

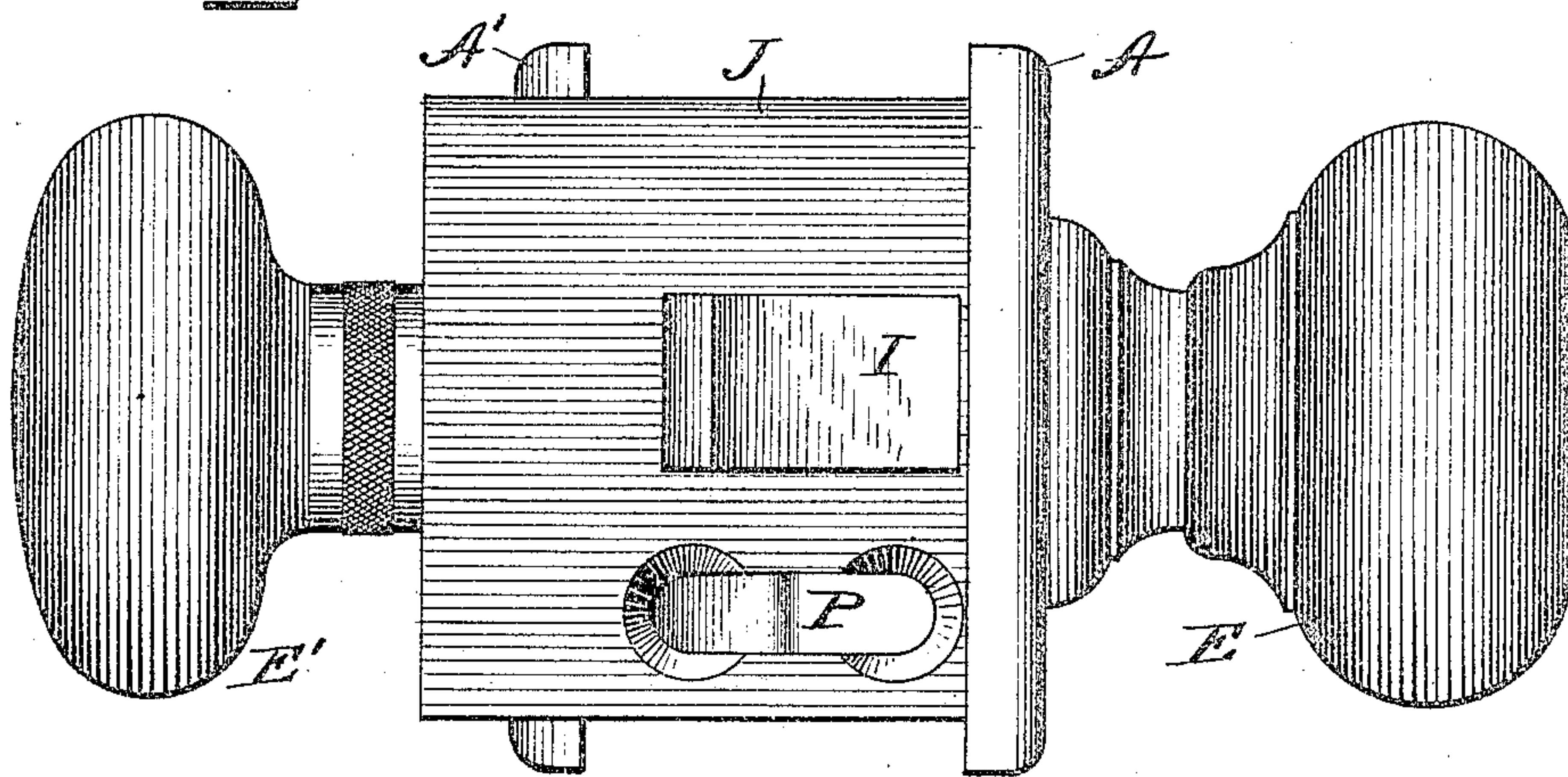
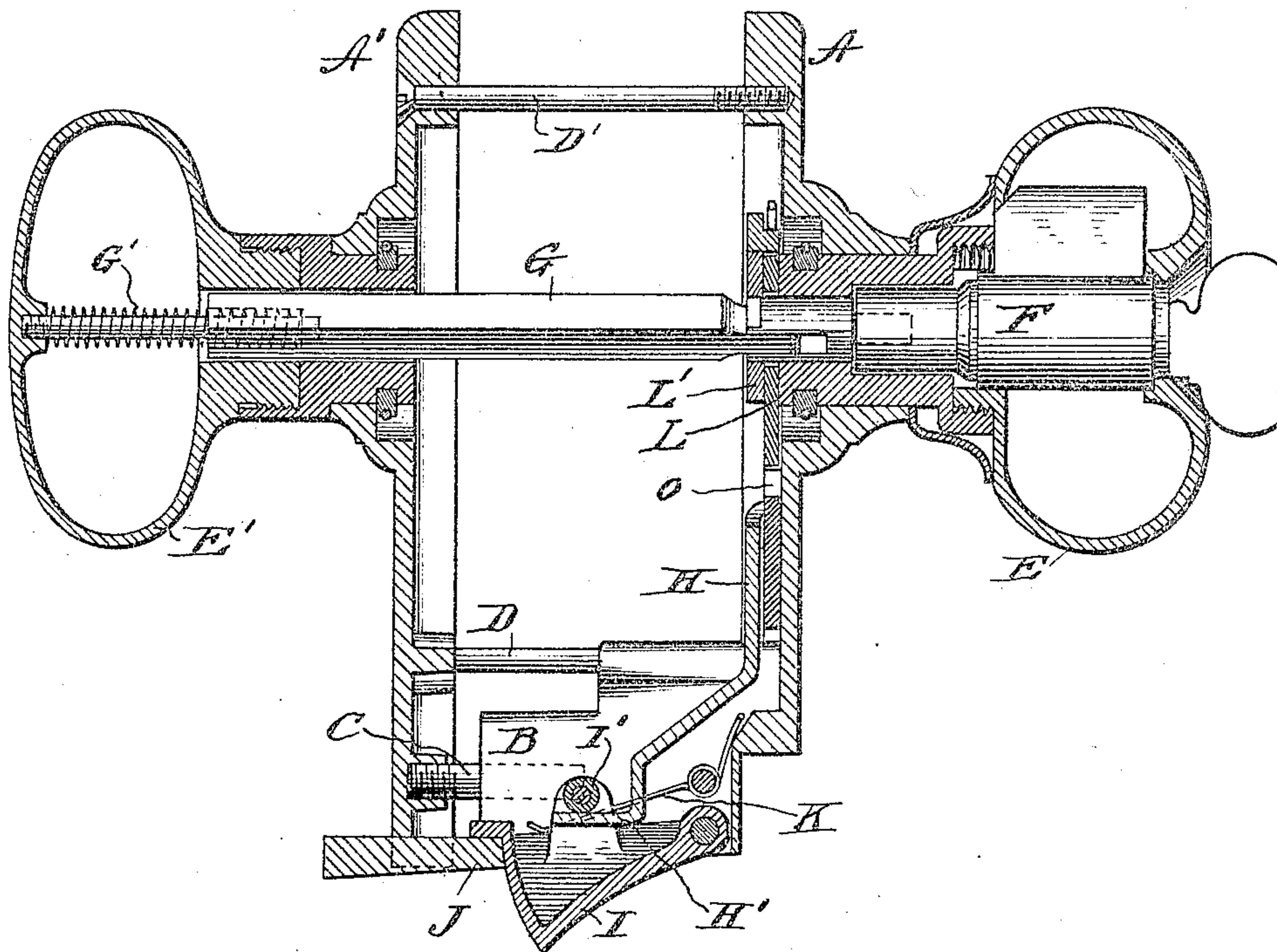
No. 790,936.

PATENTED MAY 30, 1905.

H. G. VOIGHT.
LOCK AND LATCH.

APPLICATION FILED OCT. 29, 1904.

2 SHEETS—SHEET 1.



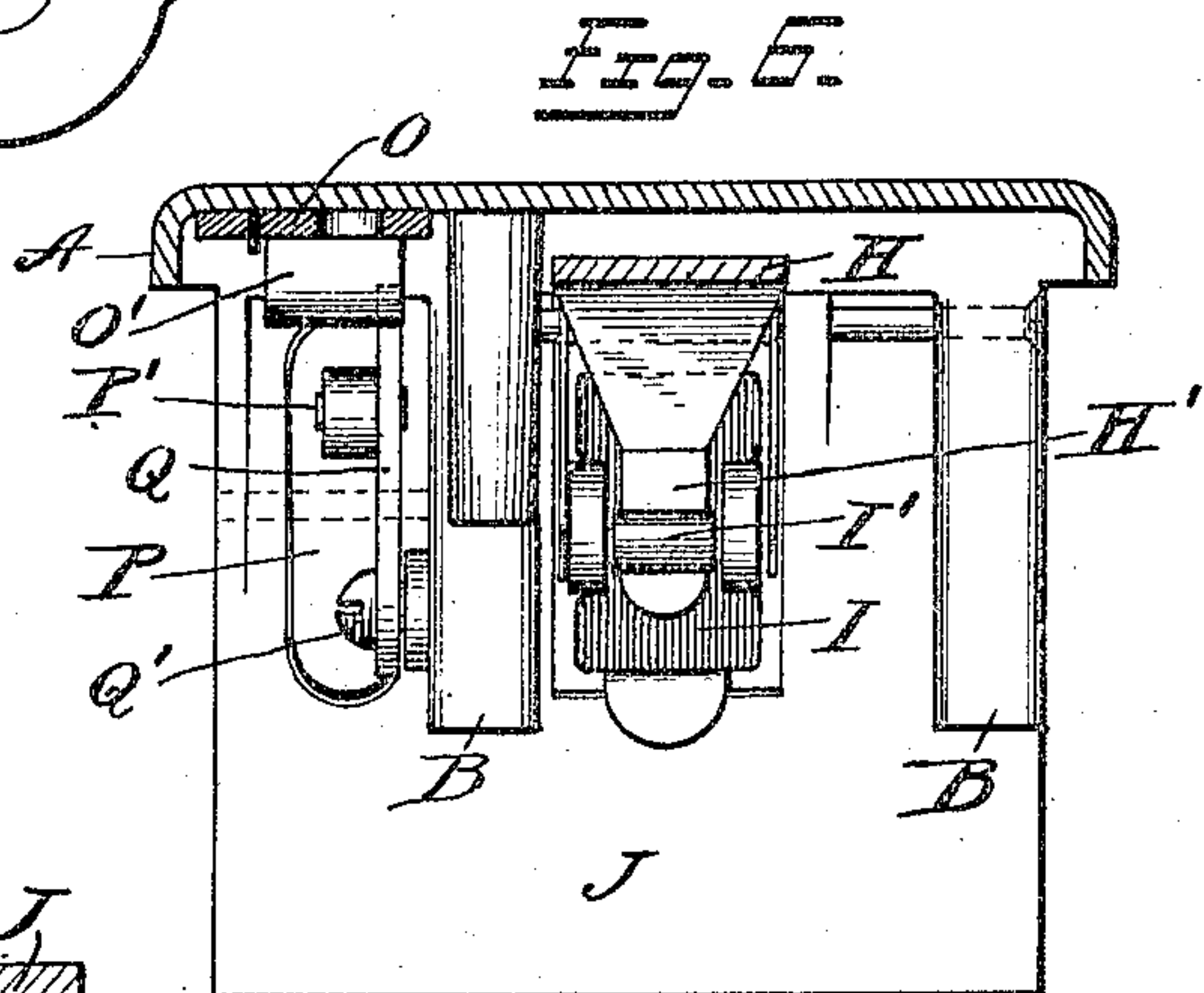
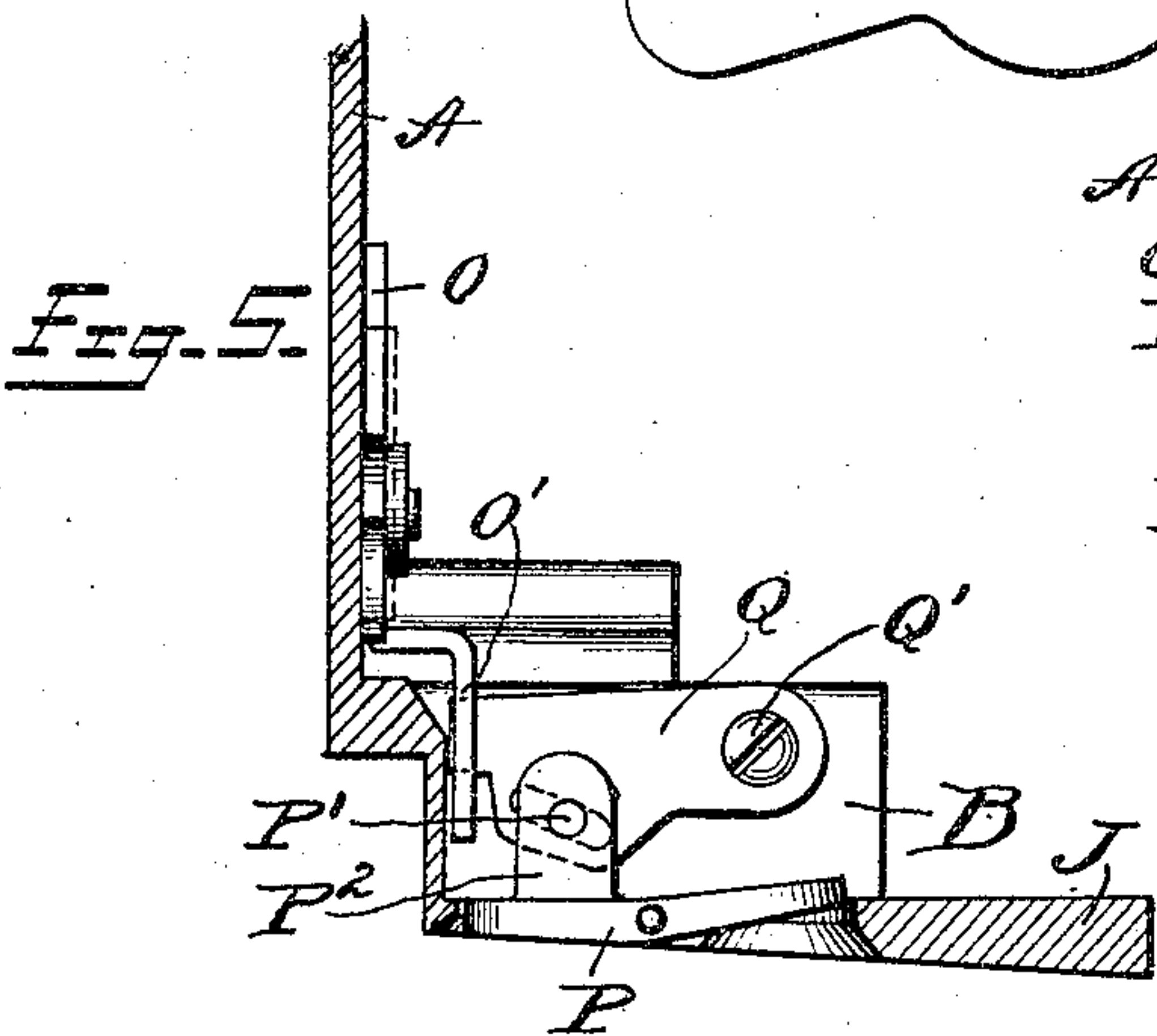
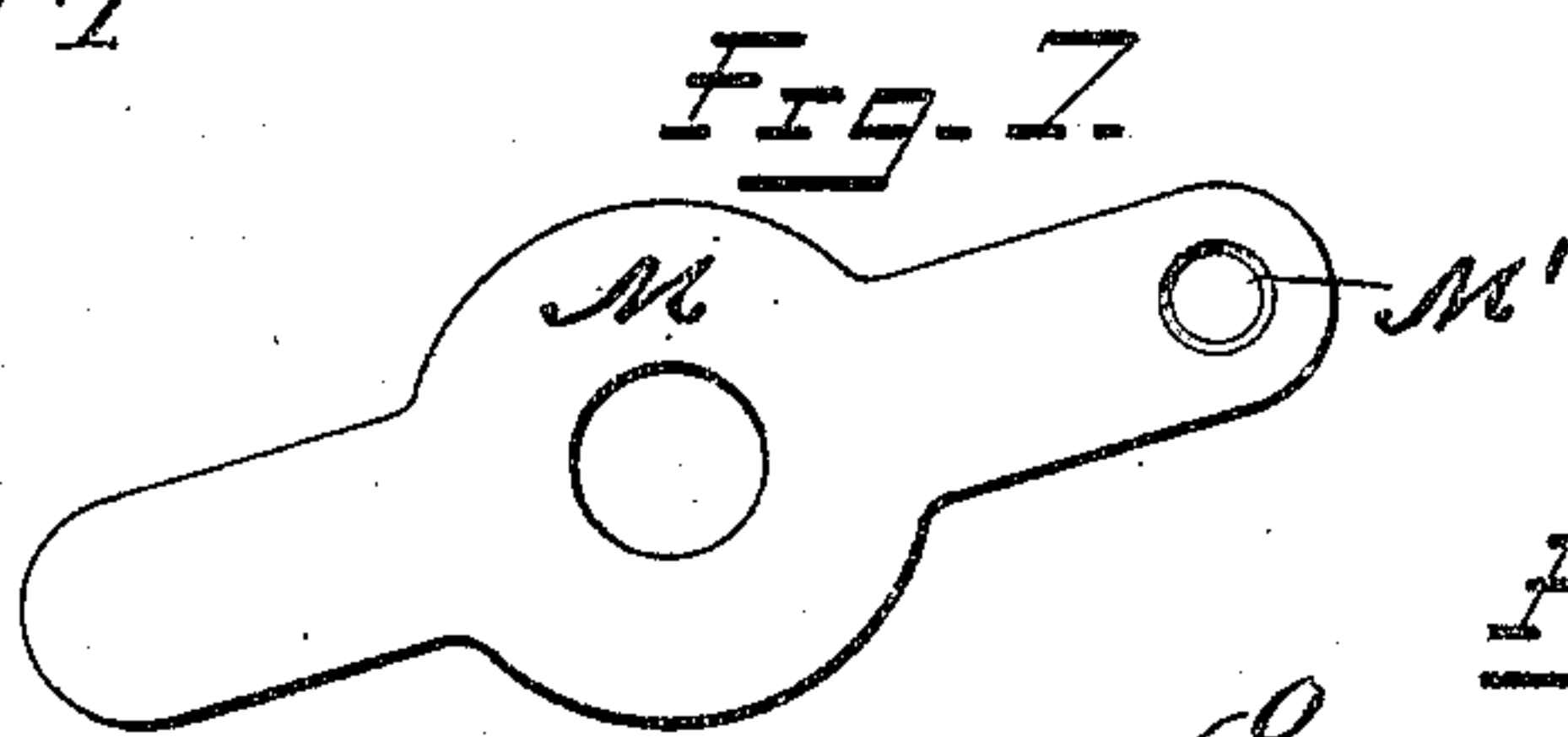
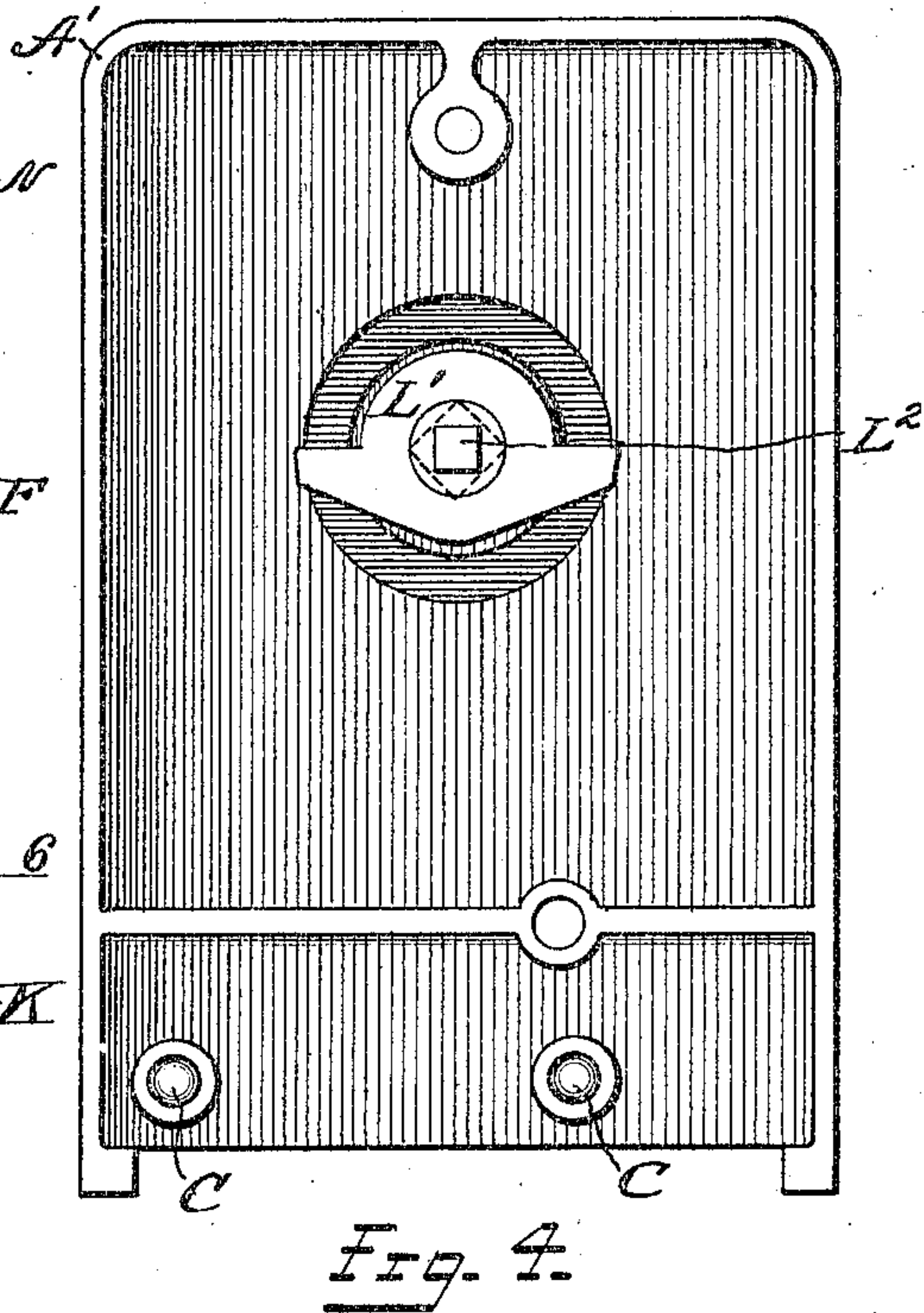
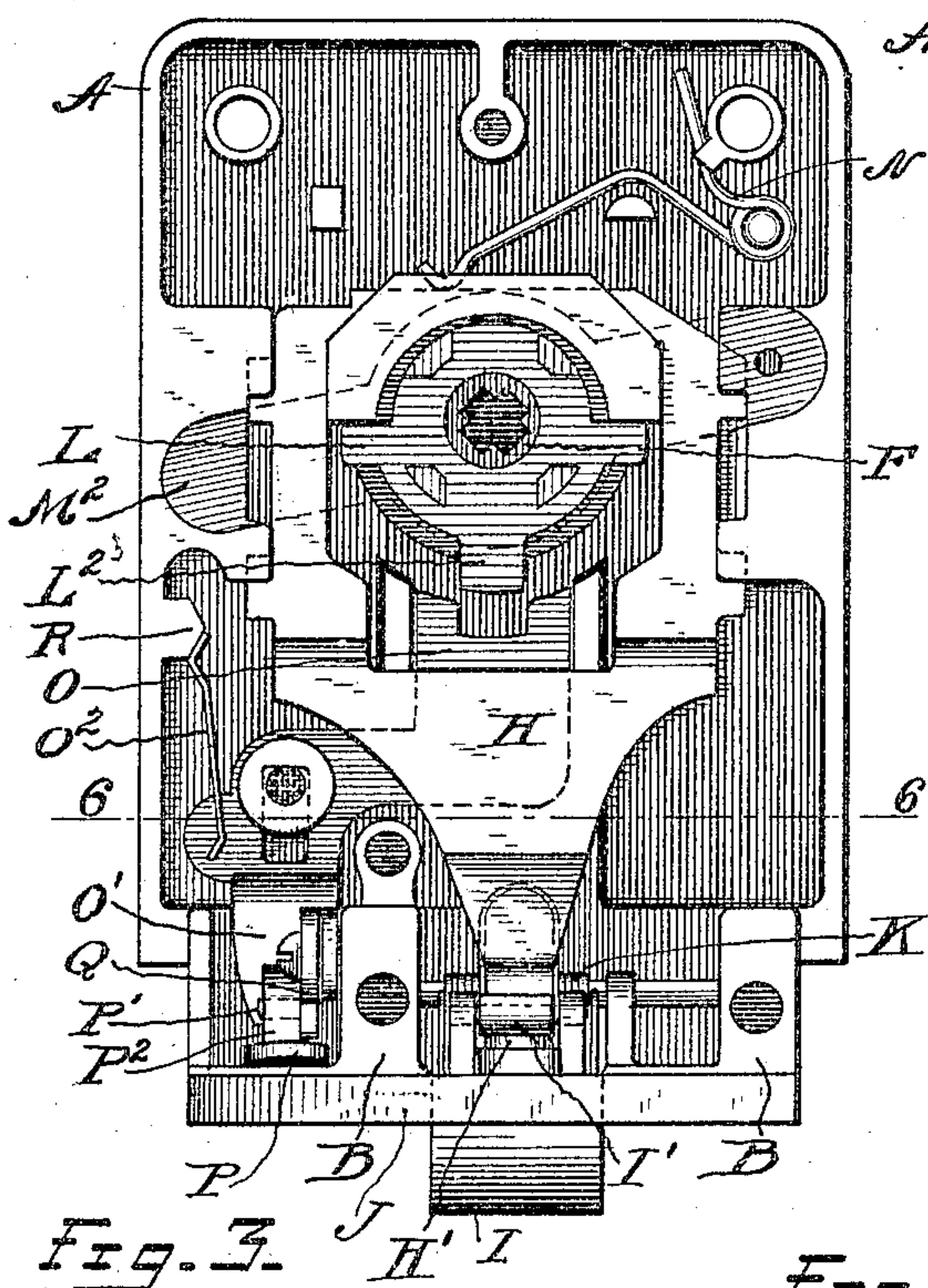
Witnesses
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

HENRY G. VOIGHT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO
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LOCK AND LATCH.

SPECIFICATION forming part of Letters Patent No. 790,936, dated May 30, 1905.

Application filed October 29, 1904. Serial No. 230,458.

To all whom it may concern:

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Locks and Latches, of which the following is a full, clear, and exact description.

My invention relates to certain new and useful improvements in locks, particularly of the type referred to in my former patent, No. 757,529, of April 19, 1904.

In the accompanying drawings, Figure 1 is a horizontal sectional view of the lock assembled. Fig. 2 is an end view. Fig. 3 is an inside view of the latch-slide-carrying plate and associated parts. Fig. 4 is an inside view of the opposite plate. Fig. 5 is a fragmentary view, partly in section, of details of construction. Fig. 6 is a cross-section on substantially the plane of the line 6 6, Fig. 3. Fig. 7 is a detailed view of a keeper-plate.

A A' are escutcheon-plates arranged to be clamped against opposite sides of a door. The plate A carries the bearings B B, while the plate A' carries the guide-pins C C. The guide-pins are arranged to enter suitable holes in the bearings B B and when entered serve to steady and hold the plates A A' in parallelism.

D D' are screws which project through the plate A' and take into screw-threaded openings in suitable portions of the plate A. These screws D D' afford a means for drawing the plates A A' toward each other, so as to clamp them securely against opposite sides of the door.

E E' are knobs. As shown, the knob E is the outdoor knob and the knob E' the indoor knob.

F is a key-controlled lock carried by the outdoor knob and arranged to operate upon a spindle G in substantially the manner set forth in my former patent.

H is the latch-slide.

I is the latch, arranged to operate through an end plate or face-plate J, the latter being preferably formed integral with the outdoor plate A. The plate J is arranged to overstand

the edge of the door, and its inner surface toward its free end makes a right angle with the plate A'. The forward edge of the plate A' bears closely against the right-angled face of the end plate J, so that it may be moved to and fro without opening a gap. The guide-pins C serve to hold the plates A A' and end plate J in proper alinement in all the varying adjustments.

I' is an antifriction-roller carried by the latch I and engaged by the hooked end H' of the latch-slide H.

K is an easy spring suitably mounted on the frame of the lock, one end of said spring bearing against the latch I to project it outwardly through the end plate J. The roll-back mechanism by which the slide is operated is specifically described in my former patent; but generally it includes a roll-back L, which has the usual projecting arms arranged to suitably engage the latch-slide H. The roll-back L is carried in notches at the inner end of the shank of the outer knob E, so that when the outer knob is rotated it will, through the medium of said roll-back, retract the slide H and with it the latch bolt or head I. The spindle G is operated directly by the knob E' and engages a second roll-back L'. This roll-back appears in Figs. 1 and 4. The roll-backs L L' rest closely together in the recessed inner wall of the plate A when the parts are assembled. The roll-back L' is provided with a squared hub L², which takes into the hub of the lock F in the outer knob E, so that when the lock-hub is rotated the roll-back L' will be operated. The spindle G preserves its engagement with the roll-back L' in all of the varying adjustments, because of its telescopic connection in the shank of the knob E' and because the spring G' serves to press it forward and into said engagement.

M is a keeper-plate preferably formed of spring material and hinged at one end M' to the inner side of the plate A. This keeper-plate M has a central bore to allow for the passage of the spindle G, while its free end normally rests in the notch M² in the inner side of the plate A, whereby it is retained in its operative position. The function of the

keeper-plate M is to hold the roll-backs L L' in their operative position before the lock is assembled, as well as afterward, and to that extent it takes the place of the "clip" disclosed in my former patent. In the present construction this keeper-plate may be readily shifted on its pivoted end from its operative position to its non-operative position, and vice versa, without detaching the same. In my former construction it was necessary to detach the keeper-plate, and to accomplish this it was necessary to bend the plate considerably, whereby its bearing-surface might be offset from the roll-backs. By the present arrangement this danger is eliminated and the middle portion of the plate always stays up to its work.

As in my former patent, I preferably employ a heavy spring N, which operates directly against the slide H to aid the spring K in restoring the parts to their normal position. On the roll-back L there is a projection L², as in my former case, which is arranged to be engaged or disengaged by a bolt O, slidable in the plate A and manually controlled. In my above-referred-to patent the manual-controlled means for operating this plate comprises a thumb-turn arranged on the face of one of the side plates. In the present invention this bolt O is operated by means of a tilting finger-piece P, hinged on the end plate J and accessible only when the door is opened. In the former case it required considerable movement of the thumb-turn to throw the bolt corresponding to the bolt O. In the present case I have devised connections which give to the bolt O a sufficient longitudinal movement to properly engage with the arm L³ on the roll-back L, while requiring but slight movement on the part of the finger-piece P. This mechanism includes an intermediate lever Q, hinged at Q' to one of the bearings B. The free end of this intermediate lever Q engages in a notch or opening in the offset portion O' of the bolt O, so that when the lever Q is moved in or out it will impart corresponding movement to the bolt O. To effect this movement of the lever Q, I make a connection between the thumb-piece P and said lever at a point intermediate the ends of said lever, whereby slight movement on the part of the thumb-piece P will be increased in the throw of the free end of said lever. In the particular form shown this connection comprises an inclined slot in the lever Q, (indicated in dotted lines, Fig. 5,) into which slot a pin P', carried by a rearward extension P² on the thumb-piece P, projects. It will be seen that when the thumb-piece stands in the position indicated in Fig. 5 the bolt O is free from the roll-back L. If the thumb-piece is tilted to the opposite position, the bolt O will be advanced to engage the roll-back L to lock the same against rotation, thereby locking the outer

knob E, whereupon the latch-bolt J can be retracted only by the inner knob E' or a suitable key introduced into the lock F. In the particular form shown the bolt O carries a spring O², the free end of which is arranged to stand on one side or the other of a double incline R, arranged on the plate A, by which means the bolt O will be frictionally held in its locked or unlocked position.

It will be observed that the connection between the plates A A' comprises the guide-pins C C, which same are located so close to the end plate that in applying the lock to a door it is only necessary to saw a very shallow notch in the edge thereof to afford room for said guide-pins and their bearings. The clamping-screws D D' of course are useful in drawing the plates toward each other after the lock is applied to a door; but as a means of positioning said plates relative to one another they are unnecessary. The screws D D' could be entirely removed and still the parts would be properly positioned relative to one another.

The spindle G likewise does not connect the frame-plates directly or indirectly. It is merely a connection between the inner knob and the roll-back L'. In applying the lock to a door it is necessary, in addition to forming the notch already referred to, to bore holes through the door to permit of the free passage of the spindle G and the screws D D'. Of course a deep notch could be formed in the door extending back sufficiently far to clear the screw D'; but it is preferred not to so fit the lock, since such a deep notch might tend to weaken the door to some extent.

In the drawings the face-plate is shown as beveled on its outer surface relatively to a plane arranged at right angles to the plates A A'. This bevel is customary in certain doors, although in others it is immaterial. Whether or not the front edge of the plate is beveled is immaterial.

Modifications may be made without departing from the spirit and scope of my invention.

What I claim is—

1. In a lock, two plates arranged to rest on opposite sides of a door, bearings carried by one of said plates, guide-pins carried by the opposite plate and arranged to enter said bearings and adjustably connect said plates, an end plate carried by one of said plates and overstanding the front edge of the door, a latch and latch-operating mechanism.

2. In a lock, two plates arranged to rest on opposite sides of a door, bearings carried by one of said plates, guide-pins carried by the opposite plate and arranged to enter said bearings and adjustably connect said plates, an end plate carried by one of said plates and overstanding the edge of the opposite plate, and a clamping-screw passing through one plate and arranged to engage the other.

3. In a lock, two plates, a knob carried by each of said plates said knobs being independ-

ent, adjustable means of alinement for said plates said adjustable means of alinement being arranged at one end of said plates, an end plate carried by one of said plates and over-
 5 standing the other plate, a latch, latch-operating mechanism carried by one of said plates and means for dogging said latch-operating mechanism to prevent the operation of the same by one of said knobs said dogging mechanism including a finger-piece carried by the
 10 end plate and a stop carried by one of said plates.

4. In a lock, a pair of independent roll-backs, two independent knobs connected to
 15 said roll-backs, a lock-frame comprising a pair of plates adjustable to and fro and positioned relative to each other by connections at one end only, an end plate, a dogging device for one of said roll-backs including a finger-piece
 20 carried by the end plate and a bolt carried by one of the side plates of said frame, and an intermediate lever connection between said finger-piece and said dogging-bolt.

5. In a lock, a pair of independent roll-backs, two independent knobs connected to
 25 said roll-backs, a lock-frame comprising a pair of plates adjustable to and fro and positioned relative to each other by connections at one end only, an end plate, a dogging device for one of said roll-backs including a finger-
 30 piece carried by the end plate and a bolt carried by one of the side plates of said frame, and an intermediate lever connection between said finger-piece and said dogging-bolt said
 35 finger-piece having a pin-and-groove connection with said lever at a point intermediate the ends of the latter.

6. In a latch mechanism, the combination of two side plates adapted to be secured to the

opposite sides of a door, a latch pivotally car- 40
 ried by the outer side plate, a latch-slide movable in a recess at the rear of said outer side plate, a knob supported by said side plate with
 connections for operating said slide, a roller
 45 carried by said latch, a spring for pressing against said latch, said latch-slide having an inwardly-extending portion offset to clear said spring and the pivot for said latch, and extending beneath said roller for the purpose
 50 specified.

7. In a lock, a side plate, a recess in the inner side thereof, a latch-slide mounted to reciprocate in said recess, a second side plate
 arranged to cooperate with the first-mentioned
 55 side plate, a knob carried by each of said plates, two independent roll-backs carried by one of said side plates and arranged to engage
 said slide and a keeper-plate overstanding said slide and roll-backs, a pivotal bearing for said
 60 keeper-plate at one end thereof and arranged to permit said keeper-plate to be shifted out of its operative position and in the same plane with its supporting member.

8. In a lock, a side plate hollowed out on its inner surface, a slide carried thereby and ar- 65
 ranged to reciprocate therein, a roll-back carried thereby and arranged to cooperate with said slide, a keeper-plate pivoted to said side plate on the inner surface thereof and arranged
 70 to move about said pivot in the same plane with said plate.

Signed at New Britain, Connecticut, this 27th day of October, 1904.

HENRY G. VOIGHT.

Witnesses:

G. E. ROOT,
 L. B. MALLORY.