

No. 692,068.

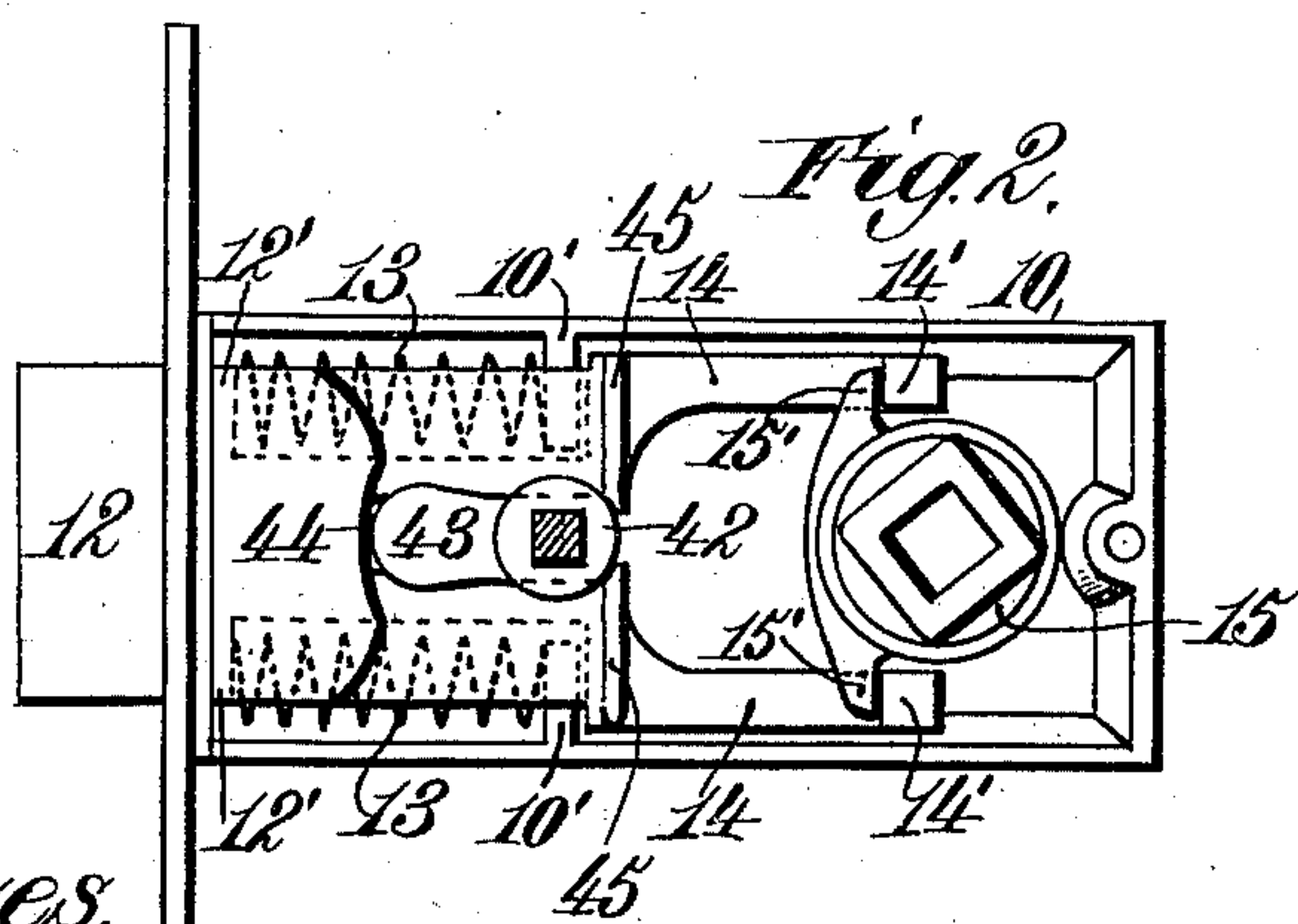
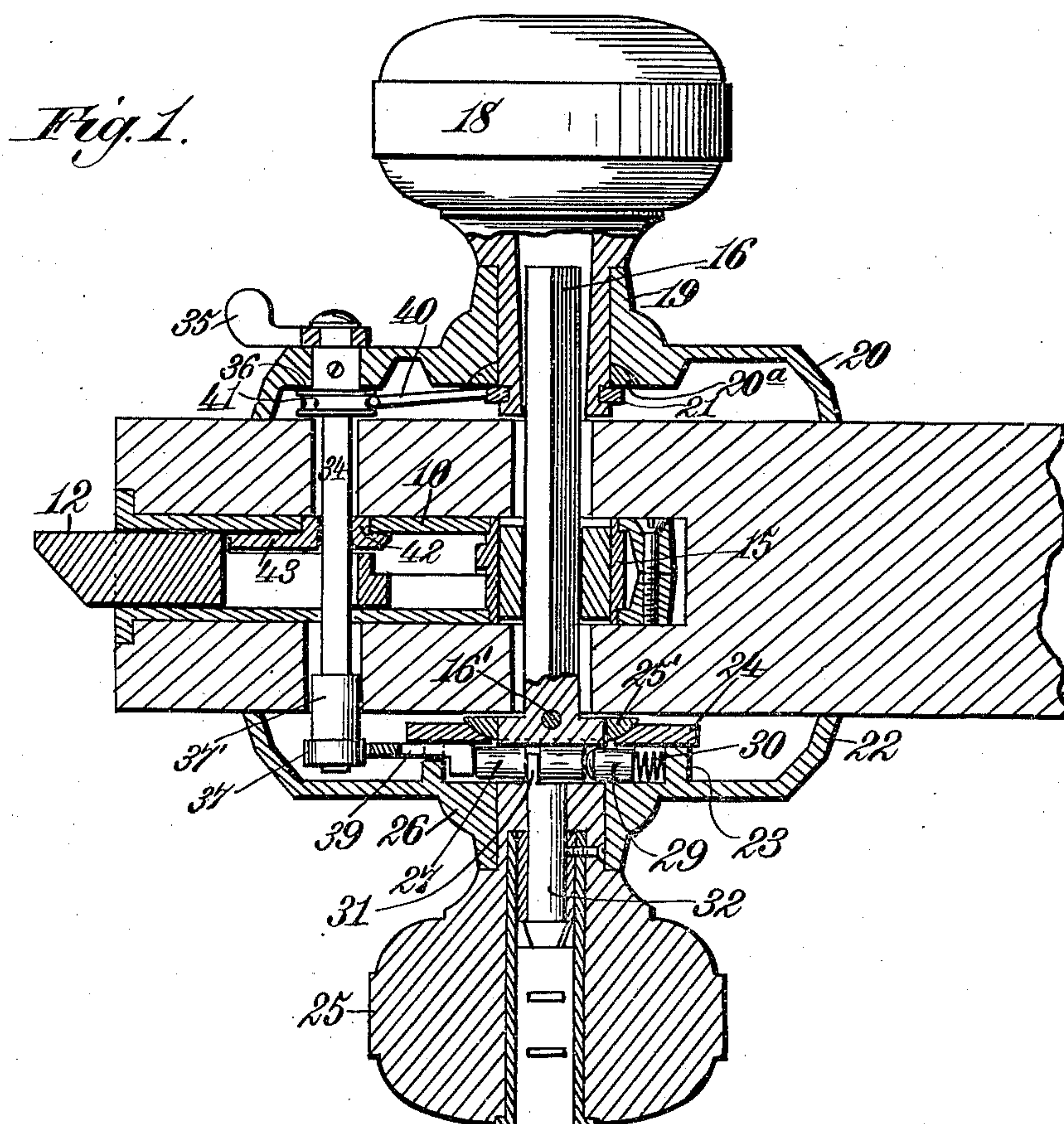
Patented Jan. 28, 1902.

M. C. PATRICK.
COMBINED LOCK AND LATCH.

(Application filed June 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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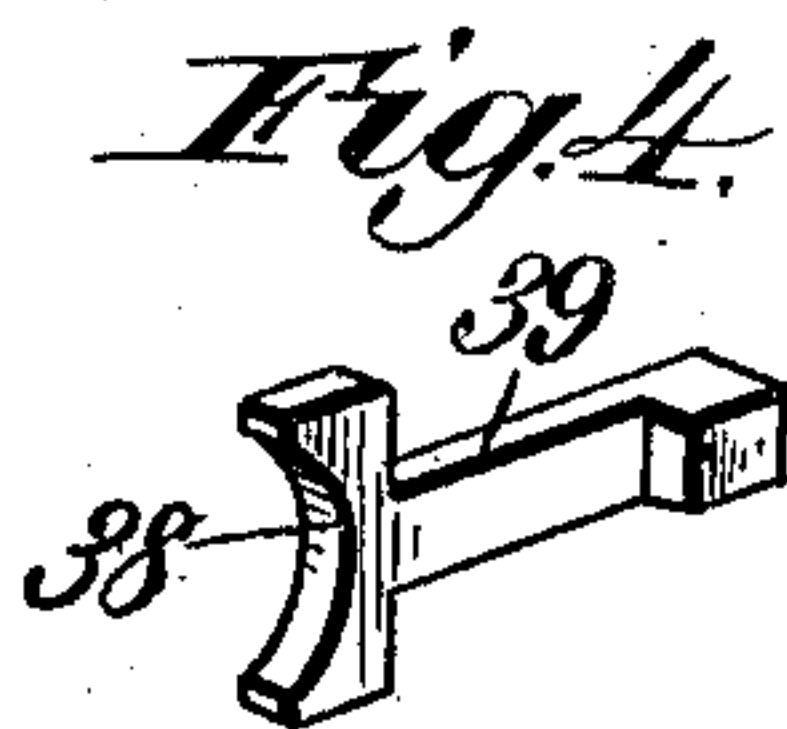
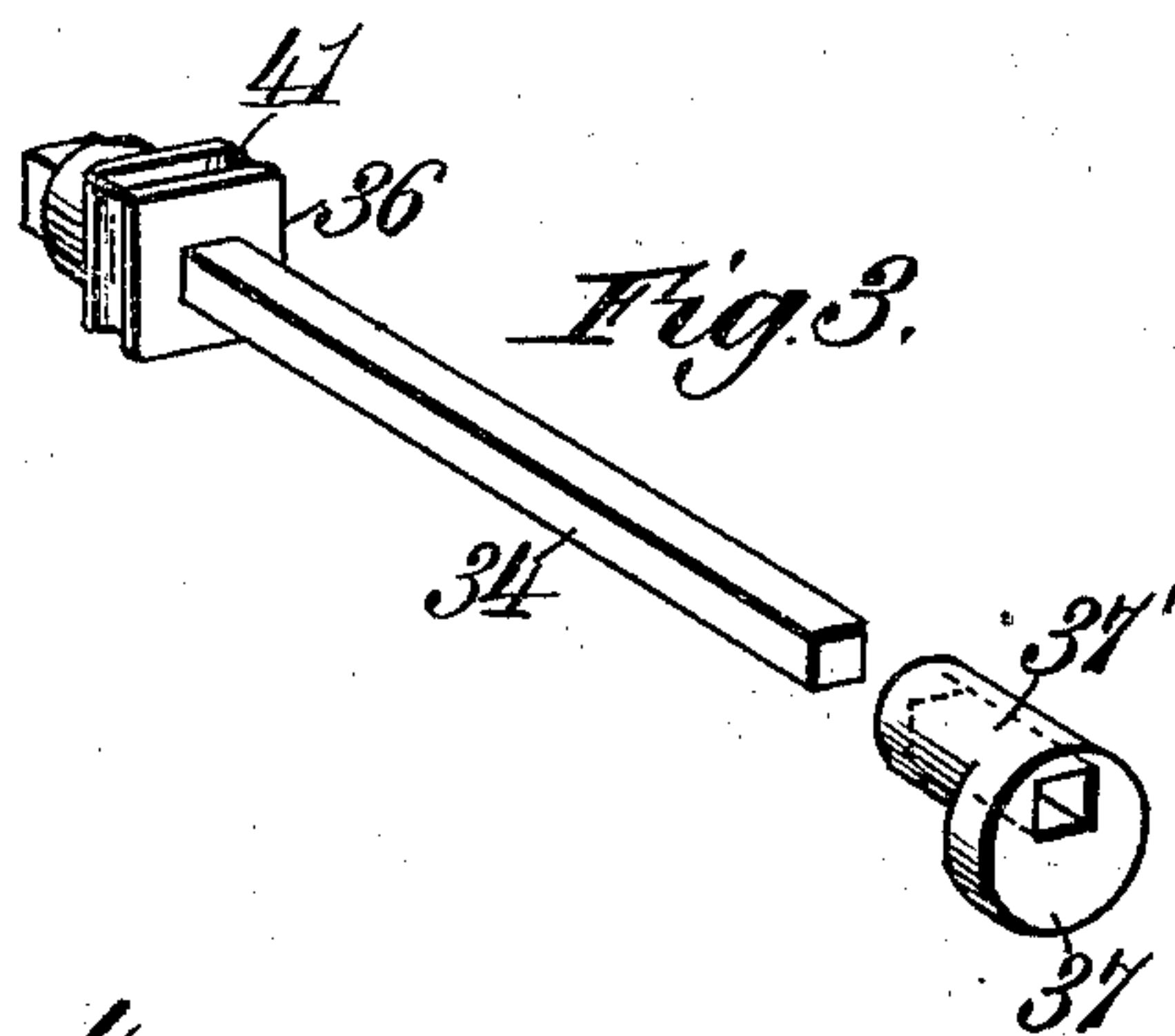
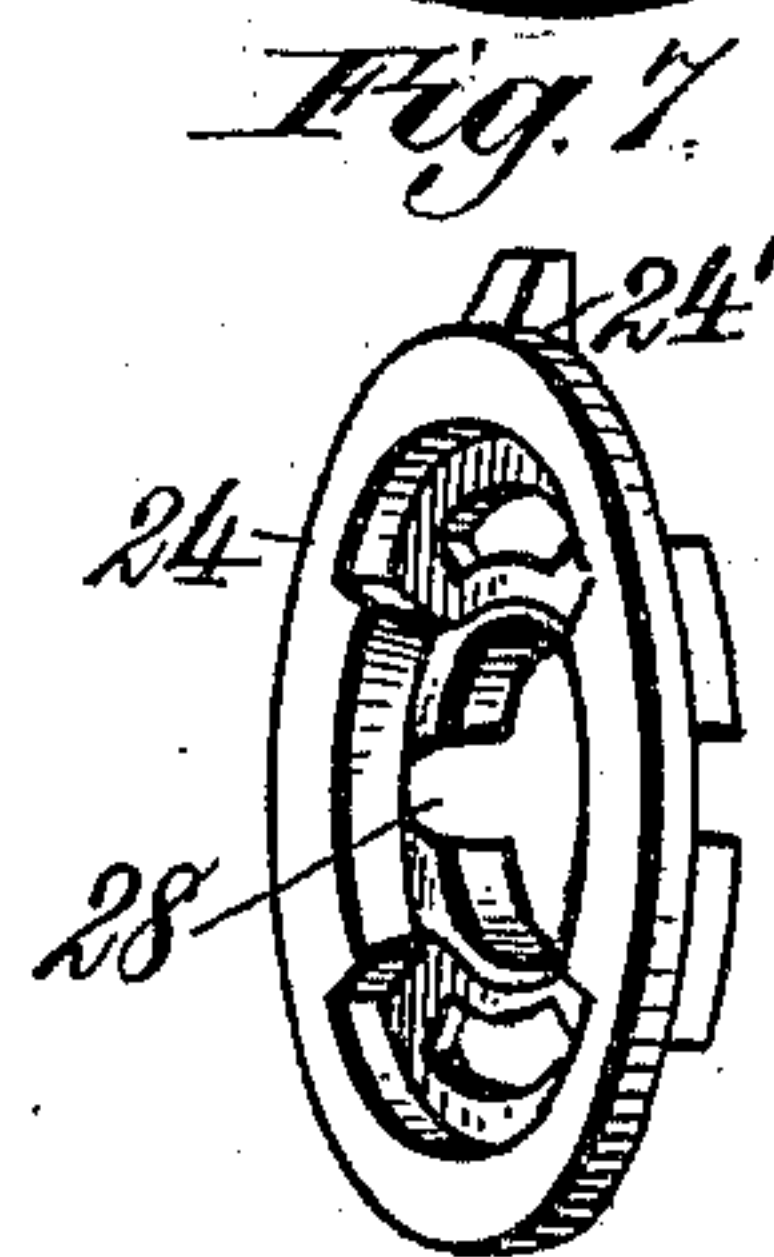
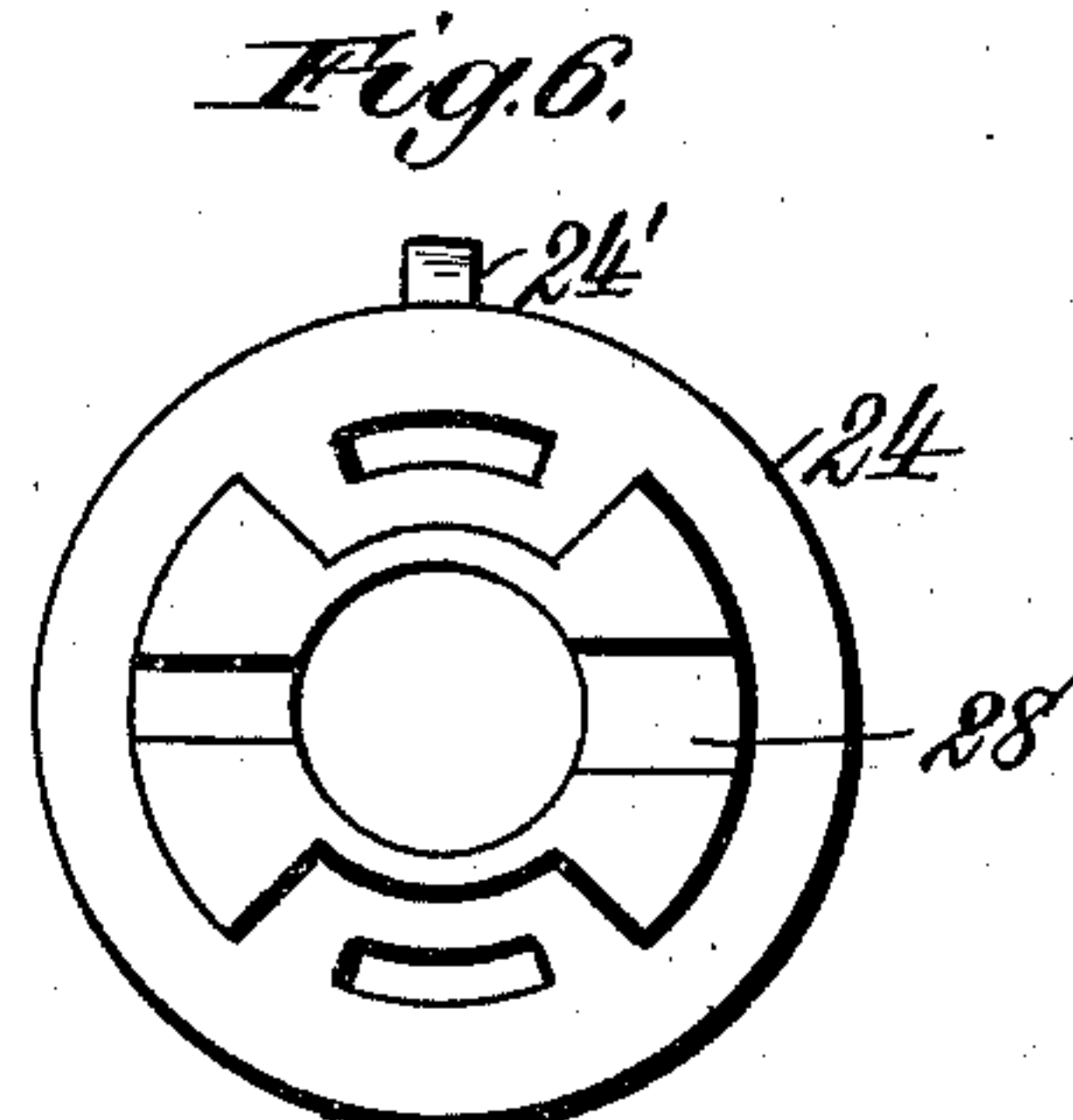
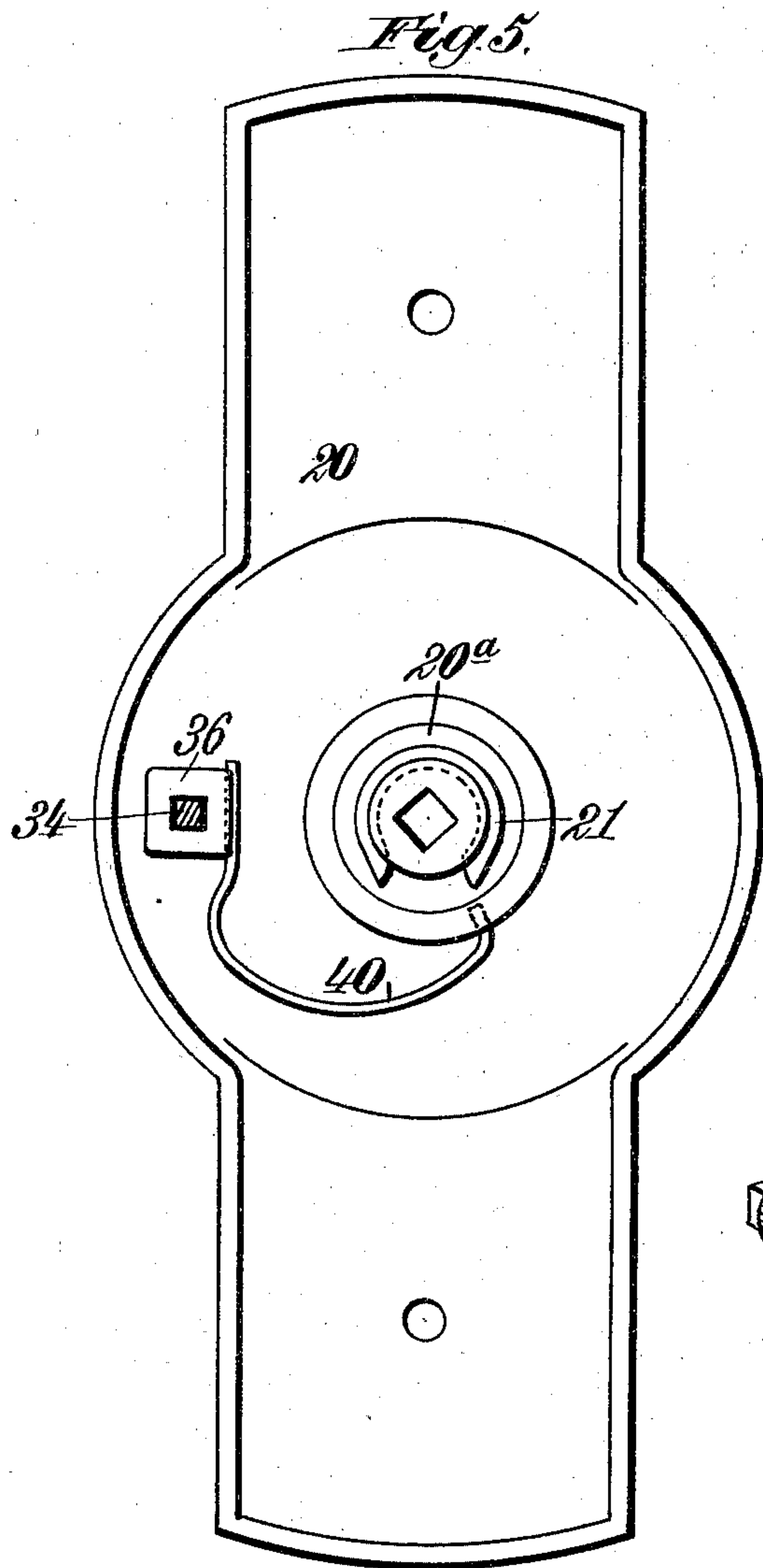
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COMBINED LOCK AND LATCH.

(Application filed June 4, 1901.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

MARCUS C. PATRICK, OF SEATTLE, WASHINGTON, ASSIGNOR TO JAMES F. HOWIE, OF SEATTLE, WASHINGTON.

COMBINED LOCK AND LATCH.

SPECIFICATION forming part of Letters Patent No. 692,068, dated January 28, 1902.

Application filed June 4, 1901. Serial No. 63,152. (No model.)

To all whom it may concern:

Be it known that I, MARCUS C. PATRICK, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented new and useful Improvements in a Combined Lock and Latch, of which the following is a specification.

This invention relates to a combined lock and latch, and in some respects it is in the nature of an improvement upon the device covered by Letters Patent No. 657,885, granted to me September 11, 1900; and the present as well as the prior invention shows a combined lock and latch wherein certain of the parts are housed within the knobs and are adapted to lock said knobs against rotation; but it will be apparent that certain of the features of the invention are capable of advantageous incorporation in latches or locks of other kinds.

The latch and lock has improved means for locking and releasing the knobs and for also deadlocking the bolt, so that the latter cannot be actuated by the knobs either with or without a key.

The invention also involves several other advantageous features, which, with the foregoing, will be set forth at length hereinafter, while the novelty will form the basis of the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a horizontal central section of a combined lock and latch including my improvements. Fig. 2 is a face view of the bolt-casing and parts therein, showing also the knob-spindle and a bolt-actuating spindle in cross-section, together with the deadlocking and operating device on the latter. Fig. 3 is a detail of the bolt-actuating spindle and the parts carried thereby. Fig. 4 is a detail of a yoke. Fig. 5 is an inside face view of the inner escutcheon-plate, showing more especially the means for controlling the position of the bolt-actuating spindle; and Figs. 6 and 7 are detail views.

Like characters refer to like parts in all the figures of the drawings.

Certain of the parts shown in the drawings

are disposed and operate in the manner set forth in my prior Letters Patent hereinbefore alluded to, and therefore I shall briefly describe the same.

Referring now to the drawings, the casing for the bolt is denoted by 10, and it houses the sliding bolt 12, the latter being adapted to be shot into a suitable keeper (not shown) to fasten the door carrying the said bolt or latch casing. The upper and lower walls of the latch-casing have inwardly-disposed vertically-alined offsets, as 10', while the head of the bolt or latch has a transverse shoulder 12', which coiled pressure-springs, as 13, are adapted to bear, the opposite ends of said springs engaging the offsets 10', and said springs serve to normally shoot the bolt outward into its effective position. The bolt is furnished with rearwardly-extending parallel legs, as 14, having shoulders, as 14', at their outer ends adapted to be engaged by the oppositely-disposed lugs 15' on the boss 15, located inside the casing 10 and having a square central aperture to receive the knob-spindle 16, which extends through said casing. By turning said knob-spindle in either direction the boss 15 can be rotated so as to carry one of the lugs 15' against one of the shoulders 14' at the inner end of the bolt 12 for the purpose of retracting the same.

The escutcheon-plates are denoted by 20 and 22, and they are mounted upon opposite sides of the door and are adjustably connected substantially in the manner shown in the hereinbefore-mentioned patent.

The inner knob is denoted by 18, its shank extending into the central offset hub or boss 19 of the inner escutcheon-plate and being adapted to receive the inner squared end of the spindle 16. The stem of the knob 18 is encircled by the washer 20^a, countersunk in the inside face of the inner escutcheon-plate, and the washer is held in place by means of a spring-clamp 21, lying in an annular groove near the inner end of the shank of the inner knob 18. By turning said inner knob the spindle 16 can be rotated so as to draw back the bolt 12.

The outer escutcheon-plate is designated by 22, and it has substantially centrally thereof the inwardly-disposed annular flange 23,

which fits against the cap or disk 24, the latter having a key, as 24', to enter a slot or notch in said annular flange to prevent the disk or cap from turning.

5 The spindle 16 is rigid with the outer knob 25, and it turns in the projecting central hub 26 of the outer escutcheon-plate. The knob 25 is held in place by a washer 25', surrounding the spindle 16, and fastened thereto by a
10 pin 16', said washer being also countersunk in the disk or cap 24. The spindle 16 carries near the outer knob in a transverse bore therein the slidable locking-pin 27, which is normally forced into the seat 28 in the cap 24 by
15 the spring-actuated button 29, the spring 30 of which is seated in a groove or channel in said cap opposite to the seat 28. Normally the spring 30 through the button 29 forces the opposite end of the pin 27 into the opening 28, so that the outer knob cannot be
20 turned. When the pin 27, however, is forced out of the opening or seat 28, the knob 25 can be turned so as to actuate the sliding bolt 12. The pin 27 has an annular groove to receive
25 an eccentric-pin 31 at the inner end of the rod 32, rotative inside the outer knob and key-operated in the manner indicated in my prior patent. When the proper key is inserted in the knob 25, the rod will be turned
30 so as to carry the pin 27 out of its seat 28, whereby the said knob can be freely turned to operate through the intervening parts the bolt 12. The operation of the pin places the spring 30 under compression, so that the latter when the key is withdrawn can return the
35 pin 27 to its primary position.

The bolt 12 has an elongated slot, and the spindle or bar 34 extends through the same, and its inner end passes through a perforation in the inner escutcheon-plate 20, and the
40 hub of a thumb-piece embraces said projecting end. The said hub bears against a square shoulder 36 inside the inner escutcheon-plate, fast on the spindle 34, and said hub is held
45 in place by a screw entering said projecting end of the spindle. The spindle carries at its outer end a cam or eccentric 37, having a sleeve portion 37' snugly fitted onto the spindle, whereby the cam and spindle are adjust-
50 ably connected to adapt them to doors of different thicknesses. This cam is adapted to engage the yoke-shaped end 38 of the slide 39, projecting through a slot in the annular wall or flange 23 and guided by the cap or disk 24.
55 The inner end of the slide 39 is contiguous to the outer end of the locking-pin 27. When the spindle 34 is rotated in the proper direction by the thumb-piece 35, the cam 37 is caused to engage the outer rounded face of the yoke-
60 shaped slide, so as to force the same, and hence the pin 27, inward, and when the pin is out of the seat 28 the said spindle can be thus held, whereby the knob 25 can be freely turned to rotate the spindle 16 for the pur-
65 pose of drawing back the bolt 12. The said spindle may be thus held by a spring of curved form fastened suitably inside the inner es-

cutcheon-plate 20 and the free end of which is adapted to enter grooves, as 41, in the square faces of the shoulder 36. 70

The spindle 34 is square in cross-section and is embraced by the boss 42, having a substantially radial arm 43, said boss being located inside the latch-casing 10. The bolt has on its forward end a transverse shoulder 75 44, and back of the same the separated shoulders 45, and the radial arm 43 on the boss plays between these shoulders. When the spindle 34 is operated so as to force the arm 43 of the boss 42 into a position parallel with 80 the bolt and in contact with the shoulder 44 on said bolt, the latter will be deadlocked and cannot be operated by the knob-spindle 16, and this relation can be maintained, of course, by the spring 40, which securely holds 85 the spindle 34. When the latter, however, is rotated by hand and when the perpendicular position of the arm 43 is reached, the bolt will be released from its dead-lock position, and by continuing the motion said arm can 90 be forced against a shoulder 45 to draw the bolt backward, even while the knob 25 is locked. When the spindle 34 is rotated in a direction opposite that followed in opening 95 bolt 12, it operates the cam 37 in such manner as to force the yoke-shaped slide 39 backward to release the locking-pin 27. When the spindle 34 is turned to put the arm 43 down, but perpendicular, the knobs can be turned from either side during the day. By 100 putting said arm parallel with the bolt the latter will be deadlocked, or by putting said arm in its upper perpendicular position the lock can be operated from a key on the outside. 105

The inner end of the slide 39, both ends of the locking-pin 27, and the working end of the button 29 are of ball form, so that knobs can turn easily without catching when un- 110 locked.

Many changes may be made within the scope of the appended claims.

Having described the invention, I claim—

1. In a device of the class described, a casing, a bolt in said casing, having a shoulder, 115 a spindle extending through the casing, provided with a radial arm for engaging said shoulder, said arm serving to lock said bolt against retraction, a knob, a spindle for the knob, and means for coupling the knob and 120 the last-mentioned spindle, operable by the first-mentioned spindle.

2. In a device of the class described, a casing, a bolt in said casing, a spindle and a knob, coupling means for said spindle and 125 knob, a second spindle, and independent devices connected with said second spindle, one serving to lock the bolt against retraction and the other to actuate said coupling means.

3. In a device of the class specified, a cas- 130 ing, a bolt in said casing having a shoulder, a spindle extending through the casing provided with an arm for engaging the shoulder to deadlock the bolt, said spindle having a

square shoulder, and a spring the free end of which is adapted to engage said shoulder.

4. In a device of the class described, a casing, a bolt in the casing having an elongated slot, and a shoulder, a spindle extending through said casing and slot, and provided with a thumb-piece and a square shoulder having grooves in its square faces, a spring fastened at one end, the other end being free and arranged to enter one of said grooves, a boss rotative with said spindle, inside the casing, and an arm on said boss arranged to engage said shoulder.

5. In a device of the class specified, a spindle, a knob, a locking-pin carried by the spindle, a fixed member having a seat for said pin, a device for operating said locking-pin; and a manually-operable member having a cam for engaging said locking-pin-operating device.

6. In a device of the class specified, a spindle, a knob, a locking-pin carried by the spindle, a fixed member having a seat for said pin, a yoke-shaped slide for operating said pin, and a manually-operable member having a cam for actuating said slide.

7. In a device of the class specified, a bolt,

a spindle, a knob on said spindle, a locking-pin carried by said spindle, a locking-pin-operating device, and a spindle having means for controlling the bolt and means for actuating said locking-pin-operating device.

8. In a device of the class specified, a spindle, a knob, a locking-pin carried by the spindle, a locking-pin-operating device, and a manually-governed spindle having a cam adjustably connected thereto, said cam being arranged to actuate said locking-pin-operating device.

9. In a device of the class specified, a bolt, a spindle, a knob on the spindle, a locking-pin carried by the spindle, a slidable yoke-shaped member for operating said pin, a locking-bolt, a spindle having means for controlling the bolt, and a cam fitted onto the spindle and arranged to actuate said yoke-shaped slide.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MARCUS C. PATRICK.

Witnesses:

JOHN READING,
W. M. RICE.