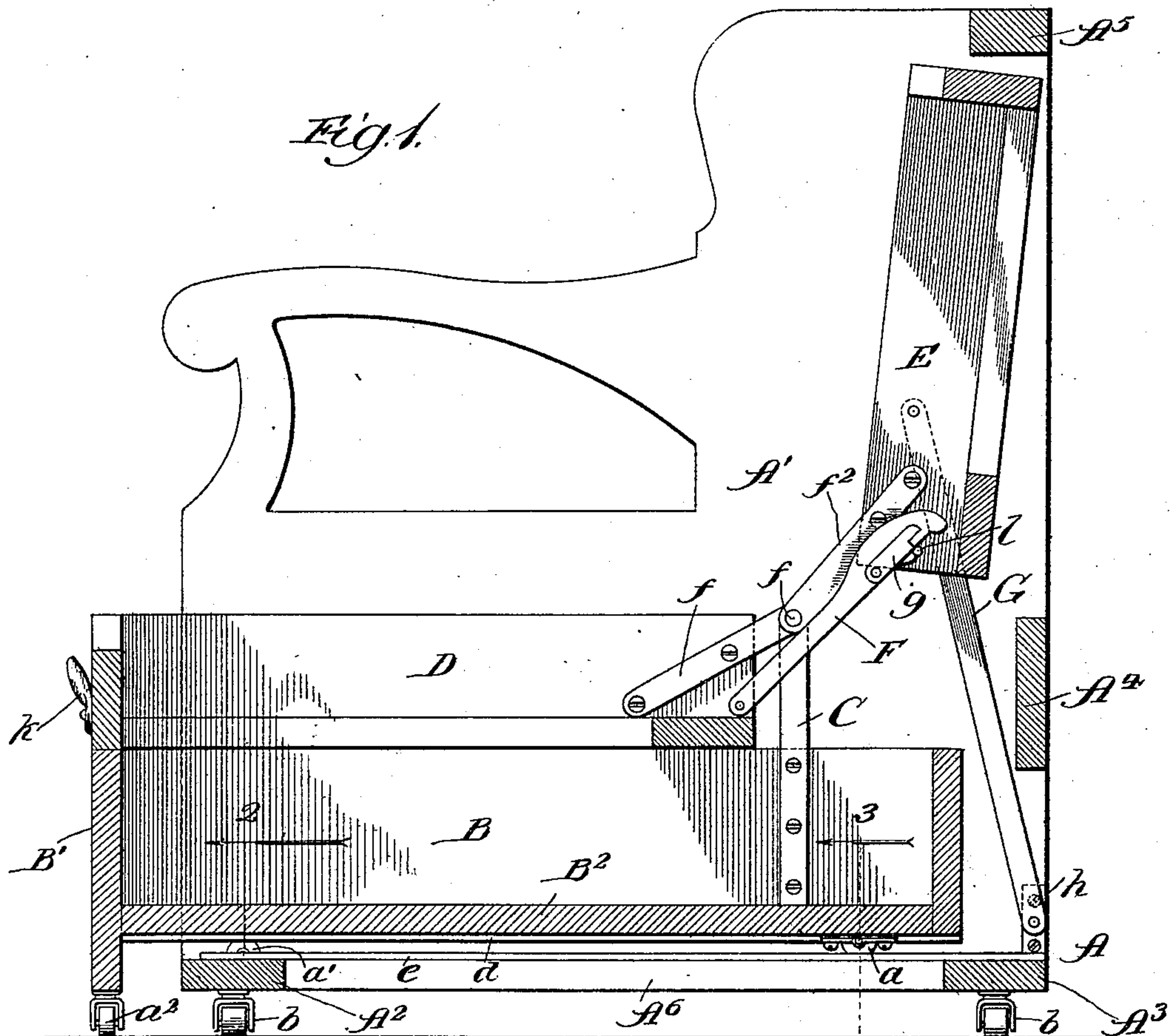


Fig. 2.

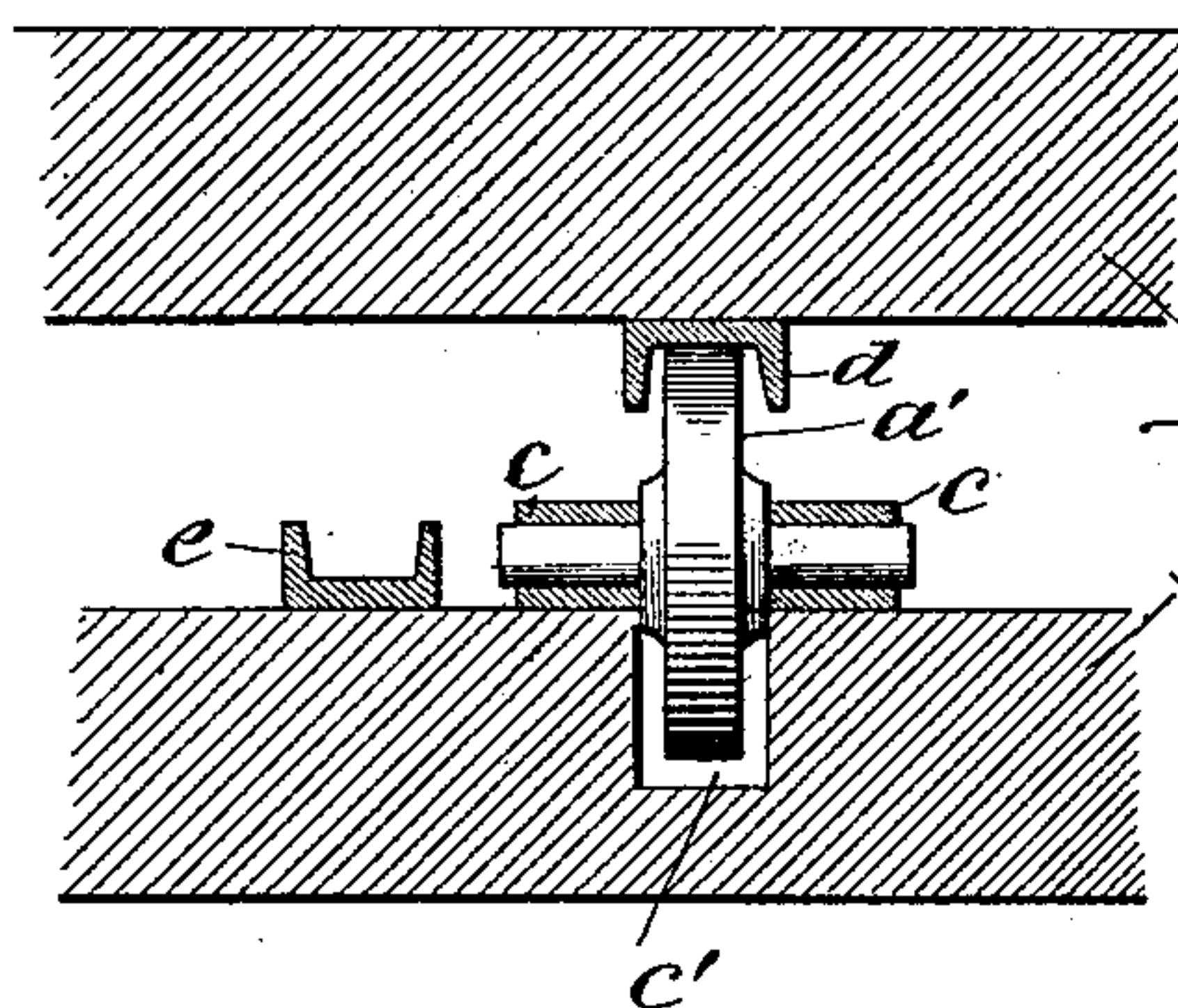
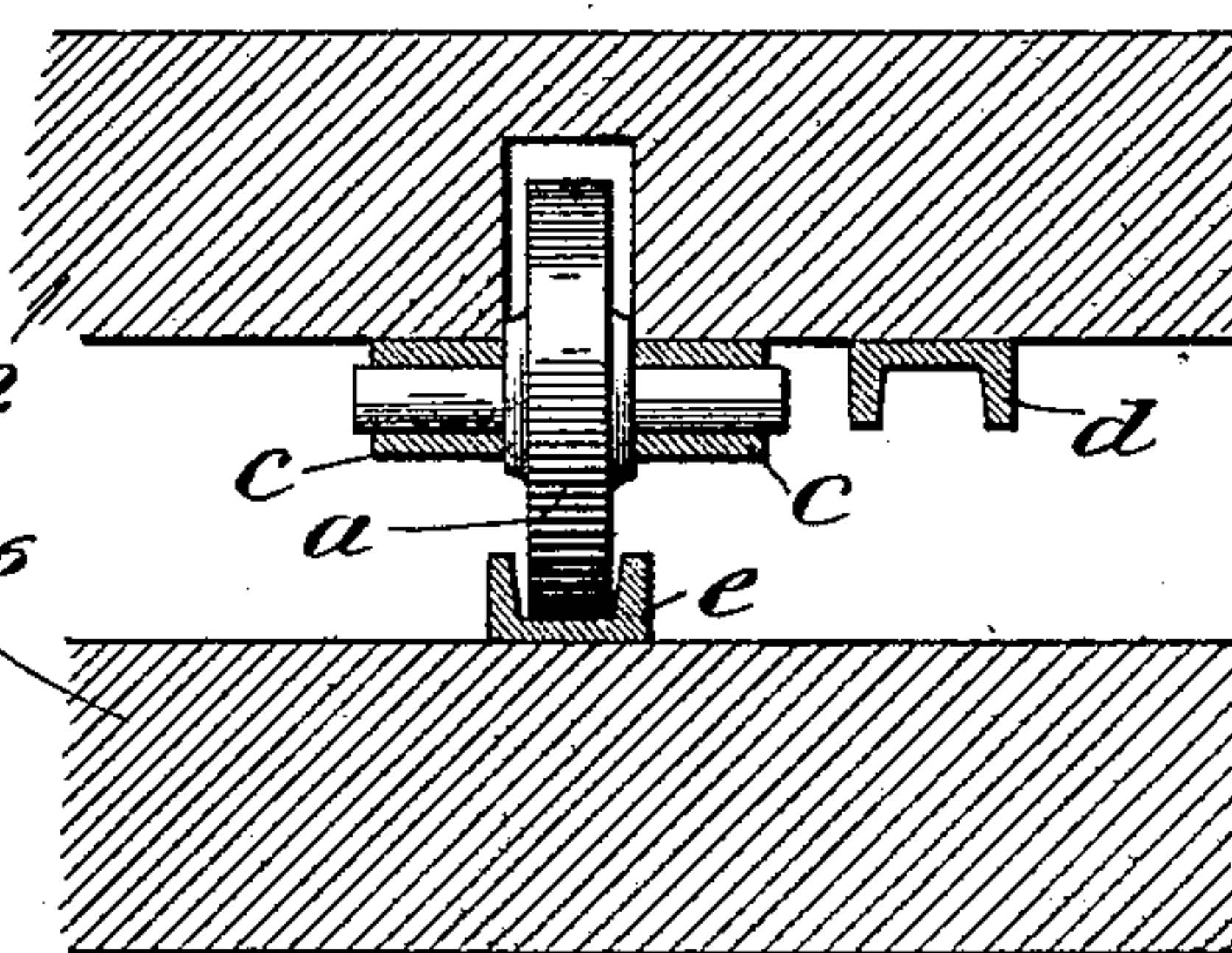


Fig. 3.



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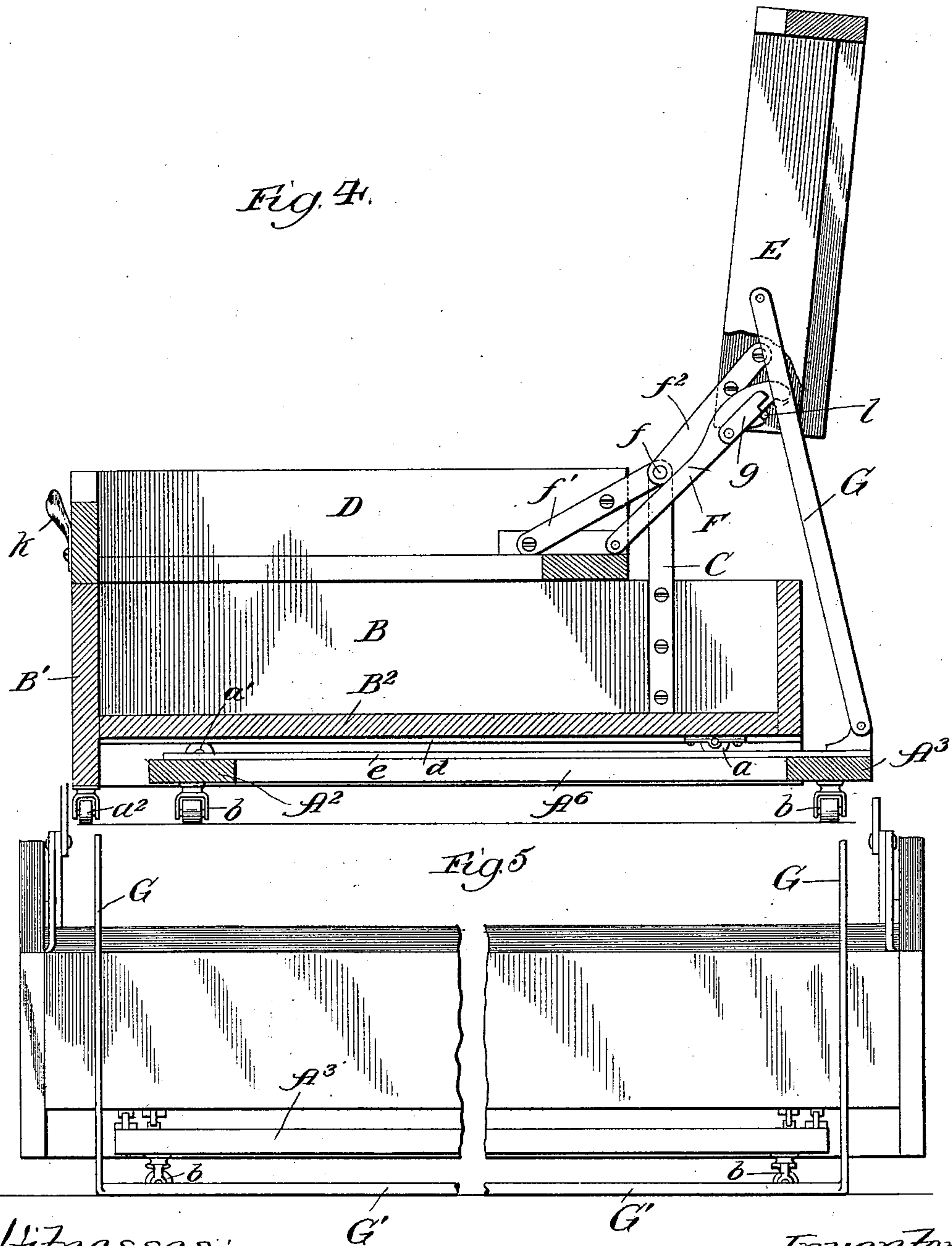
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2 Sheets—Sheet 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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SOFA-BED.

SPECIFICATION forming part of Letters Patent No. 632,053, dated August 29, 1899.

Application filed July 19, 1899. Serial No. 724,346. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON KARPEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sofa-Beds, of which the following is a specification.

My invention consists of an improvement in sofa-beds of the class employing a stationary base-frame and movable seat and back frames, the latter being hinged together and supported by and movable with relation to the base-frame.

My object is to simplify and improve the details of construction of a sofa-bed of the type mentioned.

In patent to Stark, No. 370,095, dated September 20, 1887, are shown links pivotally joined to the back-frame and to a stationary base-frame and serving to lower the top of said back-frame in substantially a vertical line when the device is converted from the sofa form to the bed form. In patent to Weyer, No. 624,591, dated May 9, 1899, is shown mechanism for automatically locking the seat and back frames together and for automatically unlocking said frames again, dependent upon the position of the seat-frame.

Preferably both the supporting-links of the Stark construction and the automatic locking and releasing means of the Weyer construction are utilized in the present invention.

The form of the stationary base of the Stark construction is changed by lengthening said base and providing it with end standards, affording sofa-arms of well-known form, and within this modified form of stationary base-frame and between said end standards substantially the structure shown in the Weyer patent is mounted on rollers in a manner to permit it to be moved bodily forward and backward in changing from sofa form to bed form and back again. The supporting-links for the back-frame of the Stark construction are supplied to the modified structure and serve with comparatively slight effort on the part of the operator to move the interior frames forward or backward, as the case may be, in converting the device from one form to another.

In the accompanying drawings, which illus-

trate my invention in its preferred form, Figure 1 is a transverse vertical section through the device when in its sofa form; Fig. 2, an enlarged broken section at line 2 of Fig. 1; Fig. 3, an enlarged broken section at line 3 of Fig. 1; Fig. 4, a view similar to Fig. 1, but showing modifications; and Fig. 5, a broken rear view of the lower part of the sofa-bed, showing further modifications.

A represents a stationary base-frame having similar end standards A', (one only of which is shown,) affording arms for the sofa, said end frames being preferably joined together simply by the bottom longitudinal members A² A³, a lower back longitudinal member A⁴, and a top back longitudinal member A⁵. Cross-pieces A⁶ connect the ends of the members A² A³ and are secured to the inner surfaces of the end standards at the lower margins.

B represents a movable seat-frame support, preferably of the box form shown to adapt it to receive bedding and mounted to move with relation to the base-frame on rollers *a a'* and casters *a*². The base-frame is itself preferably mounted on casters *b* to enable the whole furniture-piece to be moved about the floor at will. The casters *a*² rest upon the floor, the front side B' of the seat-frame support being extended below the bottom B² thereof for the twofold purpose of concealing the lower part of the base-frame and of conveniently receiving said casters. One roller *a'* is provided near each forward corner of the base-frame, said roller being journaled in a stationary bearing *c*, secured to the member A². A recess *c'* in the member A² serves to partially house the roller. For each of the two rollers thus described a transversely-extending metallic channel-form track *d* is provided on the lower side of the base of the support B. Similarly one roller *a* is journaled near each rear corner of the bottom of the support B, and for each of the two rollers *a* a track *e* is provided. The tracks *e* rest upon and are parallel to the members A⁶ and are secured thereto. As thus described there are two stationary tracks *e* on the base-frame, (one near each end,) upon which the rollers *a* travel, and two tracks *d* on the bottom of the support or carriage B, which move longitudinally on the non-traveling rollers *a'*. In

addition the casters a^2 roll upon the floor both when the support B is moved forward with relation to the base-frame and also when the sofa-bed is moved about as a whole on the floor.

To the ends of the supporting-box B, a short distance in front of the rear corners of said box, uprights C are fixed. To the upper ends of these uprights are pivoted at points f the seat-frame D and back-frame E, rigid hinge-arms f' f^2 being supplied to said frames for the purpose.

Links F serve automatically to lock the seat and back frames together when the frames are at a given angle to each other, and links g serve automatically to unlock said parts when a more acute angle is reached. This action is fully described in the Weyer patent above mentioned.

Links G, pivotally secured at their upper ends to the ends of the back-frame above their pivotal points and pivotally secured at their lower ends to the inner surfaces of the end standards A' , at the lower rear corners of said standards, by means of metallic clips h , serve with the back-frame pivots to support said frame in its vertical position. Said links G serve in a manner fully described in the Stark patent mentioned to lower the top rail of the back-frame in practically a vertical line. In the construction shown the back rail actually moves forward slightly during its descent and rests close to the inner surface of the member A^4 . When in its depressed position the back-frame is supported at its front rail on the rear portion of the box B. Legs may be supplied at the top rail of the back-frame to be unsheathed in a well-known manner as the back-frame descends.

It will now be readily understood that when the front edge of the seat-frame is moved upwardly, as by means of the finger-loop k , the increased weight thrown upon the upper ends of the forwardly-inclined links G bears them downwardly, and as the links swing farther forward from a vertical they force the seat-frame support B forward on its rollers. When the back-frame reaches the horizontal, a little further movement of the seat-frame causes the links g to raise the locking-links F and free them from the pins l of the back-frame, as fully explained in said Weyer patent, whereby the seat-frame is left free to be dropped to a horizontal position.

In changing to the sofa form the seat is first raised to allow the notches of the links F to again engage the pins l , after which downward pressure on the seat-frame raises the back-frame and causes the roller-supplied support B to be drawn backward by the links G. The base-frame A may evidently remain against a wall while the conversion from either form to the other form takes place.

Minor changes in detail within the spirit of my invention may be made. For example, the end standards A' and connecting-strips A^5 may be omitted, as shown in Fig. 4, in

which case it is desirable to have the links G set inward from the ends, as shown in Fig. 5, in order that they may be hidden from view. The links G, moreover, may be pivoted at their lower ends to the top of the longitudinal member A^3 , if found desirable, as shown in Fig. 4, or they may be joined at their lower ends by a bar G' , which may rest upon the floor, as shown in Fig. 5.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a sofa-bed, the combination of a stationary base-frame, a movable seat-frame support provided near its rear corners with uprights, rollers for said support, seat and back frames pivotally joined to said uprights, means for fixing said seat and back frames together in an angular position, and links pivotally connected at their upper ends with said back-frame and having a pivotal bearing at their lower ends in the vicinity of the rear lower corners of the base-frame for causing said support to move forward during an upward movement of said seat-frame, and backward during a downward movement of said back-frame, when the seat and back frames are fixed together in an angular position, substantially as and for the purpose set forth.

2. In a sofa-bed, the combination of a stationary base-frame, a movable seat-frame support provided near its rear corners with uprights, rollers for said support, seat and back frames pivotally joined to said uprights, means for fixing said seat and back frames together in an angular position, and links pivotally connected at their upper ends to said back-frame above its pivotal points and having a pivotal bearing at their lower ends in the vicinity of the rear lower portion of the base-frame, substantially as and for the purpose set forth.

3. In a sofa-bed, a stationary base-frame provided with end standards affording sofa-arms, a movable seat-frame support between said arms mounted on rollers and provided near its rear upper corners with uprights, seat and back frames pivotally joined to said uprights, means for locking said seat and back frames together in an angular position, and links pivotally connected with said back-frame and with said base-frame at its lower rear corners and inside said end standards, substantially as and for the purpose set forth.

4. In a sofa-bed, the combination of a stationary base-frame, a movable box-like seat-frame support provided with uprights, rollers for said support between said support and base-frame, casters for the front part of said support resting on the floor in front of said base-frame, seat and back frames pivotally joined to said uprights, and means connected with said base-frame and back-frame for causing the seat-frame support to move forward when the back is lowered, substantially as and for the purpose set forth.

5. In a sofa-bed, a stationary base-frame

provided with transverse tracks, a movable seat-frame support provided on its bottom with transverse tracks, rollers journaled in bearings on the bottom of said seat-frame support near the rear side of said support, 5 said rollers moving on the base-frame tracks, rollers journaled in bearings near the front of the base-frame and bearing said support-tracks, and seat and back frames pivotally joined to said seat-frame support, substan- 10 tially as and for the purpose set forth.

6. In a sofa-bed, a stationary base-frame provided with transverse tracks, a movable seat-frame support provided on its bottom 15 with transverse tracks, rollers journaled in

bearings on the bottom of said seat-frame support near the rear side of said support, said rollers moving on the base-frame tracks, rollers journaled in bearings near the front 20 of the base-frame and bearing said support-tracks, a downward extension on said seat-frame support at its front side, casters on said extension, and seat and back frames pivotally connected with said seat-frame support, substantially as and for the purpose set 25 forth.

SOLOMON KARPEN.

In presence of—

R. T. SPENCER,
D. W. LEE.