

T. M. BRINTNALL.
RECLINING CHAIR.

Patented June 13, 1876.

No. 178,725.

Fig. 1.

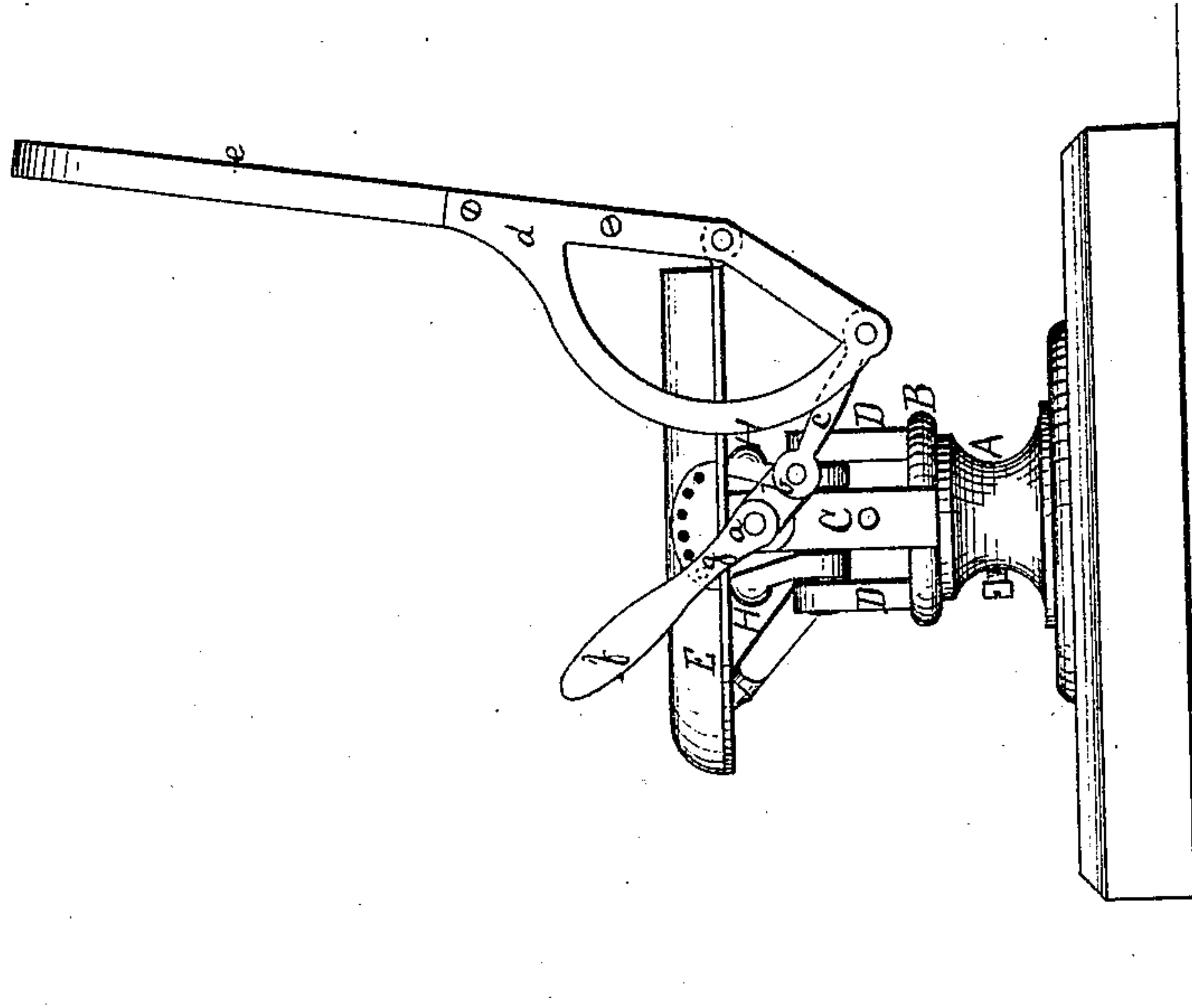
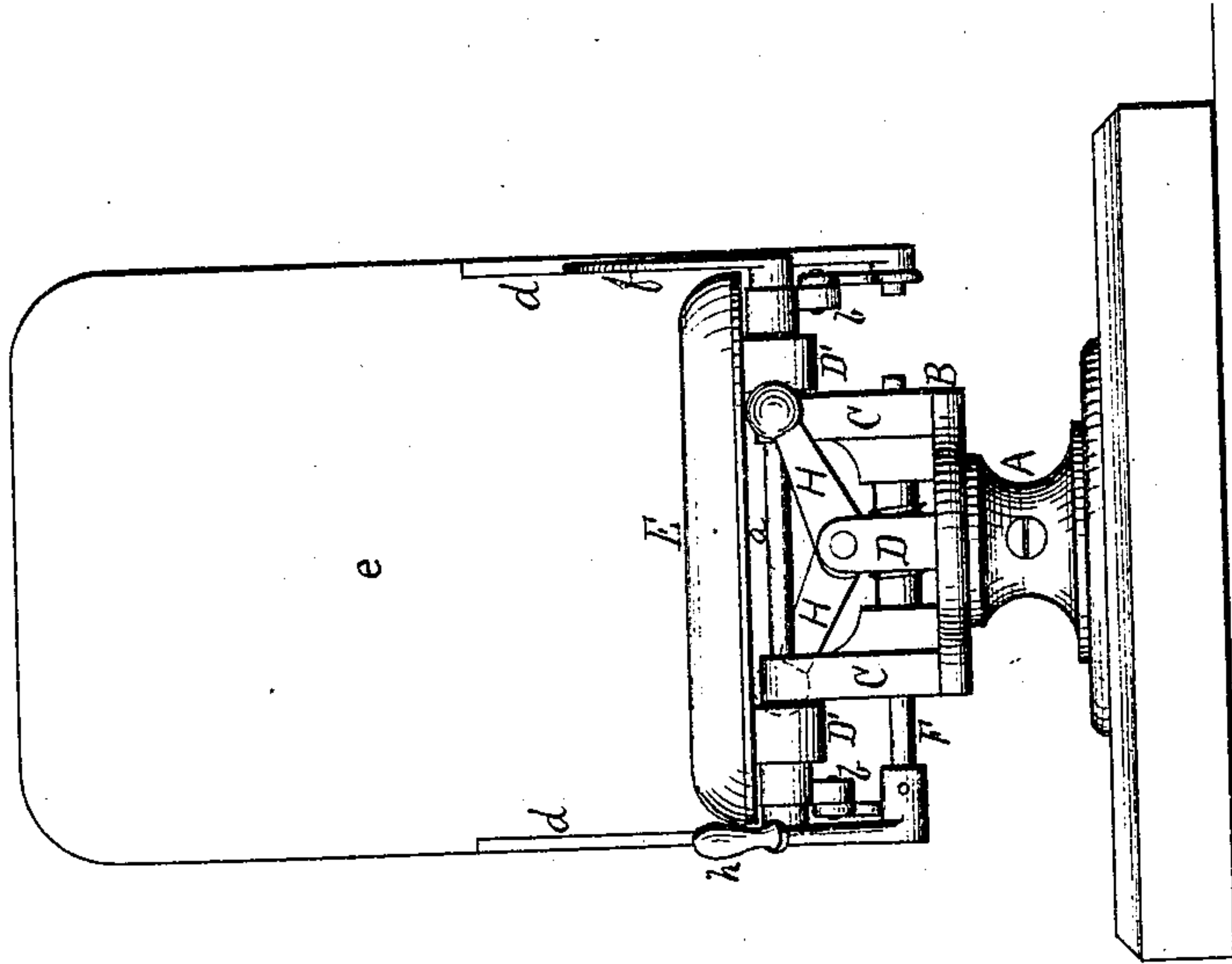


Fig. 2.



Witnesses:

Edwin James.

John R. Jones.

Inventor:

Thomas M. Brintnall.

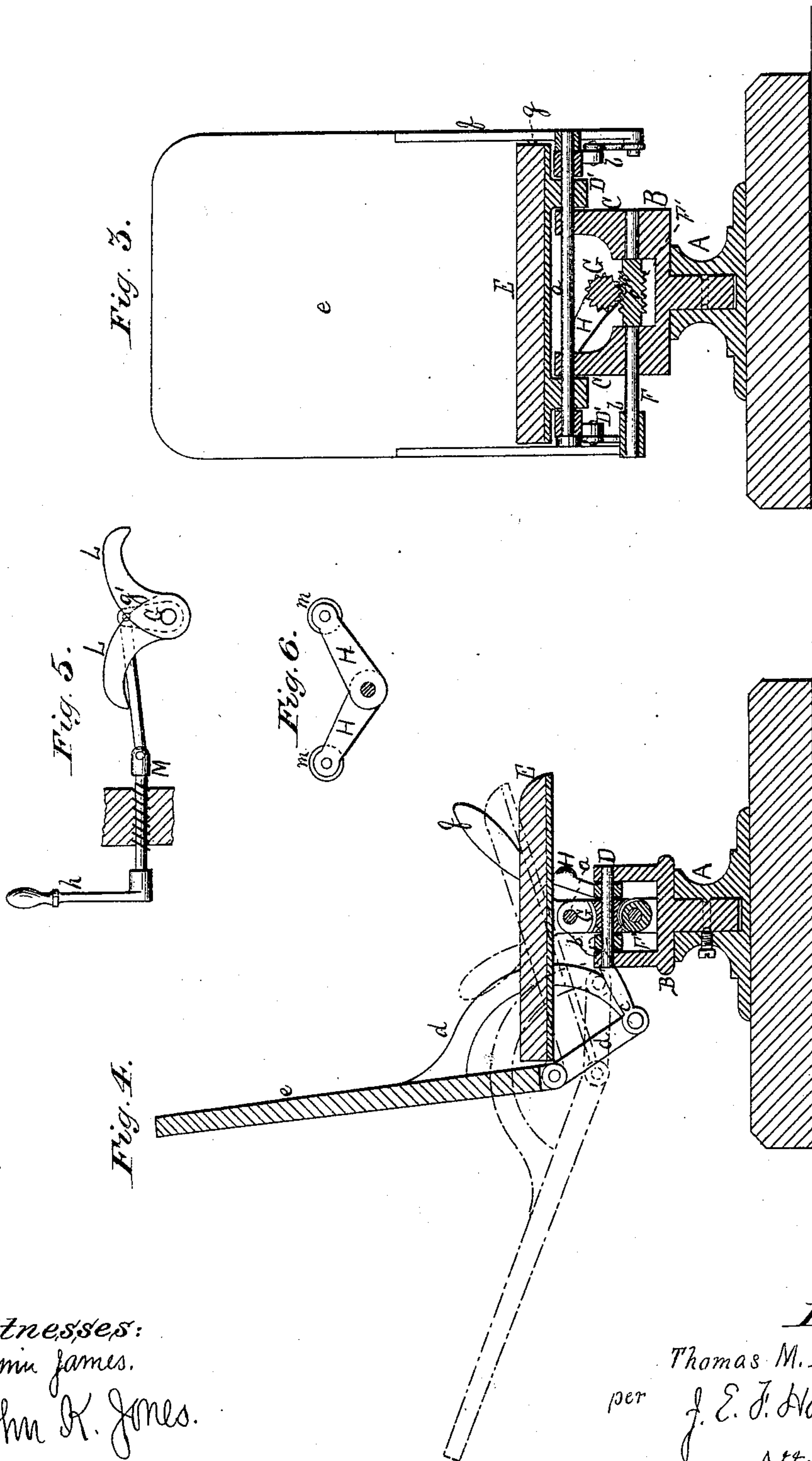
per J. E. J. Holmead.

Attorney.

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UNITED STATES PATENT OFFICE.

THOMAS M. BRINTNALL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF OF HIS RIGHT TO JOHN GOODCHILD, OF SAME PLACE.

IMPROVEMENT IN RECLINING-CHAIRS.

Specification forming part of Letters Patent No. **178,725**, dated June 13, 1876; application filed April 19, 1876.

To all whom it may concern:

Be it known that I, THOMAS M. BRINTNALL, of the city and State of New York, have invented certain Improvements in Reclining-Chairs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, and the letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a side view of my improved chair. Fig. 2 is a front view of the same. Fig. 3 is a transverse sectional view. Fig. 4 is a longitudinal sectional view. Figs. 5 and 6 represent modifications of certain portions of my invention.

The object of my invention consists in providing a simple, practical, and durable means of operating the pivoted seats of a reclining-chair, and by a means which substantially frees the pivot-joints on which the seat rests and rocks from all strain or weight of the seat when empty or when occupied.

To accomplish this the nature of my invention consists in securing on a suitable axle two arms, levers, or cams, the same being keyed at such angles that they shall extend upward, but in opposite directions. This axle is journaled in suitable bearings immediately below the bearings of the seat, and in such manner that the upper section of each arm or cam shall rest in direct contact with the under surface of the seat, the whole being so arranged that when the shaft is rotated a simultaneous movement is imparted to each of the arms or cams, they being alternately lowered and raised exactly in accordance with the direction and to the degree the shaft is rotated, and as these arms or cams rest in contact with the under surface of the seat, and the seat being pivoted, the movement of the arms insures a like movement to the seat in the direction and in the degree that the respective arms are either raised or lowered, the arms, of course, providing under supports for the seat on the opposite sides of its pivot-bearings. The shaft may be operated by any suitable mechanism, one that is self-locking through the interlocking of its parts being preferred.

My invention also consists in a simple and practical means of rendering the back of the

chair also adjustable, and through the following combination of mechanism, consisting of a lever, cranks, connecting-links and back-braces, projecting below the seat, and secured to the same by pivot-bearings, all arranged and operating to produce a most convenient, easy, and comfortable reclining-chair.

The construction and operation of my invention are as follows: A represents the base or pedestal, upon which is mounted the revolving head B, having on each side standards or bearings C. In front and rear are ears D. At the upper ends of the bearings C are pivoted other bearings D', securely attached to the under side of the seat E. At or near the center of the bearings C is placed a worm-shaft, F, engaging with and operating the worm-wheel G, said worm-wheel having its shaft-bearings in the ears D, and upon the shaft of the worm-wheel are secured operating arms or levers H H, located at the front and rear of the bearings C. At the extreme end of each arm H is formed a ball-shaped bearing for the purpose of giving to the seat uniformity of action. Or, instead of these balls being solid, as shown clearly in Fig. 2, the arms or levers H H may terminate in suitable socket-bearings, which may be filled with anti-friction rollers, the same, of course, fitting loosely so as to rotate, as the arms or levers H H, through the rotation of the worm-wheel, are caused to travel; or the balls may be dispensed with, and the arms have secured at their sections wheels or rollers *m m*, as clearly shown in Fig. 6, or another suitable anti-friction device. Of course, there is nothing arbitrary about the use of the arms H H, as cams L L can readily be substituted, as clearly shown in Fig. 5, and the cams secured to the shaft G in the same way. Nor is it at all necessary that the hereinbefore-described method of operating the worm-wheel shaft need be adhered to, as the modification shown in Fig. 5 is an admirable substitute, whether the arms or cams are used. When the lever M, Fig. 5, is used, it is provided with a screw-thread, which works in a nut provided with a female thread, which is secured at some suitable point on the under support. The lever M is attached to the shaft G by an upright arm, *g'*,

secured to said shaft. The arm or lever *h*, in Fig. 5, is precisely in its function like the arm *h* in the other figures, where it is used in connection with other mechanism for operating the seat. *a* represents a shaft running transversely underneath the seat connecting the standards *C* and the bearings *D'*, on each end of which are securely fastened projecting arms *b b* pivoted to horizontal bars *c c*. At the rear end of the bars *c c* are pivoted side arms *d d*, said arms being hinged to the rear end of the seat *E*, and secured to the chair-back *e*. One side of the chair is provided with a lever, *f*, secured to the shaft *a* for the purpose of adjusting the back of the chair at any desired angle by means of the arms *d d*, and held in place by the pin *g* fitting in the holes made in the side of the chair-seat *E*. On the side of the chair opposite the lever *f* is another lever, *h*, secured to the worm-shaft *F* for operating the mechanism governing the seat *E*.

The operation is as follows: It will be readily understood that the occupant has complete control of the chair by simply moving the lever *h*, which, being connected to the worm-shaft *F*, engages the worm-wheel *G*, the shaft of which carries the operating arms *H H*, which are placed in opposite directions, rising and falling simultaneously when acting. If it is desired to change the inclination of the chair-back move the lever *F*, which, being attached to the shaft *a*, causes the side arms *d d* to os-

cillate by means of the bars *c c* pivoted to the lower ends of the side arms *d d*, as shown.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the seat *E* secured on an axle-shaft, and the arms *H H* secured to a shaft in a manner to secure their simultaneous movement, whereby the seat is operated, as described, through the alternate lowering and elevating of the respective arms, they always providing independent or opposite supports for the seat—one in front and the other at the rear of its bearings—substantially as and for the purpose specified.

2. A chair, constructed and arranged substantially as shown and described, whereby the seat is made to recline by means of the worm *F'* working in the worm-wheel *G* on a shaft carrying lifting-arms *H H*, operating the seat *E*.

3. The combination of the shaft *a*, lever *f*, arms *b*, connecting-bars *c c*, and side arms *d d*, substantially as shown and described, for the purpose specified.

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

THOS. M. BRINTNALL.

Witnesses:

WM. H. BOWERS,
EDWIN F. CURRY.