

No. 883,446.

J. H. BROWNELL.
CHAIR.

PATENTED MAR. 31, 1908.

APPLICATION FILED MAY 27, 1907.

2 SHEETS—SHEET 1.

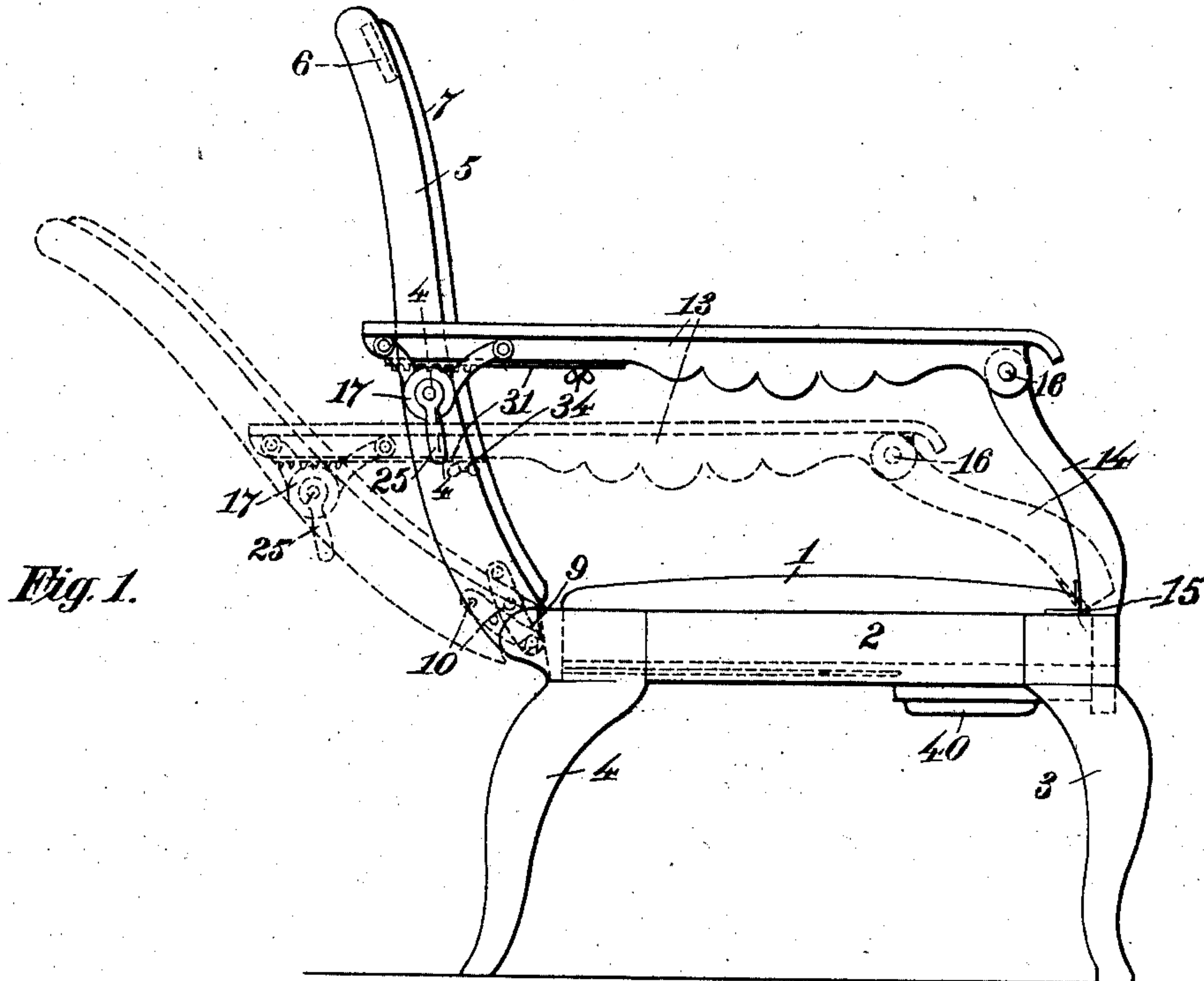


Fig. 1.

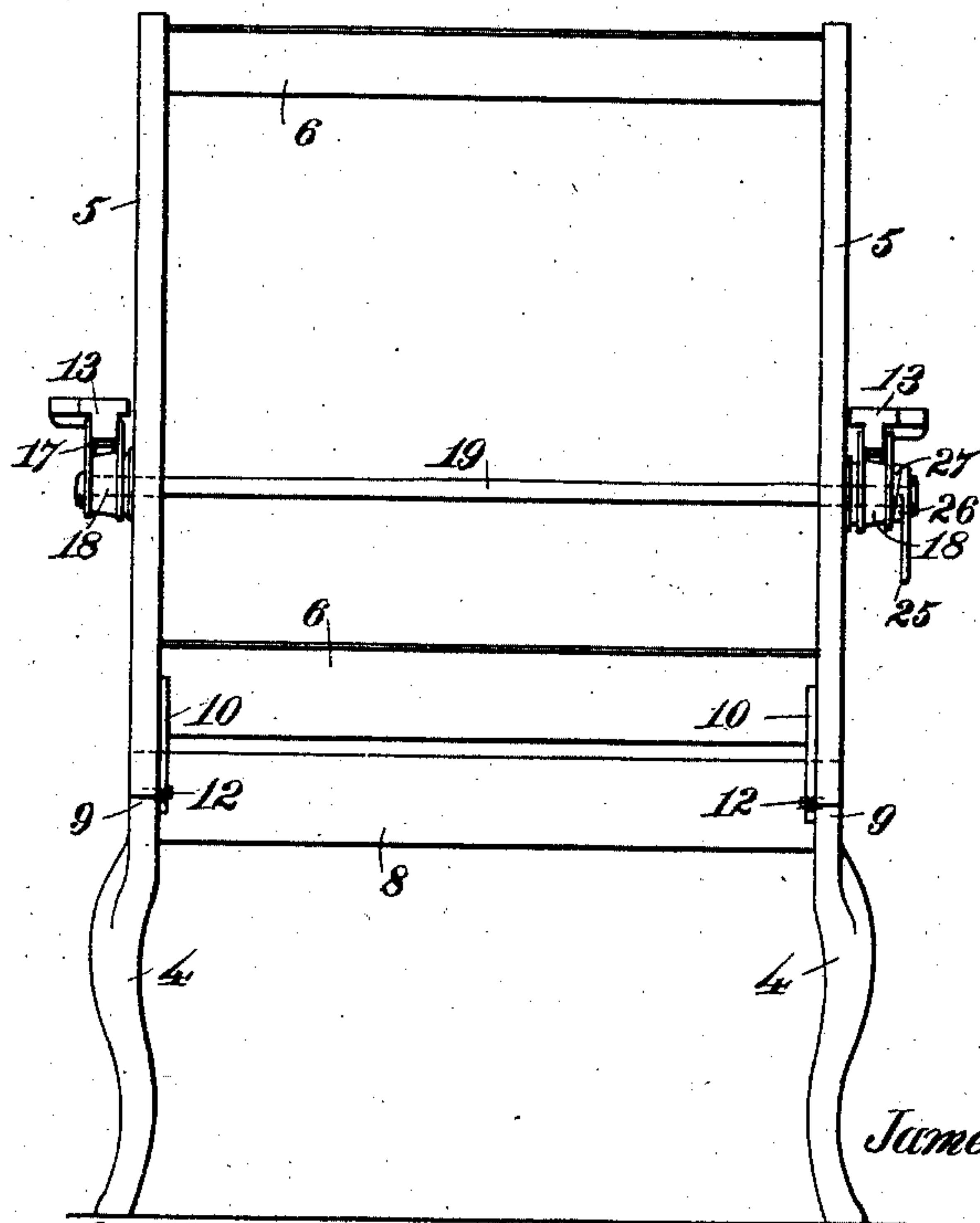


Fig. 2.

Witnesses:

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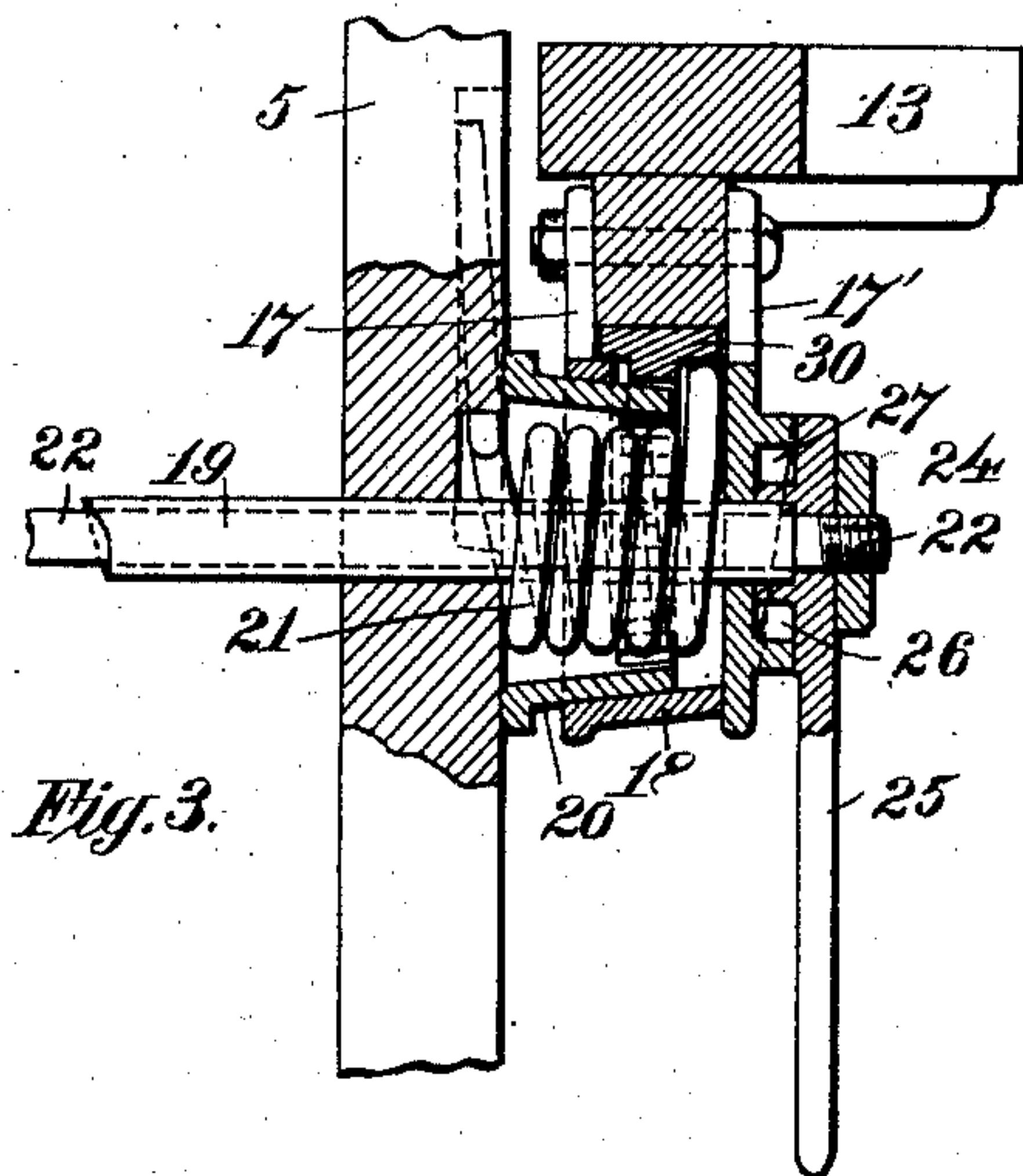


Fig. 3.

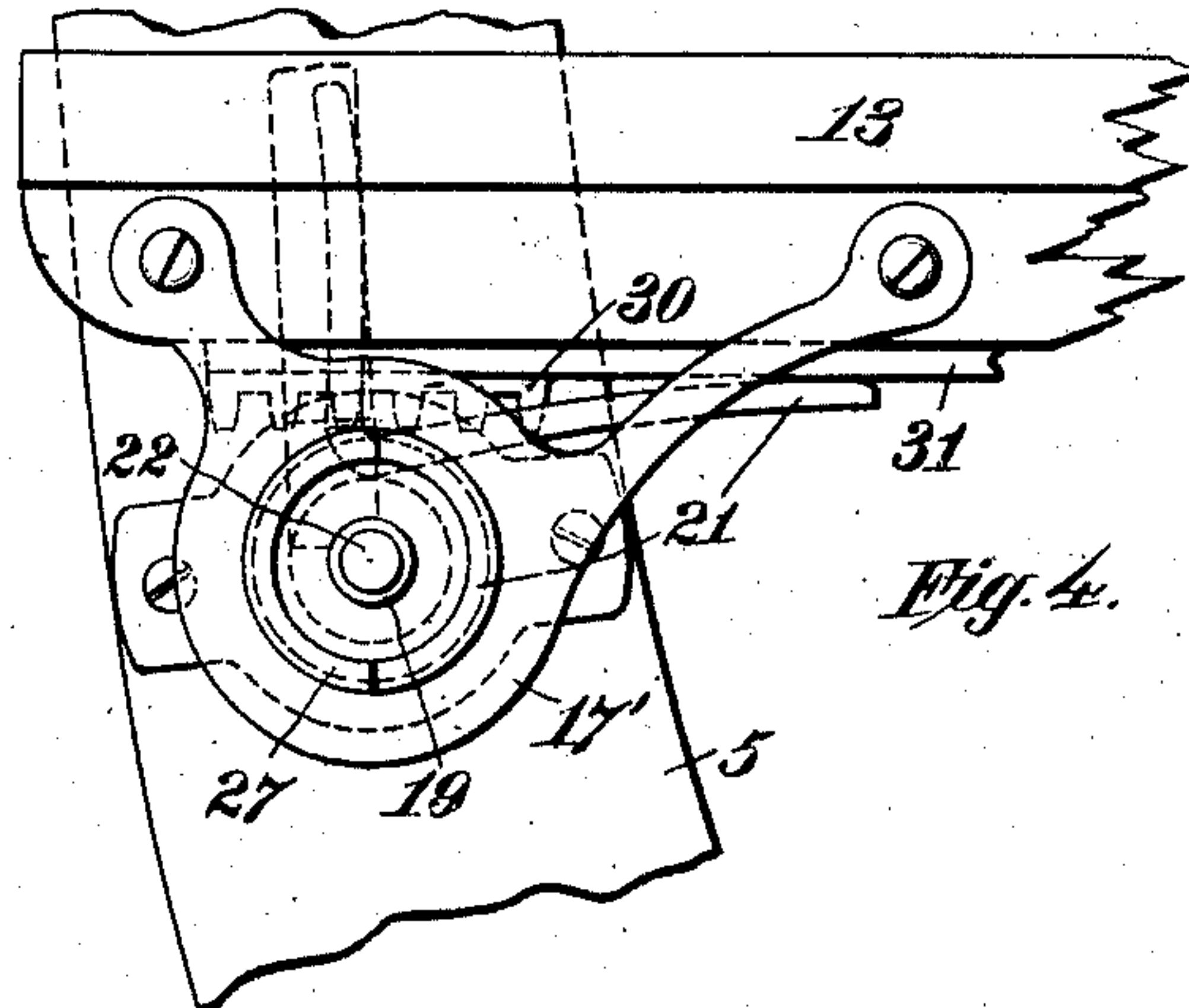


Fig. 4.

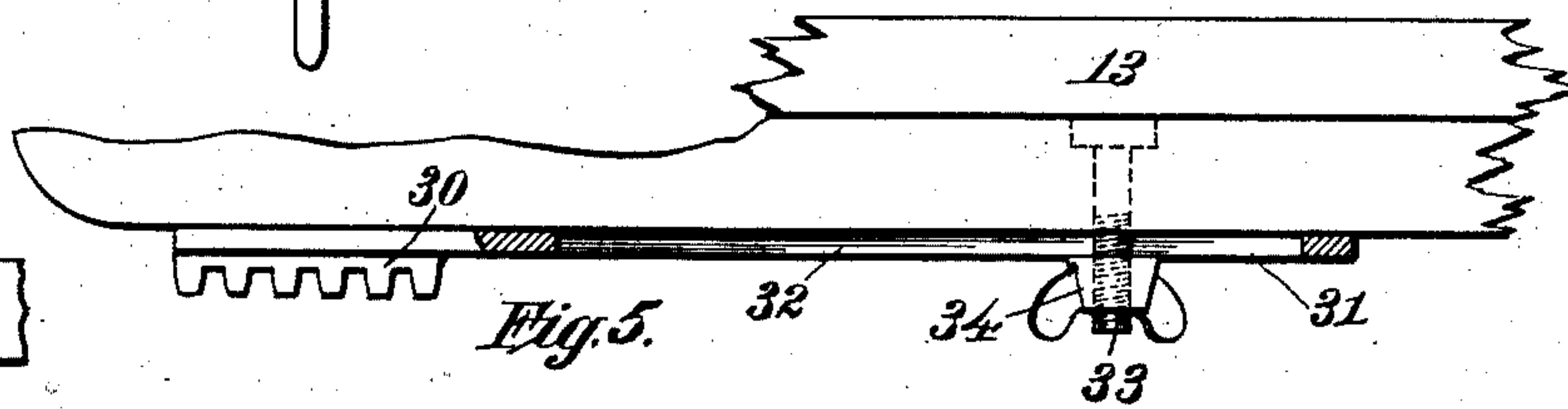


Fig. 5.

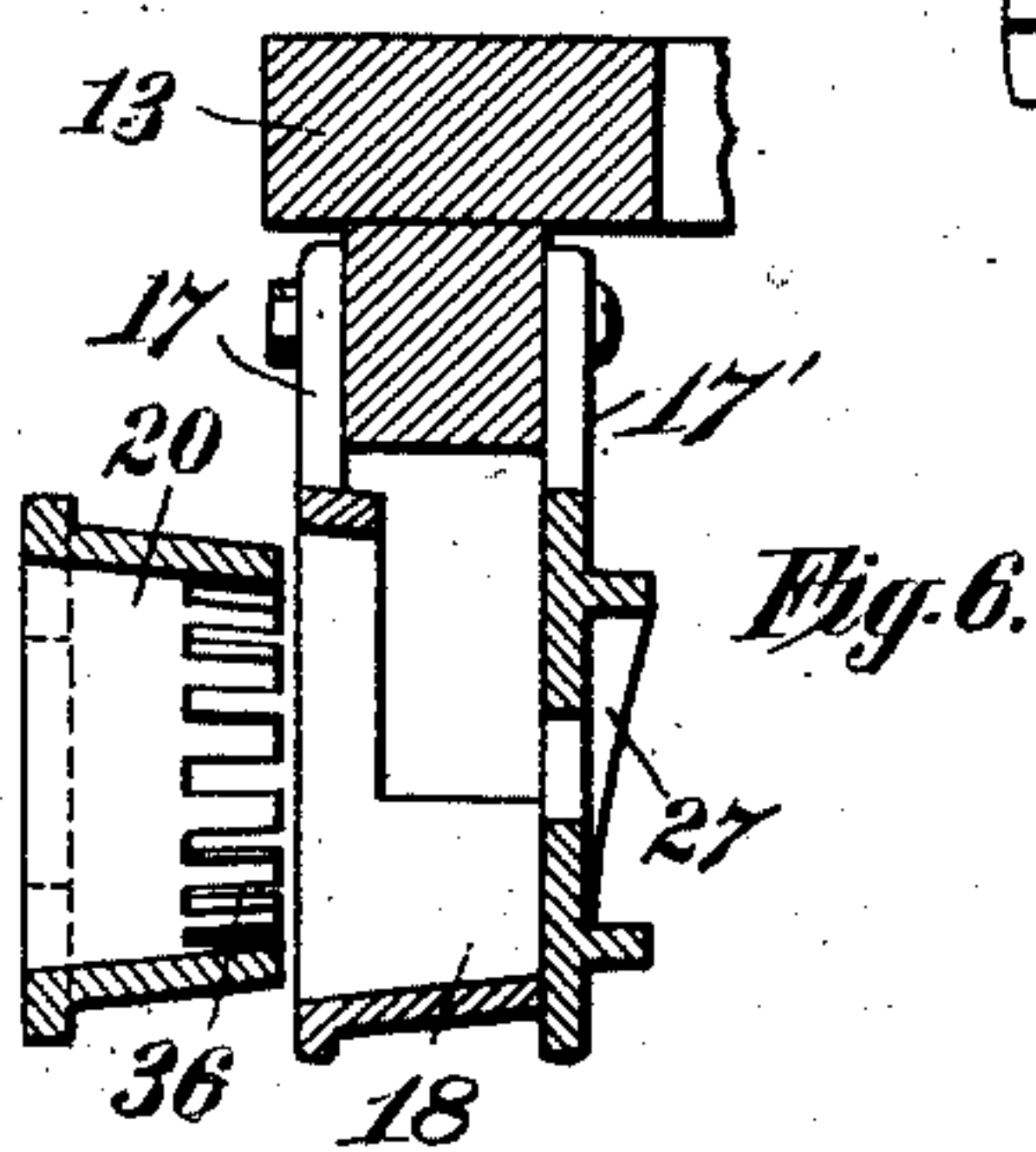


Fig. 6.

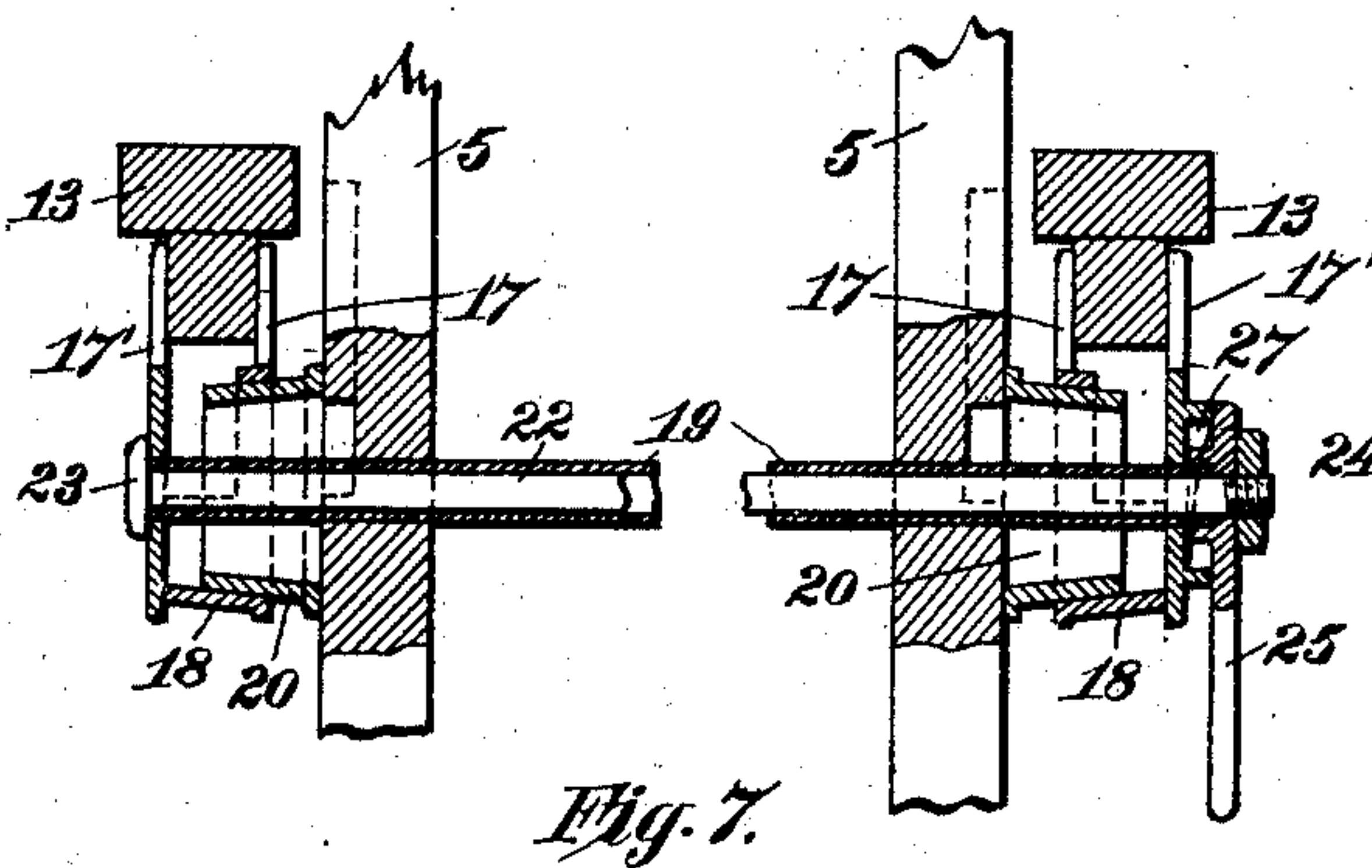


Fig. 7.

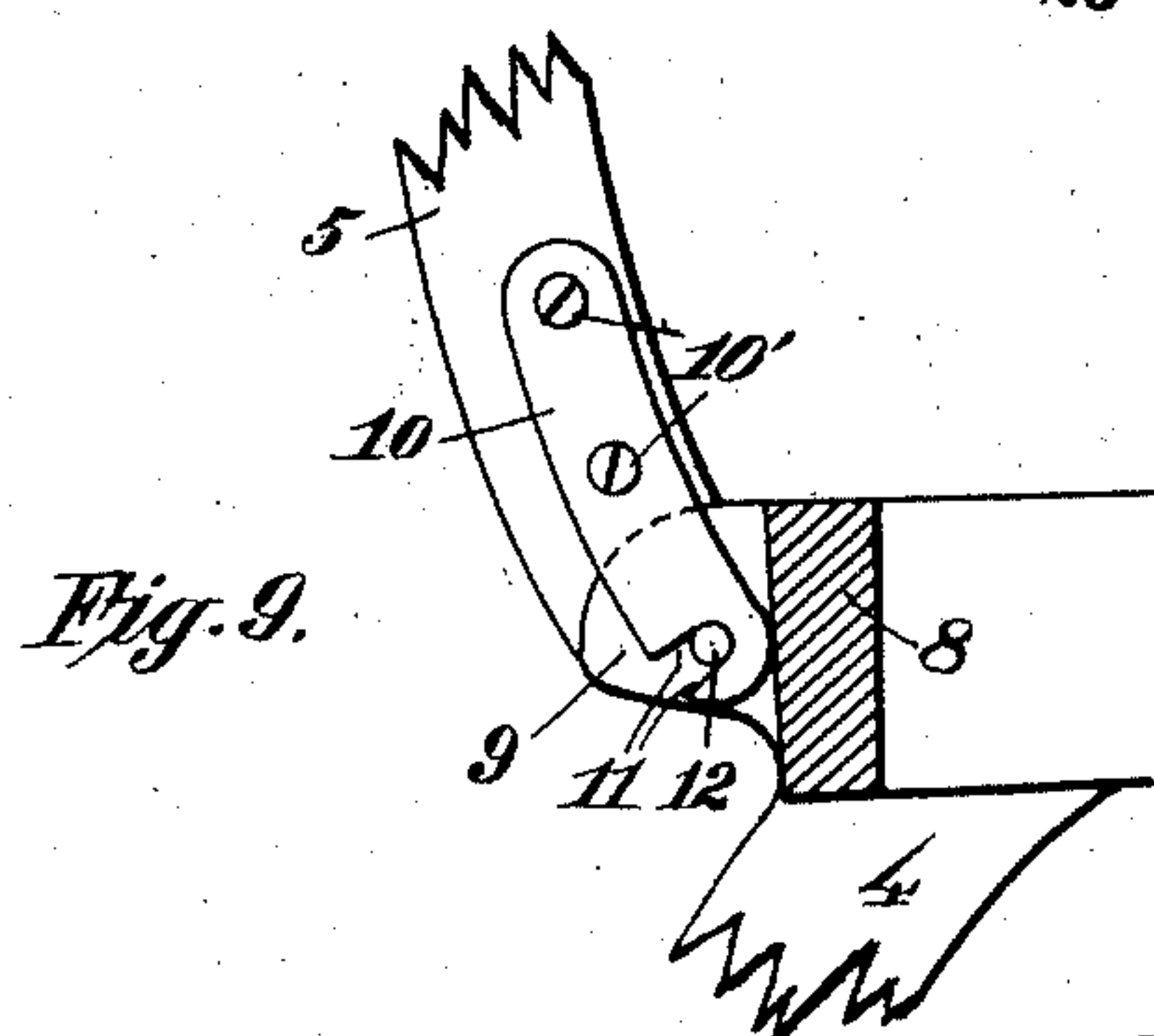


Fig. 9.

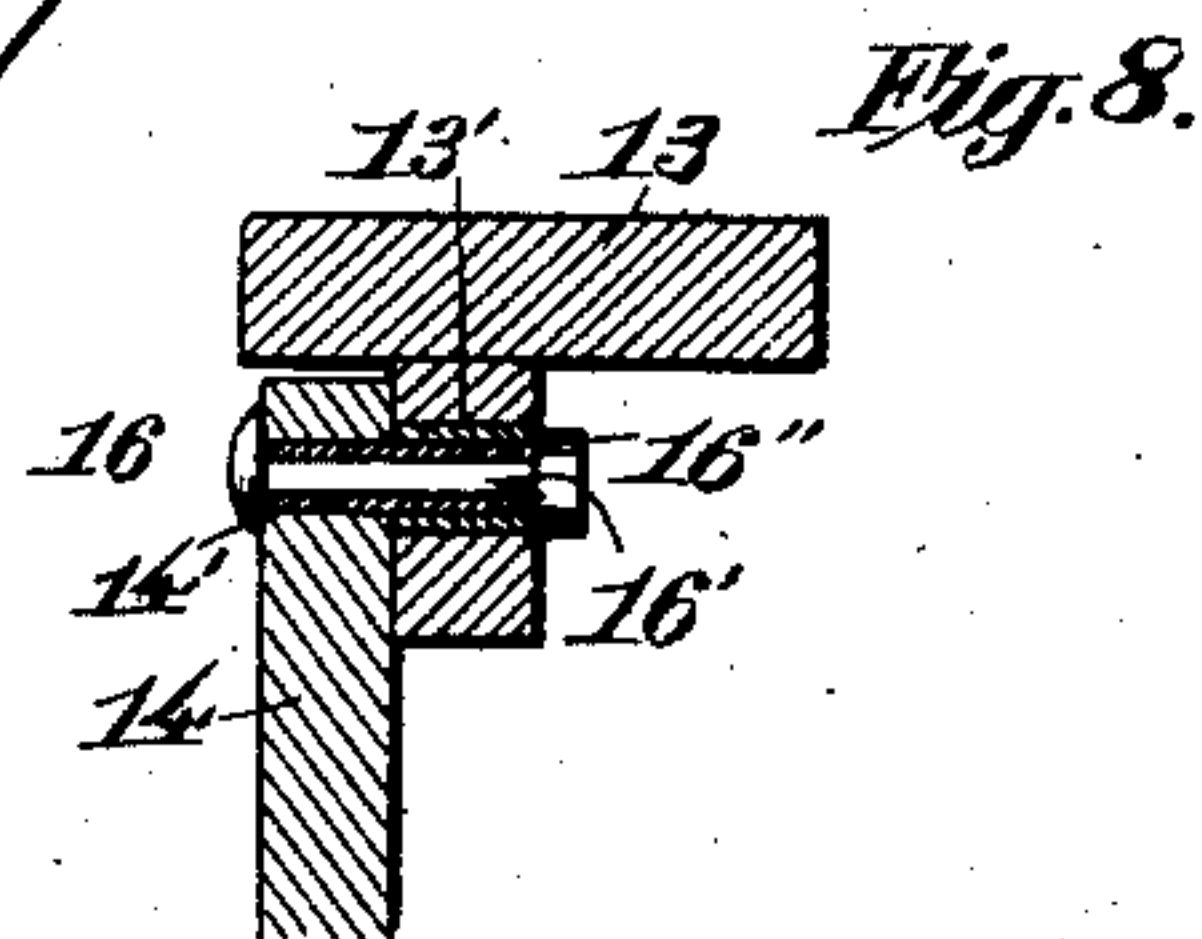


Fig. 8.

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UNITED STATES PATENT OFFICE.

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No. 883,446.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed May 27, 1907. Serial No. 375,780.

To all whom it may concern:

Be it known that I, JAMES H. BROWNELL, a citizen of the United States, residing at 1182 South Lawndale avenue, in the city of Chicago, county of Cook, and State of Illinois, have invented certain useful Improvements in Chairs, of which the following is a specification.

My invention relates to chairs and has particular reference to adjustable, reclining chairs, that is chairs in which the back may be fixed at any desired inclination.

The object of my invention is to provide a reclining chair the back of which may be readily adjusted to any desired inclination by the occupant while in the chair.

A further object is to provide a chair as mentioned in which the back will not fall backward when the parts are unlocked, and a still further object is to provide a chair having the characteristics mentioned which shall be neat and sightly, and which shall be strong and durable, and not likely to get out of order.

A further object is to provide a reclining chair as mentioned, from which the back and arms may be readily and quickly detached without the use of tools, for the purpose of moving or storing the same.

Further objects will appear hereinafter.

My invention consists generally in the chair illustrated in the drawings and in the various details of construction and arrangements of parts all as is hereinafter fully described and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which:—

Figure 1 is a side elevation of a chair embodying my invention in its preferred form, the back being shown in a reclining position in dotted lines. Fig. 2. is a rear elevation of the chair. Fig. 3. is a detail section upon the line 4—4 of Fig. 1, the same being shown upon an enlarged scale. Fig. 4 is a side elevation of the subject matter of Fig. 3, the locking handle being removed. Fig. 5 is a detail portion of an arm, showing an auxiliary locking device. Fig. 6 is a detail view of the conical pivot and locking members, taken upon substantially the same line as Fig. 3, the members being disassembled. Fig. 7 is a detail section through the pivot

and locking members of both sides of the chair, the same being shown upon a slightly reduced scale. Fig. 8 is a detail sectional view, illustrating the pivotal connection between the horizontal and vertical members of the arms, Fig. 9 is a detail view of the connection between the back and frame.

Referring to the drawings, 1 indicates the seat of the chair supported upon a suitable frame, 2, and legs, 3, and 4. The legs may be of any preferred construction, but I prefer to arrange the rear legs, 4, so that the back may be pivoted between them. The back comprises a pair of side frame members, 5, suitably connected and spaced apart by a plurality of cross members, 6, forming a rigid frame to receive and support the back cushion, 7. As before stated the back is preferably pivoted upon or rather between the rear legs. To this end the legs, 4 extend beyond the back rail, 8 of the frame, as at 9, and it is to these projecting portions that I pivot the back. The projecting portions, 9, are rounded as shown, for about 90 degrees and the lower ends of the members, 5, are shaped to conform thereto. The faces of the members, 5, and the projections, 9 are flush, giving a neat appearance to this part of the chair. To attach the back to the frame, I provide a metal plate upon the lower end of each member, 5, which overhangs the respective projections, 9 and engages a pivot pin thereon.

10 indicates the plate. This is attached to the side member, 5 as by screws, 10'. The lower end of the plate is provided with a notch, 11, which receives the pivot pin, 12. The pivot pin, 12 is arranged at the center of the rounded portion of the projection, 9, hence the back swings freely, the connection forming a neat knuckle joint. The back rail, 8, prevents the back from being accidentally disconnected from the chair. However, when the back is turned far enough for the ends of the members, 5 to pass beyond the rounded or joint portion of the projections, 9 it is readily lifted off.

With the construction just described, it is obvious that the back may be swung freely upon the pivot, 12. To support the back, I pivotally connect the arms therewith, and provide suitable means between said arms and back, whereby the latter is normally held in vertical position: Each arm of the chair consists of two parts, a horizontal part,

13 and a vertical part, 14. The rear end of the portion, 13 is pivoted to the back of the chair in a manner to be described hereinafter, and the lower end of the portion, 14 is
 5 connected to the chair frame by a hinge, 15, the two members being pivotally connected as at 16. The connection, 16 between the arm members is so constructed as to form a non binding joint, which will not work loose
 10 with usage. To this end I provide the member, 13 with a metal bushing, 13' to receive the pivot pin which is attached to the member, 14. The pivot pin comprises a tube, 14' of slightly greater length than the combined
 15 thickness of the members, 13 and 14, and secured in the member, 14. A bolt, 16' passes through the tube, 14' and the parts are held together by a nut, 16''. As the tube, 14' is slightly longer than the thickness of the
 20 parts, 13 and 14 it is evident that the nut 16'' may be tightened upon the end thereof without binding the parts together and that the swinging of the parts has no tendency to loosen the nut.

25 I will now describe the connection between the back and the arm member, 13. Each arm is provided with a bracket having a socket which receives a pivot member secured upon the back of the chair.

30 17 indicates the bracket. This may be of any preferred design, and contains a conical socket portion, 18. The bracket is preferably made in two pieces, 17—17' as shown. The inner piece 17 contains the socket, 18
 35 and the outer piece a bearing for the ends of the tube, 19, which extends from side to side of the chair through the back members, 5. Secured to the members, 5 are conical pivot members, 20 which fit snugly within the
 40 sockets, 18, forming pivotal connections between the arm and the back.

21 indicates a coiled spring arranged within the member, 20 and having one end bearing against the under side of the arm, 13 and
 45 the other end arranged in a groove or pocket provided for it in member, 5. The tension of the spring is sufficient to normally raise the back of the chair and hold it in a vertical position.

50 When a person sits in the chair he may press the back as far backward as he desires and then lock the same against further movement. To this end I provide the novel locking device shown in the drawings and which
 55 I will now describe. Extending through the tube, 19 is a tension rod or bolt, 22 having a burr or head, 23, which engages the bracket, 17, upon one arm of the chair. Secured upon the other end of the rod, as by a nut,
 60 24, is a lever, 25, which carries a cam, 26. The cam, 26 engages a similar cam, 27 formed upon the bracket, 17'. When the lever, 25 is turned, the cams, 26 and 27, draw the bracket, 17 upon the arms, firmly upon the
 65 conical members 20, locking the same against

relative rotation, and in this manner locks the back.

Sometimes when the back is swung backward to almost a horizontal position, additional locking means may be needed. This
 70 will be understood by reference to Figs. 4, 5, 6 and 7 of the drawings. 30 indicates a rack bar slidably arranged upon the under sides of the arm, 13 and provided with an extension 31, having a slot, 32. A bolt, 33, secured in the arm of the chair passes through
 75 the slot, 32 and is equipped with a thumb nut, 34. The rack, 30 lies between the bracket members 17—17' and meshes with teeth 36 formed upon the pivot, 20. As the
 80 member, 20 rotates within the socket, it is evident that the bar 30 will be moved longitudinally of the arm, 13. When the back is in the desired position, the thumb nut, 34 is tightened, locking the bar, 30 against further
 85 movement. This locks the member 20 against rotation and thus securely holds the back in position.

What I claim as new is:

1. In a device of the class described, a
 90 seat, and a frame supporting the same, in combination with a back pivoted upon said frame, arms pivoted at their forward ends to said frame, and pivotal connections between
 95 each said arm and said back, comprising a conical member, and a spring arranged within said conical member, and having its ends bearing against said arm and said back respectively to normally hold said back in vertical
 100 position and cause the same to offer yielding resistance to the weight of the occupant of the chair, substantially as described.

2. In a device of the class described, a
 105 seat, and a frame supporting the same, in combination with a back pivoted upon said frame, arms pivoted at their forward ends to said frame, and pivotal connection between
 110 each said arm and said back, comprising a conical member attached to said back and similar socket member upon said arm adapted to receive said conical member, and a spring, arranged within said conical member
 115 and having its ends bearing against said arm and said back respectively to normally hold said back in vertical position, and cause the same to offer yielding resistance to the weight of the occupant of the chair and means for locking said members whereby the back may
 120 be held at any inclination, substantially as described.

3. In a device of the class described, a
 125 seat, and a frame supporting the same, in combination with a back pivoted upon said frame, arms pivoted at their forward end to said frame, and pivotal connection with each
 130 said arm and said back, comprising a conical member attached to said back and a similar socket member upon said arm, a spring arranged within said pivotal connection for normally holding said back in vertical posi-

tion and a cam lever adapted to bind said members upon each other to lock the back at any inclination, substantially as described.

4. In a device of the class described, a seat, and a frame supporting the same, in combination with a back pivoted upon said frame, arms pivoted at their forward ends to said frame and pivotal connections between each said arm and said back, comprising a conical member attached to said back and similar socket member upon said arm, a cam lever adapted to bind said members upon each other, to lock the back at any inclination, teeth upon said conical member, a rack bar in mesh with said teeth and arranged to slide longitudinally of said arm and means for locking said rack bar against longitudinal movement, substantially as described.

5. In a device of the class described, a seat, and a frame supporting the same, in combination with a back pivoted upon said frame, arms pivoted at their forward ends to said frame, a pivotal connection between each said arm and said back, comprising a conical member attached to said back and similar socket member upon said arm adapted to receive said conical member, a spring arranged within said conical member and having its end bearing against said arm and back respectively to yieldingly hold said back in vertical position, a cam lever adapted to bind said members upon each other to lock the back at any desired inclination, substantially as described.

6. In a device of the class described, a seat, and a frame supporting the same, in combination with a back pivoted upon said frame, arms pivoted at their forward ends to said frame, a pivotal connection between each said arm and the back comprising a conical member attached to said back and similar socket member upon said arm, a spring arranged within said conical member and having its end bearing against said arm and back to yieldingly hold said back in vertical position, a cam lever adapted to bind said members upon each other to lock the back at any desired inclination, and an auxiliary locking device, substantially as described.

7. In a device of the class described, a seat and a frame supporting the same, in combination with a back pivoted upon said frame, arms pivoted at their forward ends to said frame and pivotal connection with each said arm and said back, comprising a conical member attached to said back and similar socket member upon said arm, a cam lever adapted to bind said members upon each other to lock the back at any inclination,

teeth upon said conical members, a rack bar in mesh with said teeth and arranged to slide longitudinally of said arm and means for locking said rack bar against longitudinal movement, substantially as described.

8. In a device of the class described, a seat, and frame supporting the same, in combination with a back, pivotally connected to said frame, arms hinged to said frame, brackets upon said arms, and having conical sockets, conical members upon said back, and arranged within said pocket, a tube, arranged upon said back and having bearings in said bracket, and means for normally maintaining the back in upright position substantially as described.

9. In a device of the class described, a seat, and frame supporting the same, in combination with a back pivotally connected to said frame, arms hinged to said frame, brackets upon said arms, and having conical sockets, conical members upon said back and arranged within said socket, a tube arranged within said back and having bearings in said bracket, and means for normally holding said back in vertical position, substantially as described.

10. In a device of the class described, a seat and a frame supporting the same, in combination with a back pivotally connected to said frame, arms hinged to said frame, brackets upon said arms, and having conical members, conical members upon said back and arranged within said socket a tube arranged upon said back and having bearings in said brackets, means for yieldingly holding said back in vertical position, and means for locking the back at any inclination substantially as described.

11. In a device of the class described, a seat, and frame supporting the same in combination with a back pivotally connected to said frame, arms hinged to said frame, brackets upon said arms and having conical sockets, conical members upon said back and arranged within said sockets, a tube arranged upon said back, and having bearings in said bracket a spring arranged within said conical members and about said tube and adapted to yieldingly hold said back in vertical position, and means for locking said back at any inclination, substantially as described.

In testimony whereof, I have hereunto set my hand this 23rd day of May, 1907, in the presence of two subscribing witnesses.

JAMES H. BROWNELL.

Witnesses:

FRANCES E. SHEEHY,
H. S. AUSTIN.