(No Model.)

2 Sheets—Sheet 1.

A. ASSMUS.

RECLINING CHAIR.

No. 368,989. Patented Aug. 30, 1887.

Fig. 1.

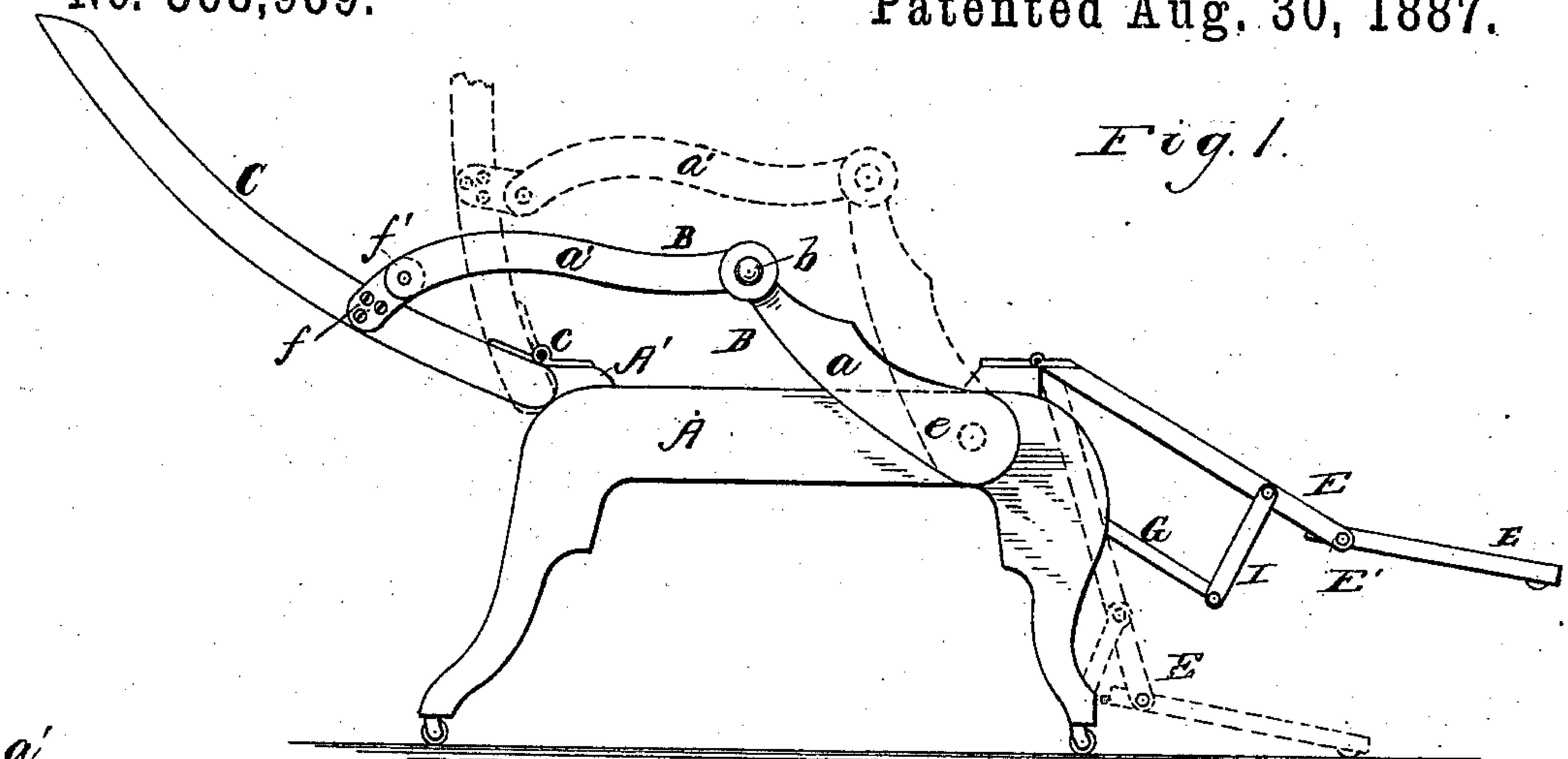


Fig. 2.

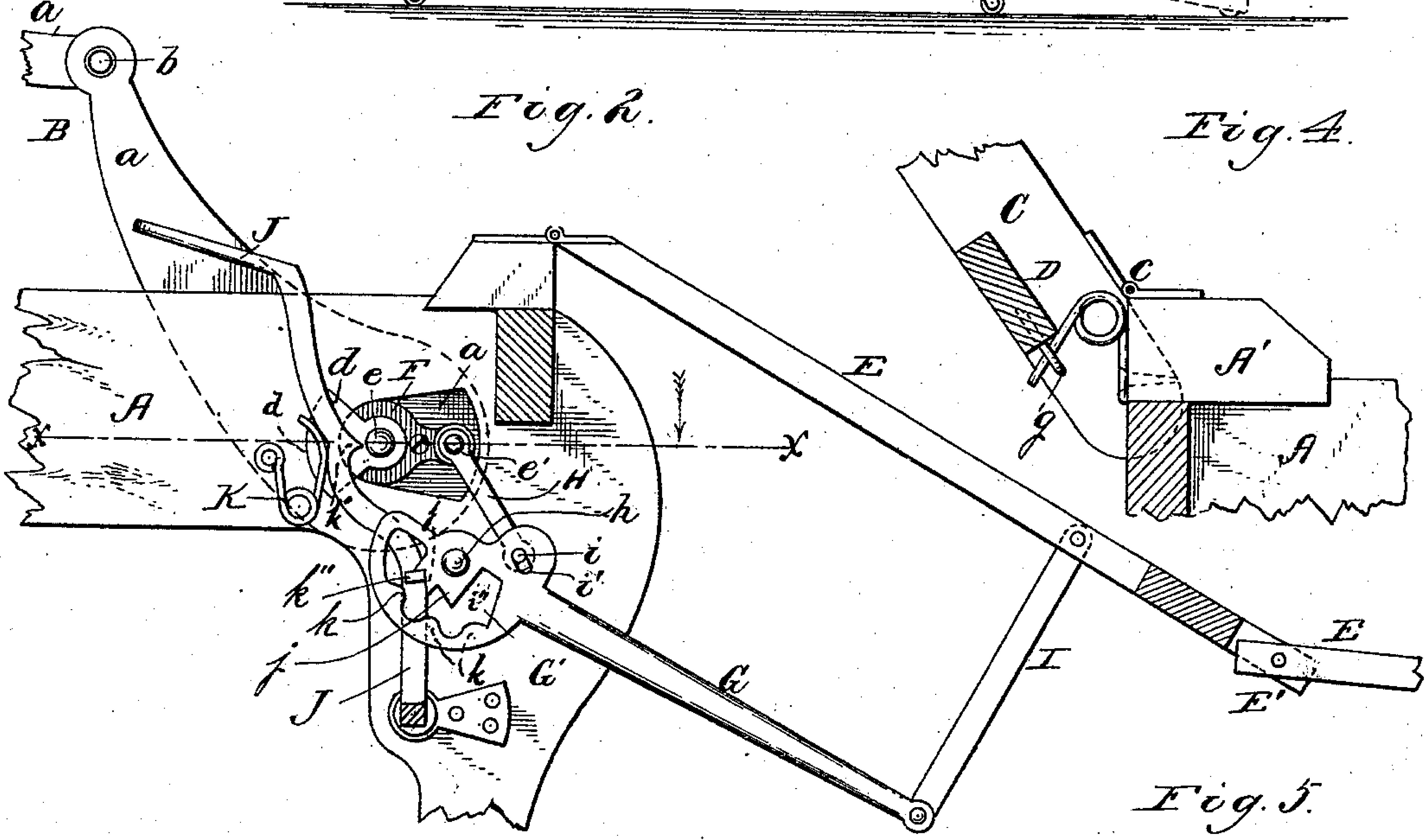


Fig. 4.

Fig. 3

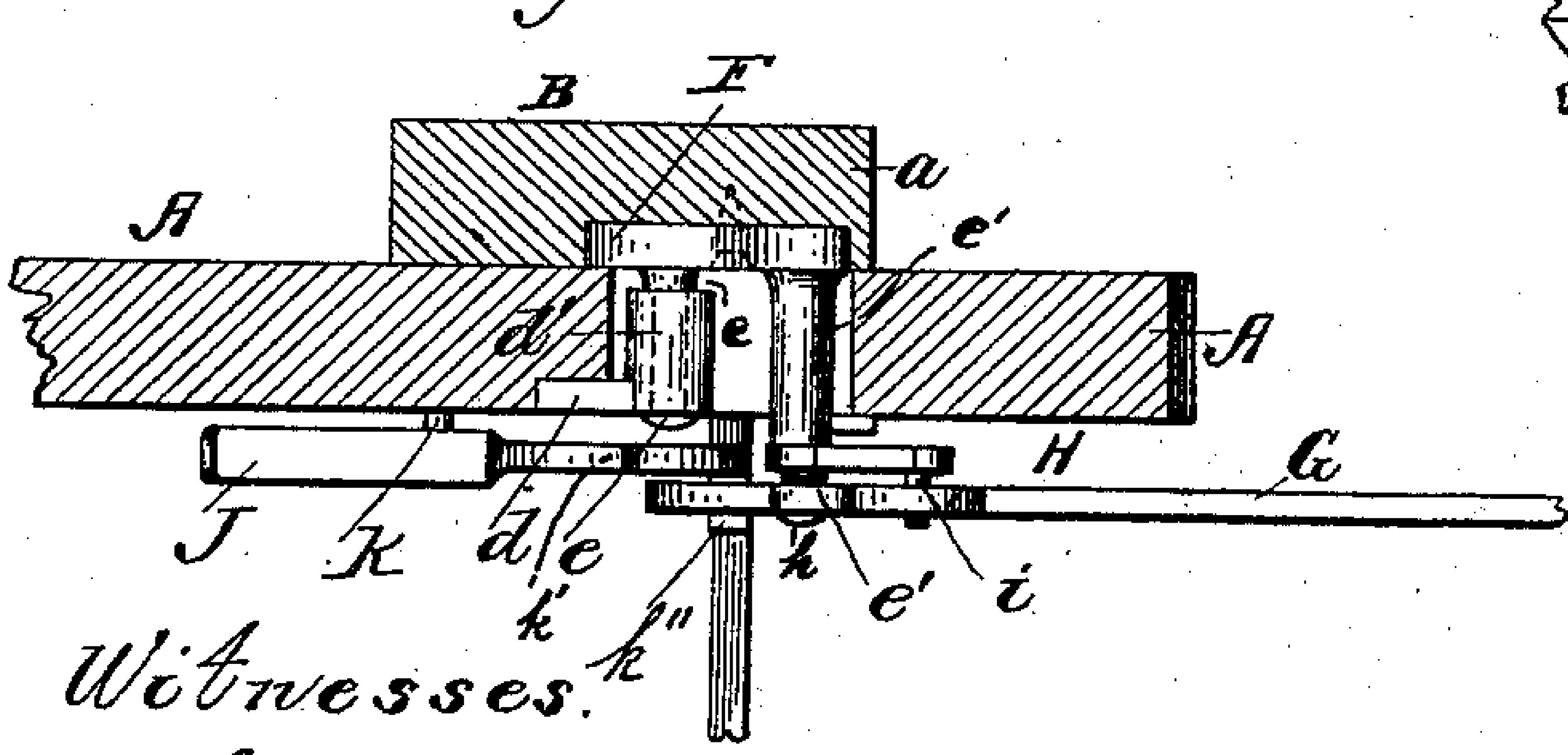
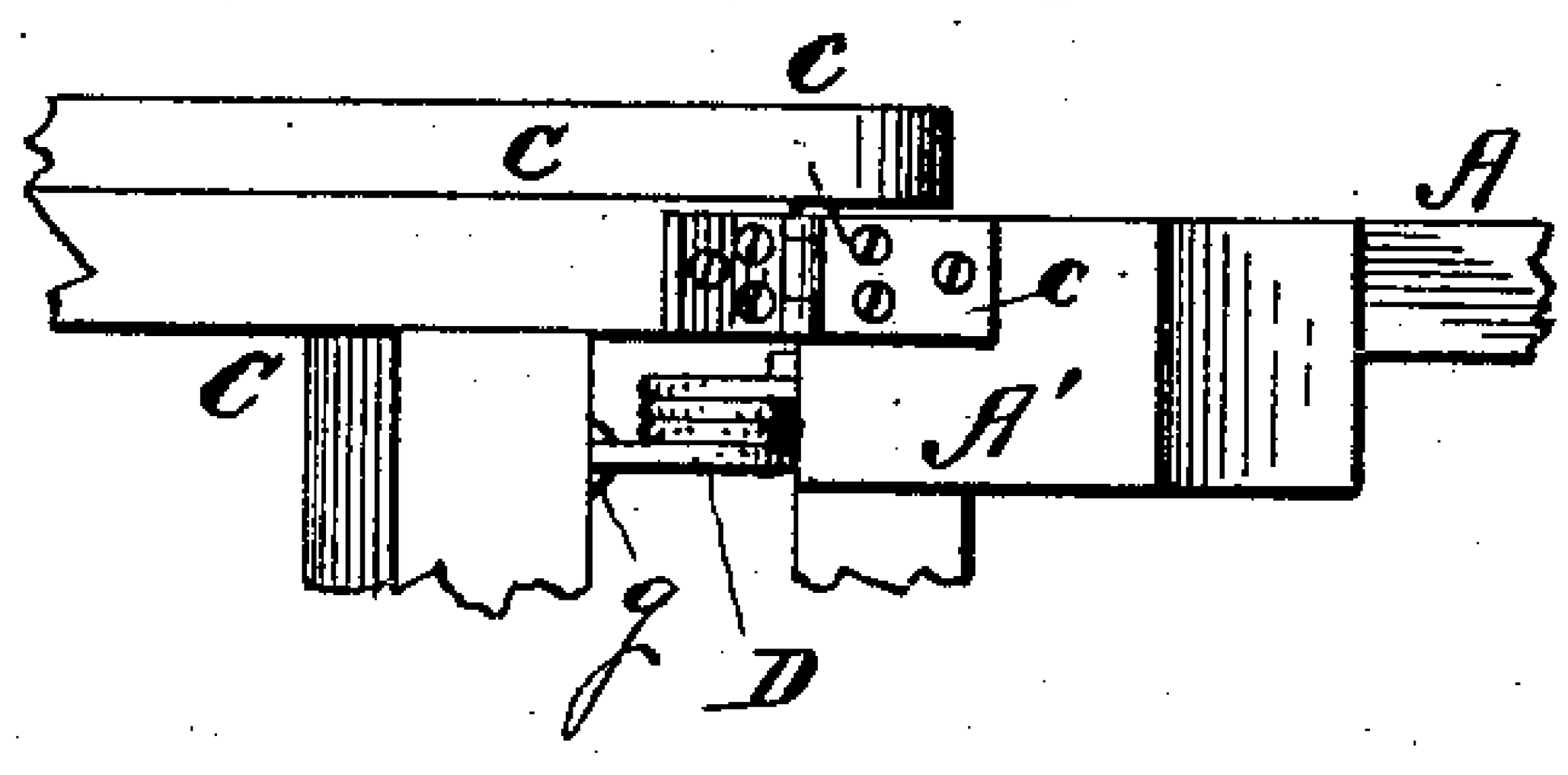


Fig. 5.



Witnesses.

Henry Taukhuler.
Adair Hauzagh

Inventor.
Adolph Assmus
By F. F. Warner.
his Attorney.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

2 Sheets—Sheet 2.

A. ASSMUS.

RECLINING CHAIR.

No. 368,989. Patented Aug. 30, 1887.

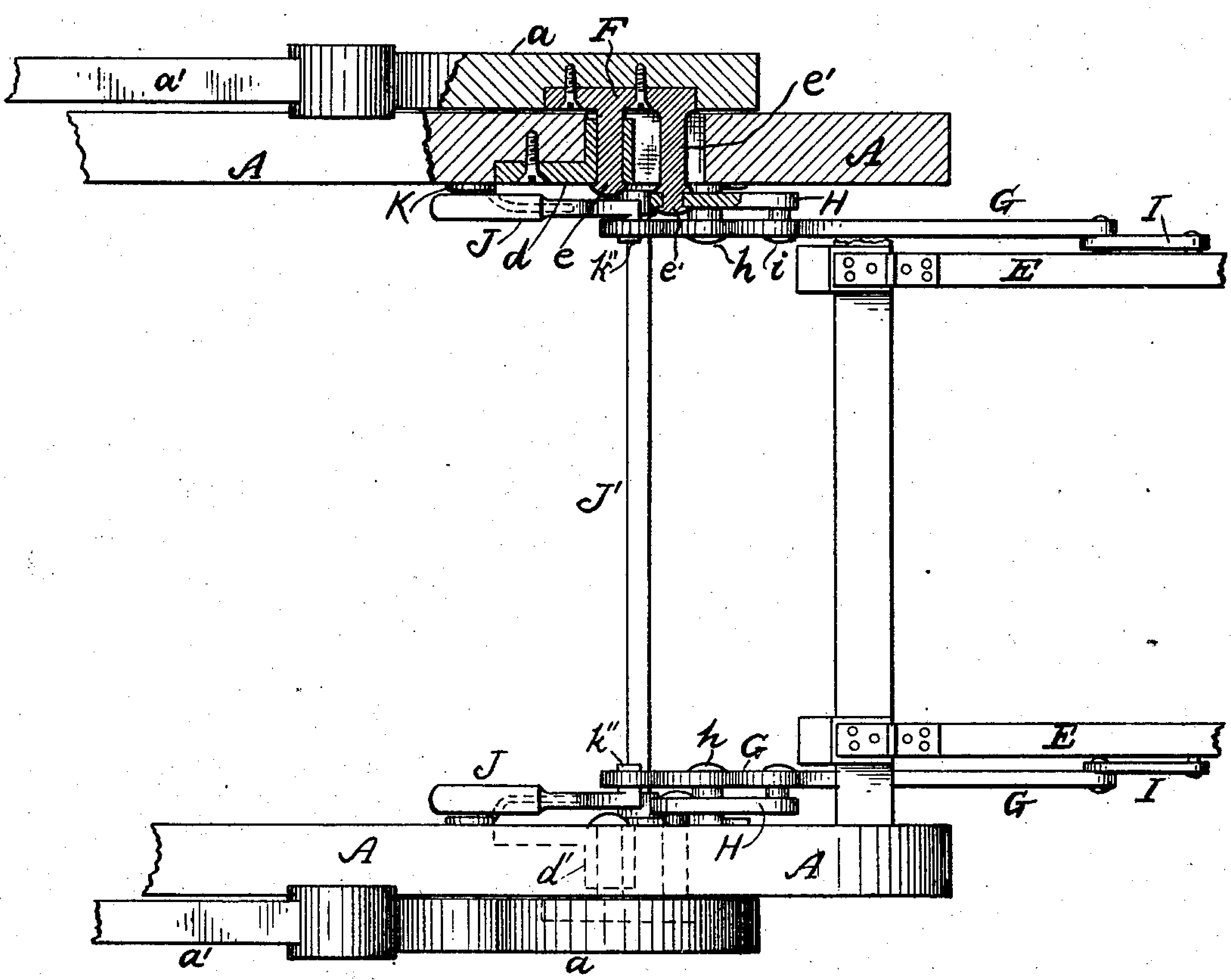


FIG. 6.

Witnesses:
J. B. Halpenny
Addie Hausjagh[?]

Inventor:
Adolph Assmus
By L. L. Warner
his atty.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ADOLPH ASSMUS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MALLETTE & RAYMOND MANUFACTURING COMPANY, OF SAME PLACE.

RECLINING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 368,989, dated August 30, 1887.

Application filed October 8, 1884. Renewed February 1, 1887. Serial No. 226,196. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH ASSMUS, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reclining-Chairs, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 is a side view of a reclining-chair embodying my invention. Fig. 2 is a vertical central section from front to rear, the back part of the chair being broken away. Fig. 3 is a section in the plane of the line *x x* of Fig. 2, viewed in the direction indicated by the arrow there shown. Fig. 4 is a sectional detail showing the manner of jointing or hinging the back to the seat and rendering the back to some extent yieldingly inclinable. Fig. 5 is a top view of the parts shown in Fig. 4; and Fig. 6 is a detail, the same being a top view, enlarged, of the forward portion of the chair, shown partly in section or broken away to more clearly present the construction and relation of some of the working parts of the chair.

Like letters of reference indicate like parts.

A A are the side pieces of the seat-frame, which is supported on legs, as usual.

B is one of the arms of the chair, there being one such arm on each side. Each arm B consists of two parts, *a* and *a'*, hinged or jointed to each other, as at *b*.

C is the back of the chair, which is hinged to a block, A', on the rear or back part of the seat-frame, as indicated at *c*, it being understood that there are two such blocks, one at each rear corner of the seat-frame.

The parts *a a* of the arms B B are hinged or jointed to the seat-frame at or near the forward corners thereof, a plate, *d*, being rigidly attached to the inner sides of each of the pieces A A, and *e* is a pin or axle extending from a plate, F, attached to the parts *a a*, (and to which plates reference will hereinafter be made,) and passing through a tubular extension, *d'*, on the plates *d d* and headed or otherwise secured in place, so as to serve as pintles or pins, on which the parts *a a* may turn or swing in a forward and back direction. The parts *a' a'* of the said arms are jointed or hinged to the back of the chair, or to plates *f* *f* thereon, as represented at *f' f'*. By these means the positions of the back and arms may be changed with relation to the seat and each other, as indicated in Fig. 1, the full lines there shown representing the parts in the position occupied by them when the chair permits the occupant to rest in an inclined position, and the dotted or broken lines representing the position of the same parts when set to support the occupant in a sitting position.

To aid in raising the back from its lowest position, I apply a coiled spring, D, to each of the blocks A' A', and extend an arm or straight portion of these springs freely through loops or eyes *g g* on the chair-back, as is clearly indicated in Figs. 4 and 5. These blocks A' A' are somewhat wider, as shown in Fig. 5, than the side rail of the seat, and they project somewhat above the seat-frame, as shown in Fig. 4, thereby forming a seat or rest for the springs D D.

E is a foot-rest hinged or jointed to the front part of the seat-frame, so as to be capable of being raised and lowered, as indicated in Fig. 1. This foot-rest is also jointed, as shown at E', so as to permit a portion of it to lie parallel with and upon the floor when the adjustable parts are folded, as indicated by the broken lines in Fig. 1.

F is a plate rigidly attached to the parts *a a*, respectively, of the arms B B, and from these plates extend the pins *e e*, hereinbefore referred to. Another stud or pin, *e'*, also projects laterally and inwardly from each plate F.

G is an arm or lever pivoted to the seat-frame or to one of the forward legs of the chair—as, for example, at the point *h*.

H is an arm connecting the pin *e'* and the arm G, the upper end of the said arm turning on the pin *e'*, and its lower end being provided with a pin, *i*, extending laterally therefrom into an elongated opening, *i'*, in the arm G.

I is a connecting-arm jointed to the forward or lower part of the arm G and to the foot-rest.

G' is a curved slot in the upper end or part of the arm G. The upper edge of this slot is toothed, as shown at *j j*, which teeth serve as stops, as will be hereinafter more fully explained, to prevent a continuous backward or pulling movement of the back C, and the lower

edge of the said slot has cam-like projections *k k*, the function of which will also be hereinafter more fully explained. It will be perceived that the forward end of the slot G′ extends upward, as shown at *i″*.

J is a pawl or catch pivoted at its lower end to the chair-seat or to one of the front legs of the chair, and K is a spring resting against the rear edge of the catch J. The catch J is hook-shaped, as shown at *k′*, and has a lateral arm or extension, *k″*, projecting into the slot G′.

The parts now described operate together as follows: When the adjustable or folding parts of the chair are so arranged as to permit the occupant to sit upright therein, the extension or catch *k″* extends into the elongated portion *i″* of the slot G′, and the hooked part *k′* of the pawl J engages the upper end of the arm H, thus temporarily locking the adjusting mechanism; but as the catch *k″* then stands in the elongated part *i″*, and as the opening *i′* is elongated there is a degree of lost motion permitted between the arms G and H, while the adjusting mechanism in other respects remains locked, and the arm G is permitted to be raised slightly without lifting the elongated part *i″* entirely off or away from the arm or catch *k″*. For these reasons the back of the chair may be moved back and forth within a comparatively small range, while the adjusting mechanism remains so locked. This limited change in the position of the back of the chair may be effected with facility by the occupant and without altering the position of the foot-rest, the occupant merely shifting his position for that purpose.

The teeth *j j*, as before stated, serve as catches or ratchets in conjunction with the catch *k″* on the pawl J. By moving the upper end of the pawl J rearward the hook *k′* will be drawn off or away from the upper end or head of the arm H, and this disengagement will occur before the catch *k″* leaves the elongation or notch *i″*, and the adjusting mechanism will then be unlocked. If the occupant now moves the pawl J so as to carry the catch *k″* entirely out of the notch *i″* and leans back in the chair, the chair back will tilt backward until the next lower tooth in the series of teeth *j j* comes in contact with the catch *k″*, when the further rearward inclination of the seat-back will be temporarily prevented. This contact is produced for the reason that the cam projection *k* next below the tooth last above referred to will lift the pawl J sufficiently to produce that result; but by the time this contact takes place the cam last above referred to will have just passed the catch *k″*, and the contact between the said tooth and the catch *k″* will remain, owing to friction or pressure. To set the back C back farther, I push back the pawl J in the manner already described, when the adjusting mechanism will be unlocked again and permit further inclination of the back. This inclination, however, will be limited, as before, owing to the fact that the next succeeding cam, *k*, will carry the catch *k″* in front of the next succeeding tooth *j*; but this engagement may be broken, as before, thus permitting the back to be inclined to a still further extent, and so on, until the back reaches the limit of its rearward inclination. By these means the back is prevented from being tilted back the whole extent of its possible inclination at once or during one continuous movement; but the movement is intermittent and wholly under the control of the occupant or his attendant, and a gradual instead of a sudden inclination is insured. When, however, the occupant desires to assume a sitting posture, he simply raises himself into that position, and the weight of his feet, aided, if need be, by a slight forward push on the arms of the chair, will cause the foot-rest, the arms, and the back to assume the positions indicated by the dotted or broken lines in Fig. 1, for as the arm G then descends the catch *k″* will have merely a slipping contact with the edges of the slot G′, when the adjusting mechanism may be locked, as before.

It is to be understood that an adjusting mechanism like that now described is by preference applied to both sides of the chair. The arms I I will be connected by the foot-rest, and the pawls J J may be connected by being mounted rigidly on a rod, J′, turning in bearings in the forward legs.

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

1. The combination, in a reclining-chair, of a tilting back, the seat-arms made in sections jointed to each other and to the seat and back, and a folding foot-rest, with adjusting mechanism in connection with one or both the said arms, for operation thereby, and in connection with the said rest, and a pawl or catch engaging the said mechanism, the latter having therein provision for lost motion, whereby the back may be tilted a fraction of its movement independently of or without affecting the foot-rest and during the engagement of the said pawl with the said mechanism.

2. The combination, in a reclining-chair, of a tilting back, the adjustable seat-arms, a folding or adjustable foot-rest, and the lever G, pivoted to the seat and linked to the said rest, and having therein catches or teeth *j j*, and a notch, *i″*, at the end of the series of the said teeth, and an elongated opening, *i′*, the arm H, having a pin entering in the opening *i′* and turning on a pin attached to the seat-arm, and a pivoted pawl, J, adapted to engage the said teeth, substantially as and for the purposes specified.

3. The combination, in the adjusting mechanism, of a reclining-chair, the lever G, pivoted to the seat, linked to an adjustable seat-arm and to a folding or adjustable foot-rest, the said lever having therein a slot, in which are the teeth or catches *j j* and the oppositely-arranged cams *k k*, and the pivoted pawl J, having thereon an extension or catch, *k″*, entering the said slot, the said teeth and cams being adapted for operation with each other and the

said catch, substantially in the manner described, and for the purposes set forth.

4. The combination, in a reclining-chair, of the lever G, having therein the slot G′, on one side of which are the teeth *j j* and on the other the cams *k k*, and also having therein the elongated hole or opening *i′* and the cut or notch *i″*, the arm H, having a pin entering the opening *i′* and pivoted to a stud or pin extending from the seat-arm, a folding foot-rest linked to the said lever, and the pawl J, adapted to engage the said teeth and cams, all arranged and operating together, substantially as and for the purposes specified.

5. The combination of the lever G, having therein a slot, on one side of which are the teeth or catches *j j* and on the other the cams *k k*, the pawl J, adapted for operation in connection with the said teeth and cams, and means, substantially such as described, for applying the lever and pawl to a reclining-chair, the whole constituting mechanism for regulating the position of chairs of that class.

6. The combination of the lever G, having therein a slot, G′, on one side of which are the teeth or catches *j j* and on the other the cams *k k*, and also having therein the elongated hole or opening *i′* and the cut or notch *i‴*, the pawl J, having thereon the extension or catch *k″*, and means for applying the said lever and pawl to a reclining-chair, the whole constituting adjusting mechanism for adjusting chairs of that class.

7. The combination, in a reclining-chair, of the blocks A′ A′, applied to the rear corners of the seat, and the springs D D, applied to the said blocks and bearing against the chair-back, the said blocks being sufficiently wide to serve as shoulders for the said springs to abut against, substantially as shown and described, and for the purposes set forth.

In testimony that I claim the foregoing as my own I hereto affix my signature in presence of two witnesses.

ADOLPH ASSMUS.

Witnesses:
F. F. WARNER,
M. BYRON RICH.