

No. 702,234.

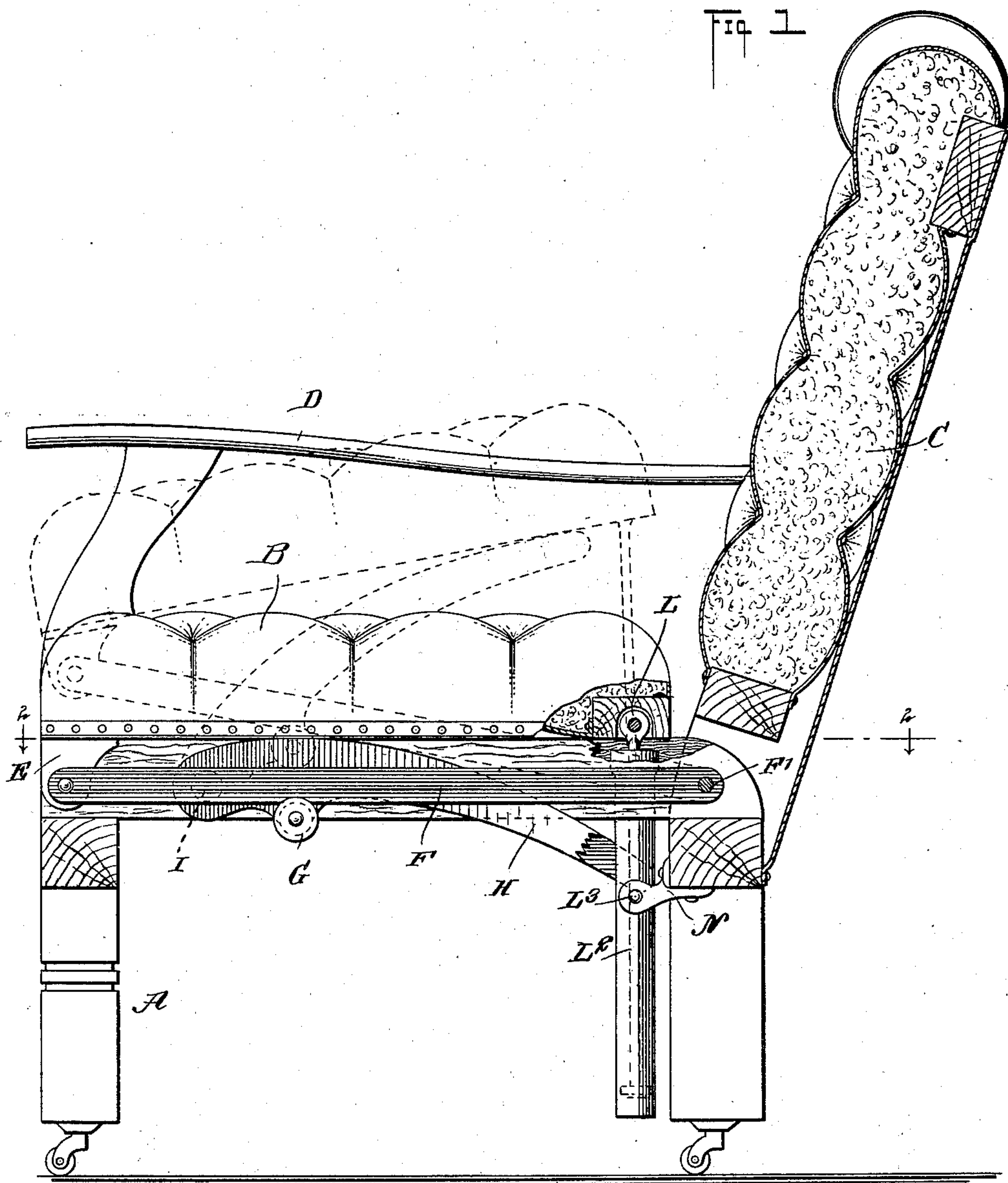
Patented June 10, 1902.

A. J. MORLEY.
CHAIR.

Application filed June 27, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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 J. G. H. H. H.
 Rev. J. H. H.

INVENTOR

Alfred J. Morley

BY *[Signature]*

ATTORNEYS

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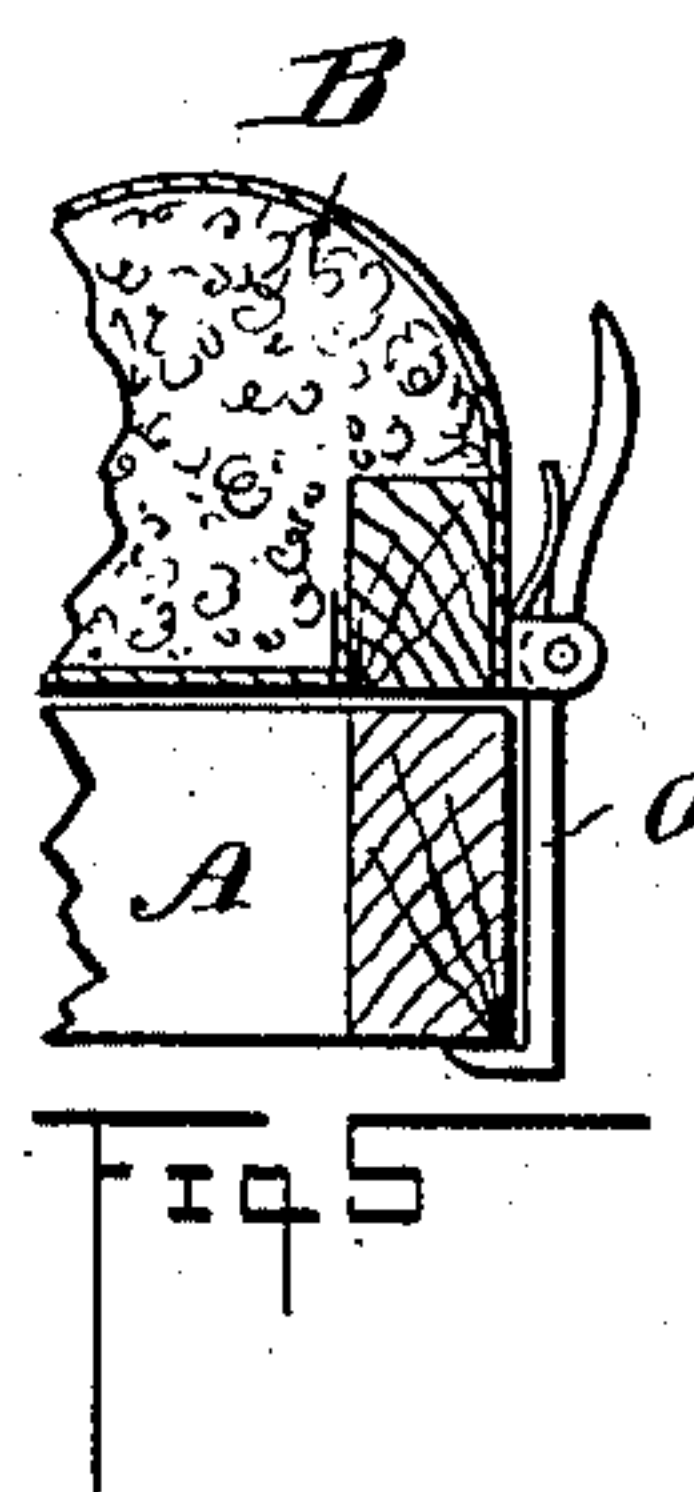
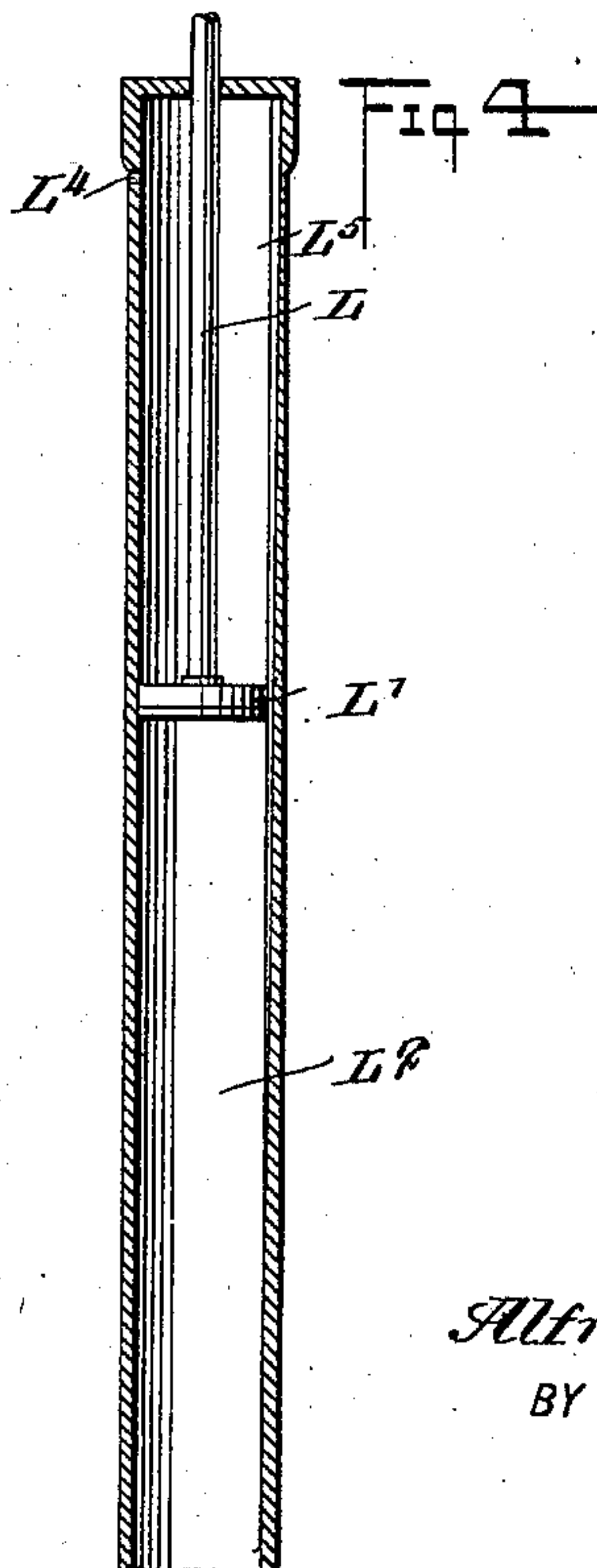
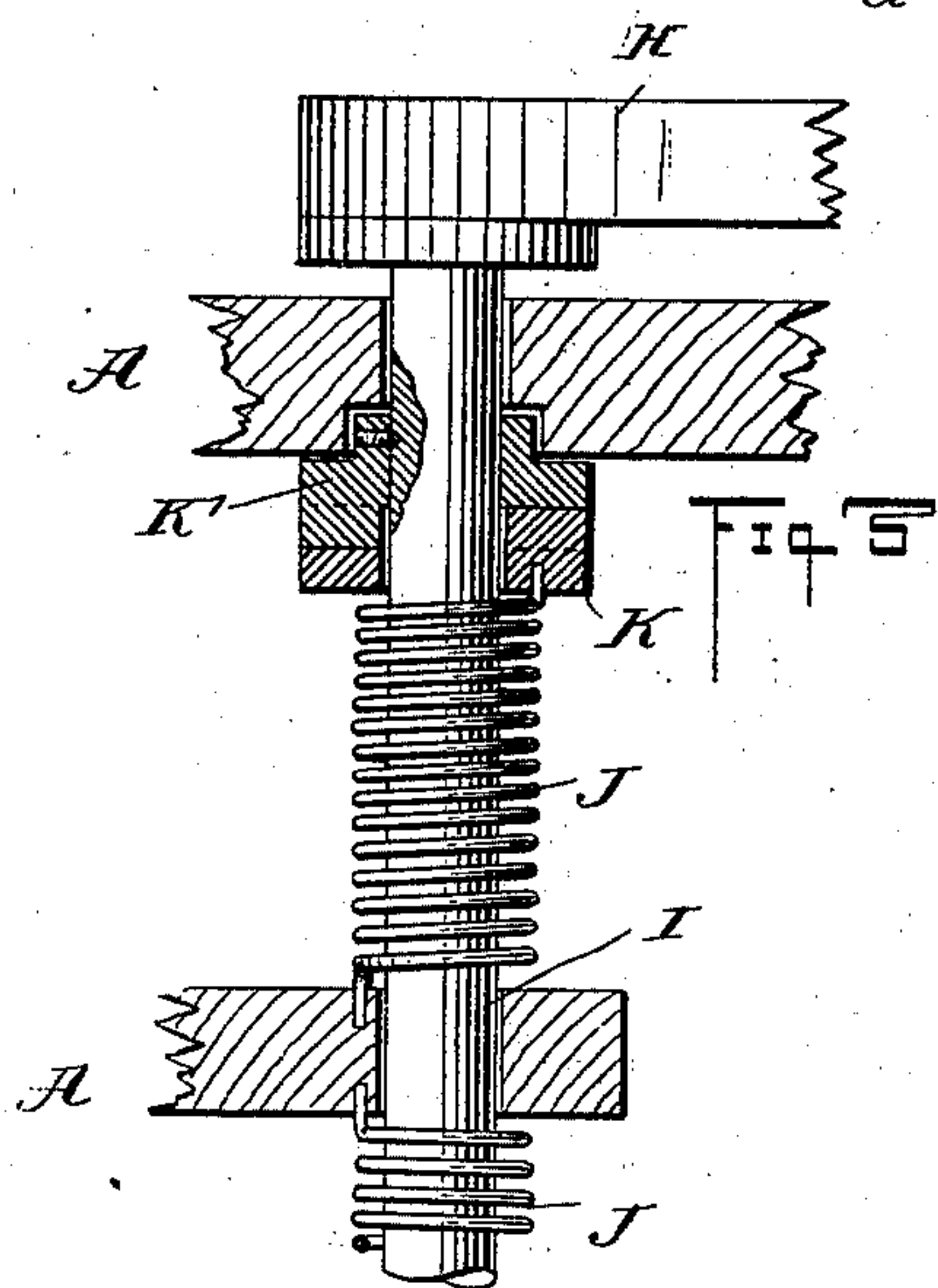
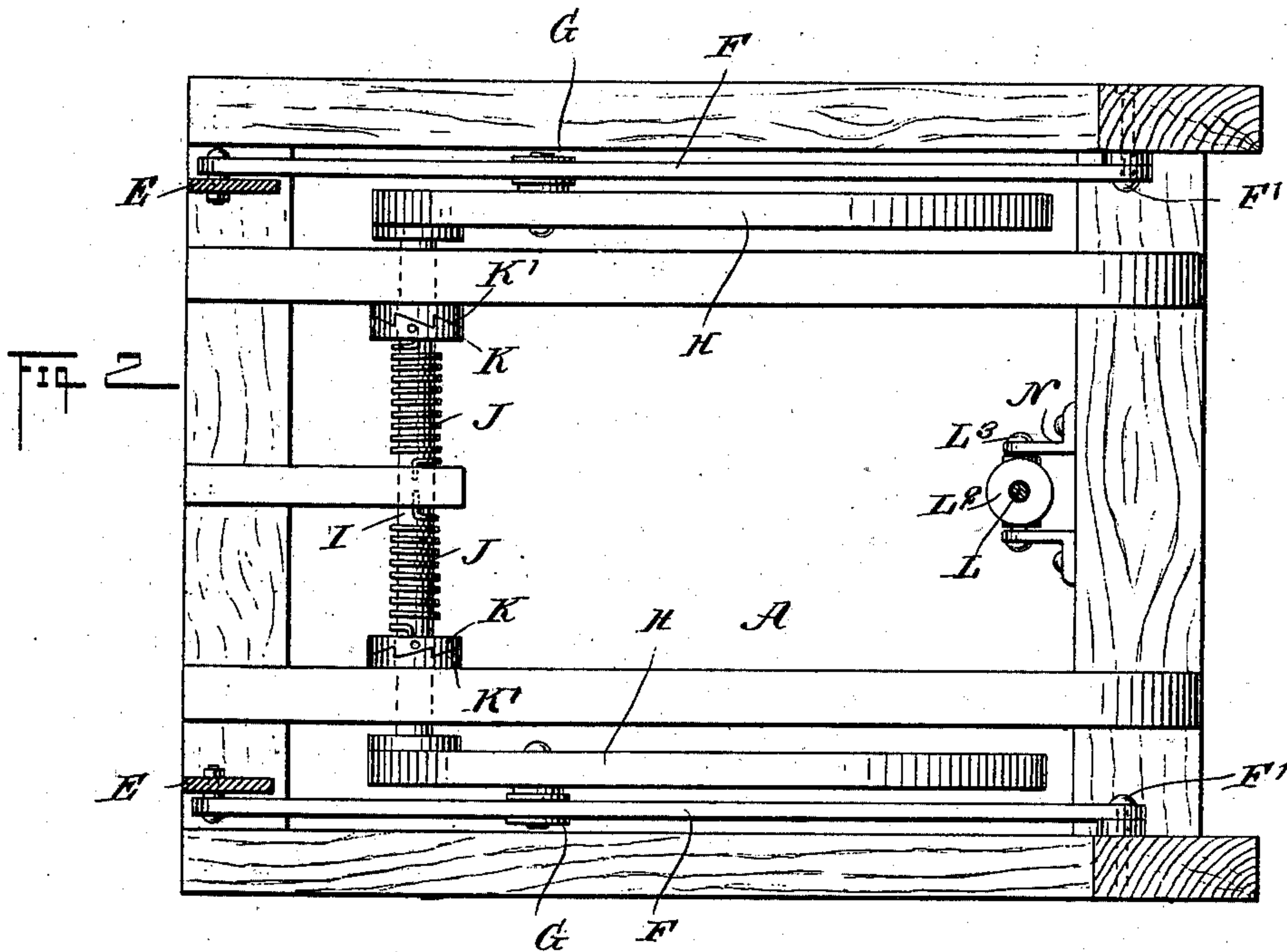
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(Application filed June 27, 1901.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

Wm. C. Lehman
Rev. J. H. Foster

INVENTOR

Alfred J. Morley

BY *Wm. C. Lehman*
ATTORNEYS

UNITED STATES PATENT OFFICE.

ALFRED JAMES MORLEY, OF VICTORIA, CANADA.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 702,234, dated June 10, 1902.

Application filed June 27, 1901. Serial No. 66,236. (No model.)

To all whom it may concern:

Be it known that I, ALFRED JAMES MORLEY, a citizen of the United States, residing at Victoria, in the Province of British Columbia and Dominion of Canada, have invented certain new and useful Improvements in Chairs, of which the following is a full, clear, and exact description.

The invention relates to furniture; and its object is to provide a new and improved chair having its seat arranged to assist a person in rising from the seat and to allow a person to conveniently and comfortably sit down on the seat.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a sectional plan view of the same on the line 2 2 of Fig. 1. Fig. 3 is an enlarged sectional plan view of the mechanism for adjusting the tension of the springs for the cam-arms. Fig. 4 is an enlarged sectional side elevation of the dash-pot, and Fig. 5 is a sectional side elevation of the lock for holding the seat to the seat-frame.

The improved chair consists, essentially, of a suitably-constructed seat-frame A, a seat B, a back C, and arm-supports D, rigidly connected with the back C and the seat-frame A. The seat B is provided at its forward end with depending brackets E, on which are pivoted the forward ends of longitudinally-extending levers F, fulcrumed at their rear ends F' on the seat-frame A, as is plainly illustrated in Figs. 1 and 2. The levers F are preferably two in number, and each rests between its ends on a friction-roller G, journaled on a cam-arm H, adapted to engage with its top edge the under side of the seat B, so that when the seat is released by the person rising then the cam-arms H abut on the under side of the seat B, as well as on the levers F, to impart a swinging motion to the latter and to the seat B. The two cam-arms H shown are secured at their forward ends on a transversely-

extending shaft I, journaled in suitable bearings carried by the seat-frame A, and the said shaft I and also the cam-arms H are pressed by springs J to cause the cam-arms to act on the levers and the seat, as above explained. As shown in Figs. 2 and 3, two such springs J are employed, each having one end secured to the seat-frame A and the other end to a clutch member K, loose on the shaft I and engaging a clutch member K', secured on the shaft. By turning the clutch member K by means of a wrench or other suitable tool the tension of the spring J can be increased or diminished to suit existing conditions. Normally—that is, when the seat is not occupied—the seat extends in an inclined position, as illustrated in dotted lines in Fig. 1, with the forward end of the seat lower than the rear end thereof and with the seat standing a considerable distance above the top of the seat-frame A. Now when a person sits down on the seat B the latter gradually moves downward against the tension of the springs J until the seat finally is seated on the top of the seat-frame A and then extends in a horizontal position. As soon as the person begins to rise from the seat the springs J cause the cam-arms H to bear on the seat B and the levers F, so that the seat moves upward at the rear end faster than at the front end, thus conveniently assisting the person to rise. In order to govern the speed of the seat in its upward movement, I prefer to connect the rear end of the seat with a dash-pot, and for this purpose the seat is pivotally connected at the rear cross-bar with the upper end of a piston-rod L, having a piston L', mounted to slide in a cylinder L², formed on its sides with trunnions L³, mounted to turn in a bracket N, secured to the rear cross-bar of the seat-frame A. The lower end of the cylinder L² is open, while the top thereof is closed by a cap, and in the cylinder near the cap is formed an air-inlet L⁴, which controls the inlet and exit of the air to and from the cylinder, so as to govern the speed of the piston L', and consequently of the seat B, in its up-and-down movement. On the inside of the cylinder L² is arranged a groove L⁵, extending downwardly and deep at the upper end, so that when the piston L' moves upward the air can escape through the groove from the upper portion of the cylin-

der to the lower portion thereof, and gradually reduce the resistance of the air in the cylinder L^2 against the piston L' . The sudden rising of the seat by the action of the springs J and levers F on releasing the chair-seat from its load is checked by the air-cushion formed by the air compressed in the upper portion of the cylinder L^2 by the rising plunger L' , it being understood that the escape of the air through the small opening L^4 permits but a slow rising of the piston until the piston passes along the groove L^5 , which permits air from the upper end of the cylinder to escape to the lower open end thereof, so that this air, in addition to the air passing out of the opening L^4 , gradually reduces the resistance of the air to the top of the plunger L' at the same time that the raising power of the spring J becomes less. Thus it will be seen that the dash-pot affords a perfect means for preventing the sudden rising of the seat by exerting thereon a graduated restraining pressure at the time the person rises from the seat.

When the seat B moves into a lowermost position, a suitable spring-catch O, carried by the seat, engages the seat-frame A to lock the seat in position on the seat-frame, as will be readily understood by reference to Fig. 5. Before a person rises it is necessary to release the catch O, so that the seat can move upward in the manner above referred to.

From the foregoing it will be seen that when a person rises from the seat the latter will automatically assist him in rising by giving a lifting motion to the person, the lifting power being greatest at the lowermost position of the chair-seat, gradually becoming less as the seat moves into an uppermost position. In a like manner when a person occupies the seat the latter gradually moves downward to allow him to sit down conveniently and comfortably.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A chair having a lever engaging the seat at the front end thereof, and a spring-pressed cam-arm engaging both the lever and the seat, as set forth.

2. A chair-seat having a lever engaging the seat at the front end thereof, a spring-pressed cam-arm engaging both the lever and the seat, and a dash-pot connected with the seat to control the speed of the seat in its upward and downward motion, as set forth.

3. A chair having a seat-frame, a seat, levers fulcrumed on the seat-frame and pivotally connected with the seat at the front end thereof, and spring-pressed cam-arms fulcrumed on the seat-frame and engaging the said seat and the levers, as set forth.

4. A chair having a seat-frame, a seat adapted to rest on the said seat-frame when in a

lowermost position, levers fulcrumed on the rear of the seat-frame and pivotally connected with the seat at the front end thereof, and spring-pressed cam-arms fulcrumed on the seat-frame and engaging the said seat and the said levers, as set forth.

5. A chair having a seat-frame, a seat adapted to rest on the said seat-frame when in a lowermost position, levers fulcrumed on the rear of the seat-frame and pivotally connected with the seat at the front end thereof, spring-pressed cam-arms fulcrumed on the seat-frame and engaging the said seat and the said levers, and a locking device for locking the said seat to the said seat-frame, as set forth.

6. A chair having a seat-frame, a seat, levers fulcrumed at their rear ends on the rear of the seat-frame, the levers being pivotally connected at their forward ends with the seat, at the front end thereof, cam-arms engaging the under side of the said seat, friction-rollers carried by the said cam-arms and engaging the under side of the said levers, and a spring-pressed shaft journaled in the seat-frame and carrying the said cam-arms, as set forth.

7. A chair having a seat-frame, a seat, levers fulcrumed at their rear ends on the rear of the seat-frame, the levers being pivotally connected at their forward ends with the seat, at the front end thereof, cam-arms engaging the under side of the said seat, friction-rollers carried by the said cam-arms and engaging the under side of the said levers, a spring-pressed shaft journaled in the seat-frame and carrying the said cam-arms, and means, substantially as described, for adjusting the tension of the spring on the said shaft, as set forth.

8. A chair having a movable seat, spring-actuated means for moving the seat upward from a lowermost position when the seat is released from its load, and restraining means connected with the said seat for gradually restraining the upward movement of the seat as set forth.

9. A chair having a movable seat, spring-actuated means for moving the seat upward from a lowermost position when the seat is released from its load, and restraining means connected with the said seat for gradually restraining the upward movement of the seat, the power of the said restraining means diminishing gradually and at the time that the power of the spring-actuated means decreases, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED JAMES MORLEY.

Witnesses:

RICHARD NASH,
J. NAUGHTON.