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J. F. WILMOT & A. L. MURRAY.

ADJUSTABLE RECLINING CHAIR.

APPLICATION FILED JULY 2, 1904.

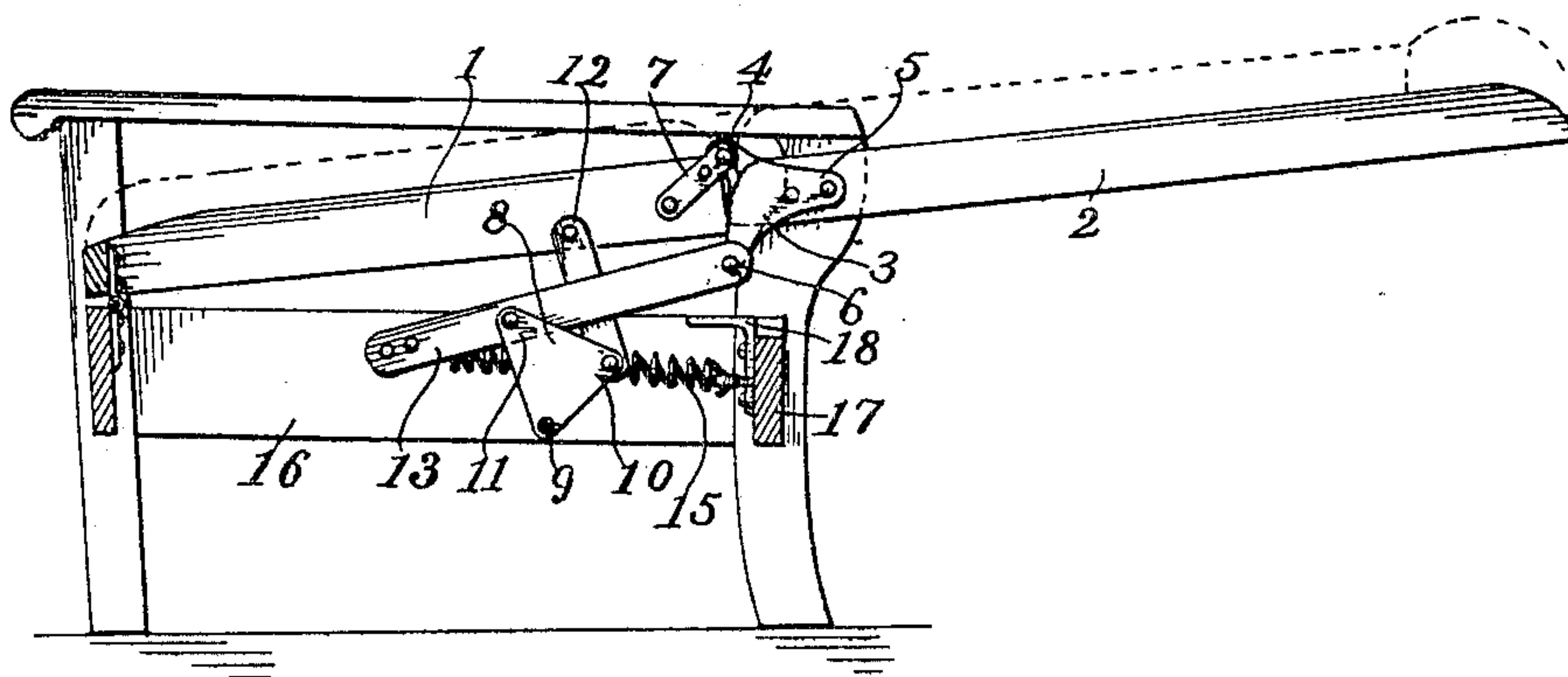


Fig. 1.

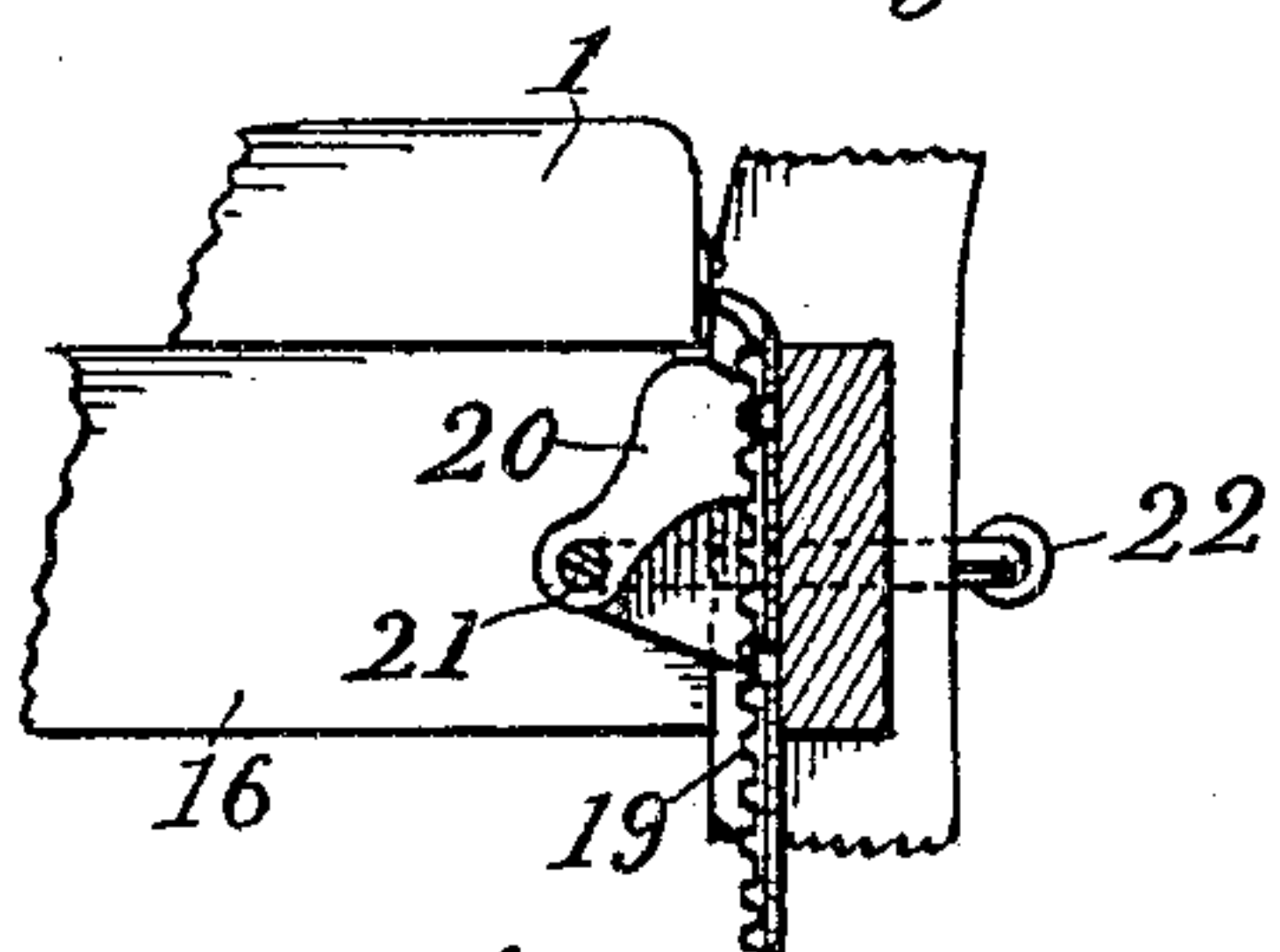


Fig. 4.

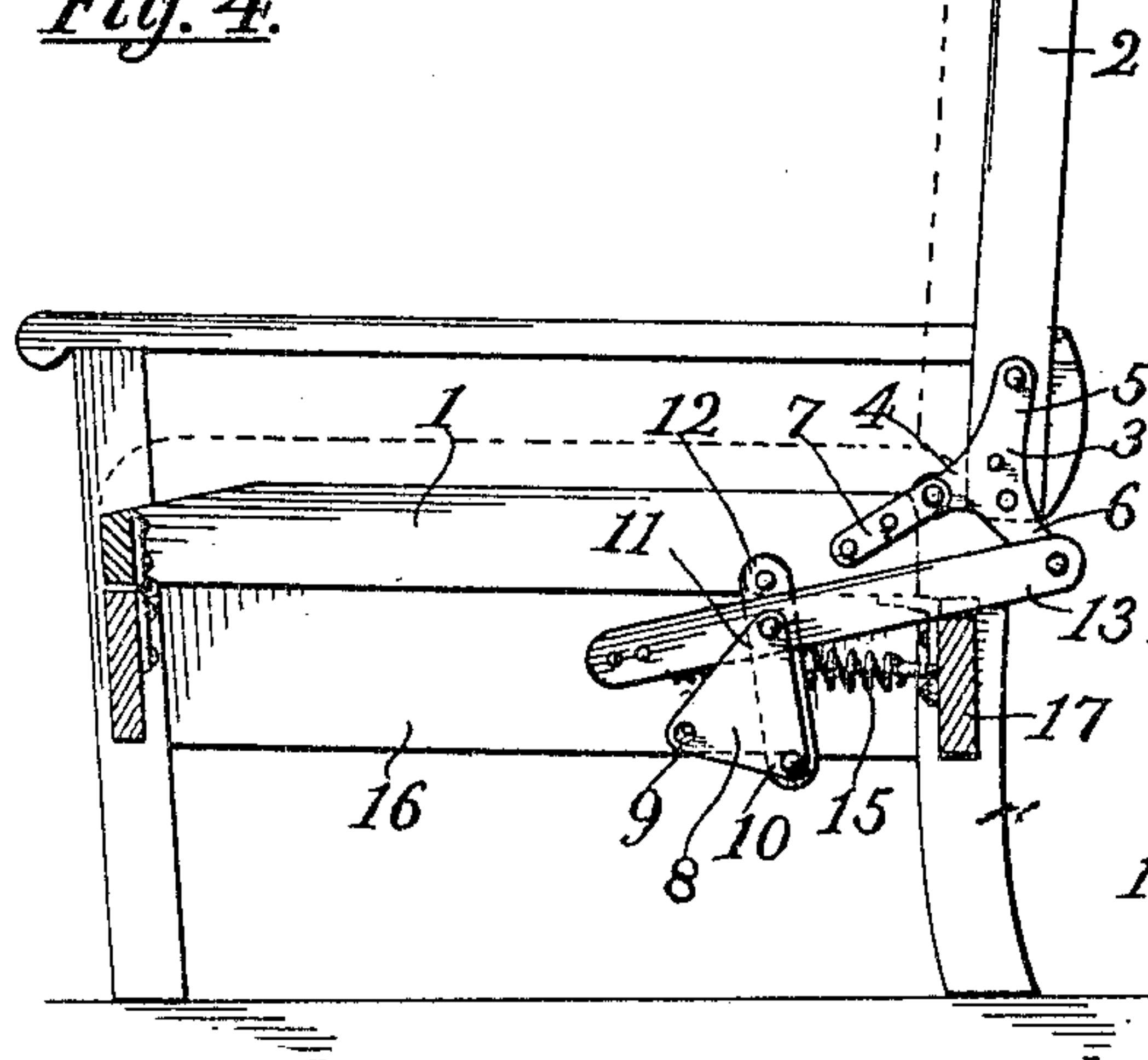


Fig. 2.

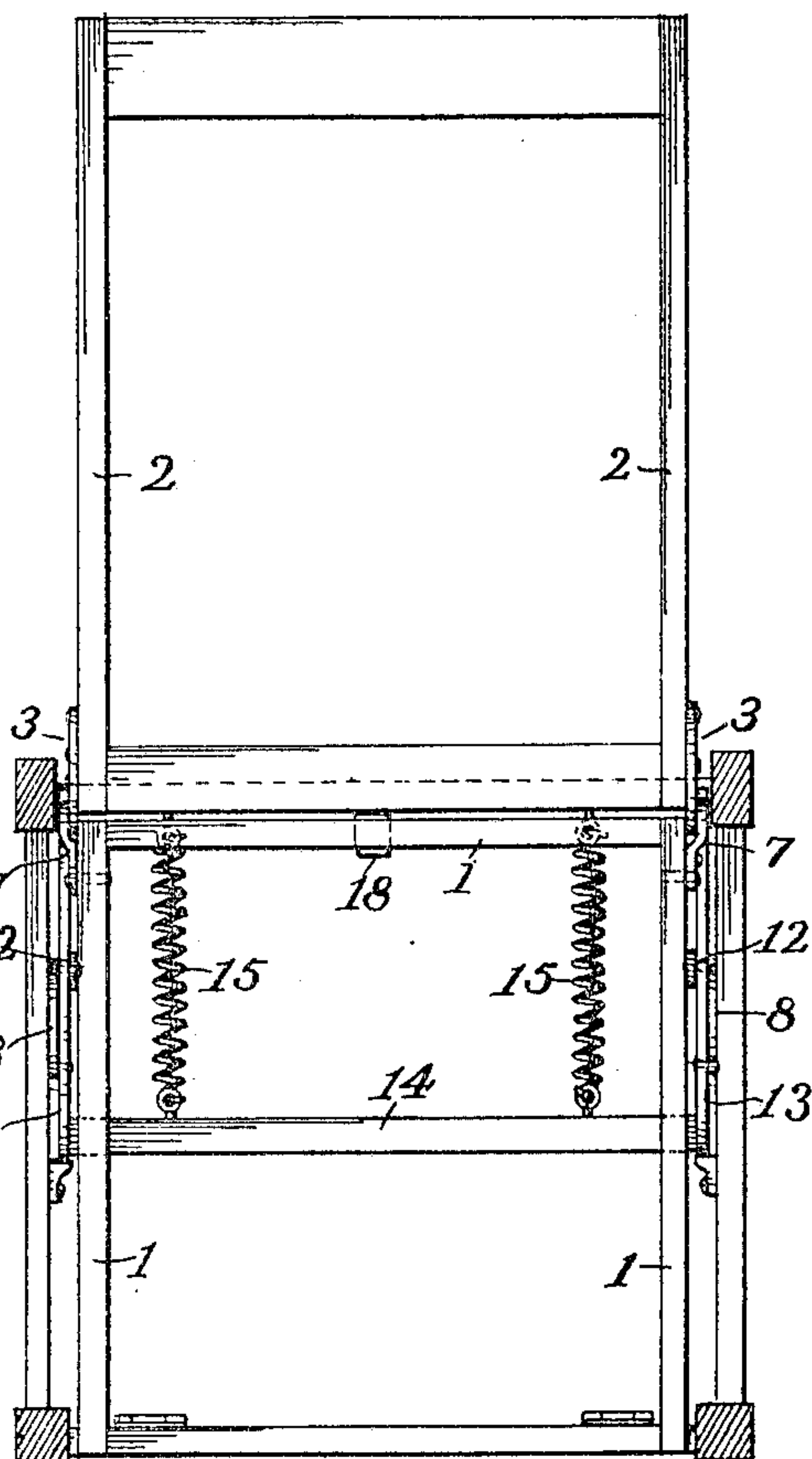


Fig. 3.

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ADJUSTABLE RECLINING-CHAIR.

No. 799,128.

Specification of Letters Patent.

Patented Sept. 12, 1905.

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To all whom it may concern:

Be it known that we, JOHN F. WILMOT and ALBERT LINN MURRAY, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Adjustable Reclining-Chairs; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in adjustable reclining-chairs; and its object is to provide improved means for automatically adjusting the same.

Our invention consists, essentially, of a suitable frame, a seat pivoted to the frame at the front and vertically movable at the rear, bell-crank levers pivoted to the frame and adjustably supporting the rear of the seat, a back pivoted to the seat by bell-crank levers and supported thereby, suitable rods connecting the back and seat supporting levers, whereby the seat and back are relatively adjusted and supported, and various details of construction and arrangement, as hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a chair embodying our invention with one of the sides of the frame removed and the chair adjusted in reclining position; Fig. 2, the same adjusted in upright position; Fig. 3, a plan view of the same as shown in Fig. 1, and Fig. 4 an enlarged detail of the locking mechanism.

Like numerals refer to like parts in all of the figures.

1 represents the seat-frame; 2, the back-frame, pivotally attached to the seat-frame by means of bell-crank levers 3. One arm 5 of each lever is rigidly attached to the back-frame, the angle 4 being pivoted to the plates 7, attached to the seat-frame and adjusted so that the back and seat are pivoted to each other in substantially the plane of the upholstering thereof to maintain the upholstering on the back and seat in proper relation at their adjacent edges. The other arm 6 of the levers projects downward and rearward, and to these arms are pivotally connected push-rods 13. Connecting these rods 13 at their forward ends is a transverse bar 14, to which bar is attached one end of contractile springs 15,

the other ends of which are attached to the rear cross-bar 17 of the stationary frame, whereby the springs pull on the rods 13, and thus tend to counterbalance the back 2 and support the same in whatever position it is adjusted.

The rear of the seat 1 is vertically movable and is supported upon rods 12, pivoted thereto and extending downward and pivoted at their lower ends to the horizontal arms 10 of bell-crank levers 8, said levers being pivoted at their angles 9 to the side rail 16 of the stationary frame and have their upwardly-projecting arms 11 pivoted to the push-rods 13. These rods 12 and bell-crank levers 8 thus operate to support the seat, and at the same time the weight of the seat and occupant thereof tends to force the rods 13 backward, and thus support the back 2 and turn the same to an upright position.

The operation of the device is thus to support the back and seat in adjusted position at any point between the position shown in Fig. 1 and that shown in Fig. 2 and to automatically adjust to the position of the occupant, whatever position he may assume. The weight of the person counterbalances the seat and back against each other through the medium of these connecting levers and rods. Thus when the weight is normally upon both the seat and back the device will remain in any position, and by shifting the weight to the seat the same will fall and the back rise, and by shifting the weight to the back the reverse adjustment will result. To stop the device in upright position, a bracket 18 is provided to engage the seat in its lower position. If found desirable to lock the device in any particular adjustment, we provide a mechanism (illustrated in Fig. 4) consisting of a ratchet 19, pivotally connected to the rear of the seat and extending downward therefrom and slidable vertically on the rear cross-bar 17 of the frame, and extending across the frame is a rock-shaft 21, provided with a crank-handle 22, extending outside the chair-frame, to manually turn the shaft and pawl, and on this rock-shaft is mounted a toothed pawl 21 to engage the rack and lock the same in position. The weight of the crank holds the pawl normally in engagement with the rack, and the pawl is turned out of such engagement by turning the crank to a forwardly-extended position.

Having thus fully described our invention,

what we claim, and desire to secure by Letters Patent, is—

1. In a chair, the combination of a frame, a seat movable upward and downward in the
5 frame, a back pivoted to the seat and supported thereby, a lever supporting the seat and moved thereby, and means for connecting said lever to the back to adjust and hold the back in angular relation to the seat.
- 10 2. In a chair, the combination of a frame, a seat pivoted to the frame at the front and movable upward and downward at the rear, a lever pivoted to the frame and supporting the rear of the seat, a lever pivoted to the rear of the
15 seat, a back supported by the last-named lever, and a rod connecting said levers.
3. In a chair, the combination of a frame, a seat movable upward and downward in the frame, bell-crank levers supporting the seat
20 and moved thereby, bell-crank levers pivoted to the rear of the seat, a back attached to said last-named levers, and rods connecting the seat-supporting levers and the back-supporting levers.
- 25 4. In a chair, the combination of a frame, a back, a seat pivoted to the frame at the front and movable upward and downward at the rear, bell-crank levers pivoted to the frame and having approximately horizontal and vertical arms, rods pivoted to the seat and to the
30 approximately horizontal arms of said levers, bell-crank levers pivoted to the rear of the seat and having arms rigidly attached to the

back and supporting the same, and connecting-rods attached to the remaining arms of
35 the last-named levers and to the vertical arms of the first-named levers.

5. In a chair, the combination of a frame, a seat movable upward and downward, a back pivoted to the seat, bell-crank levers pivoted
40 to the frame and supporting the seat and back, rods connecting the said levers and seat, rods connected to the said levers and to the back, and springs connected to the frame and to the rods.

6. In a chair, a frame, a back, a seat pivoted to the frame at the front and movable upward and downward at the rear, bell-crank levers pivoted to the frame, rods connecting the horizontal arms of said levers and the seat, bell-
50 crank levers pivoted to the rear of the seat and having arms rigidly attached to the back, rods connecting the respective pairs of bell-crank levers to simultaneously adjust the seat and back, springs connected to the rods and
55 frame, a stop to limit the downward movement of the seat, and a pawl and ratchet to hold the seat from moving vertically.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN F. WILMOT.
ALBERT LINN MURRAY.

Witnesses:

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