

No. 840,666.

PATENTED JAN. 8, 1907.

J. SLIGA.
DOOR LOCK.

APPLICATION FILED MAY 17, 1906.

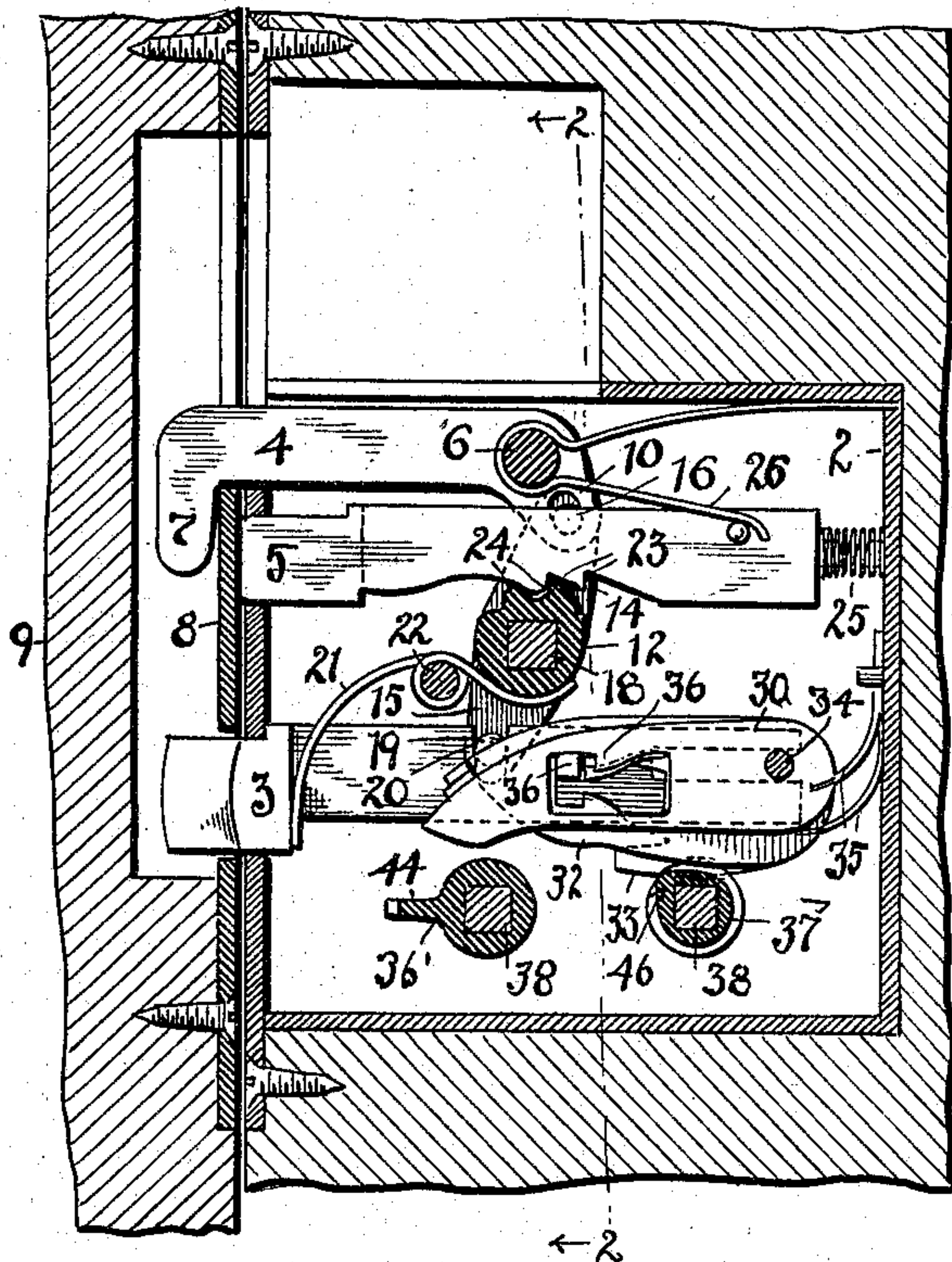


Fig. 1.

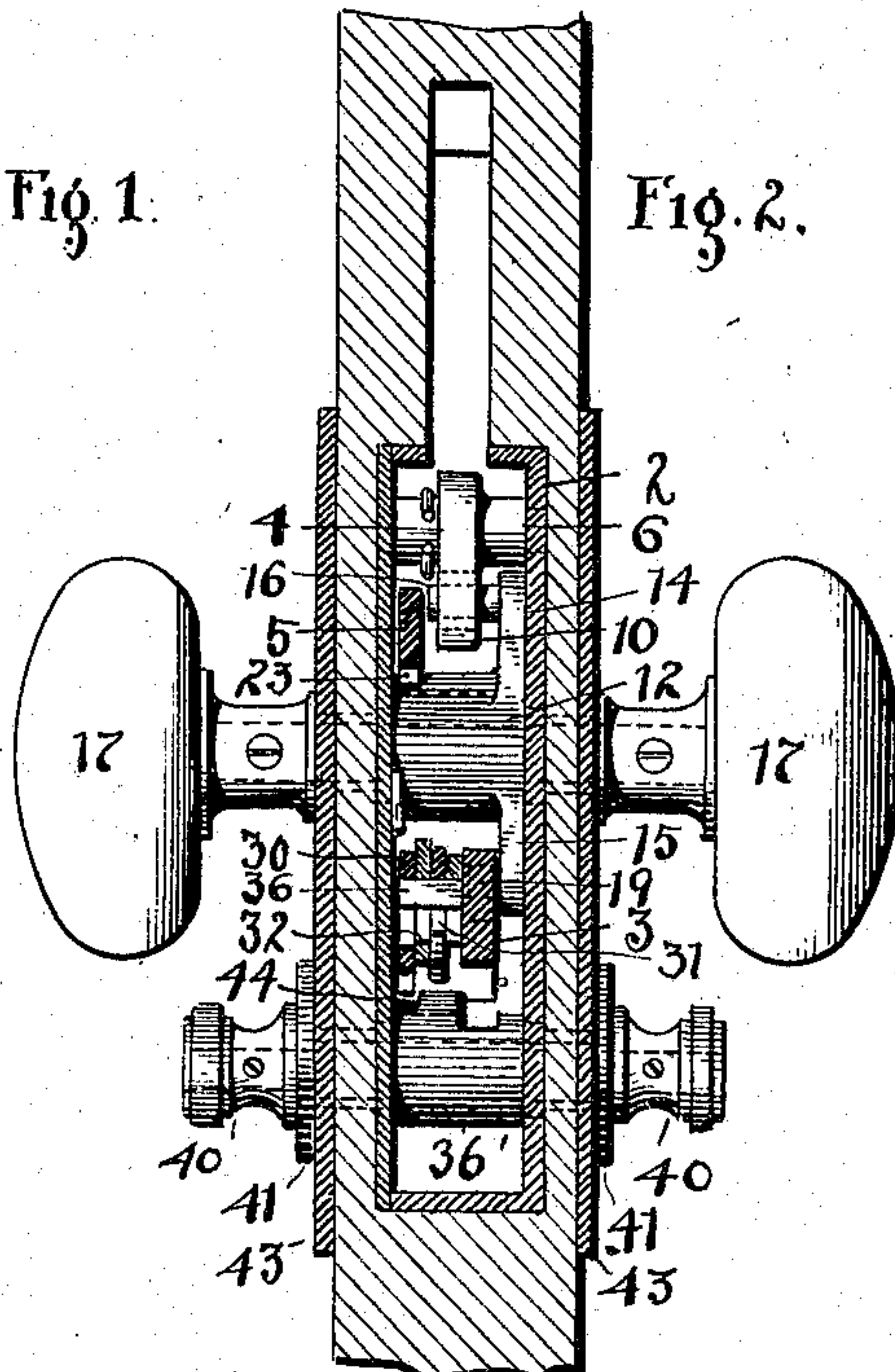


Fig. 2.

Fig. 3.

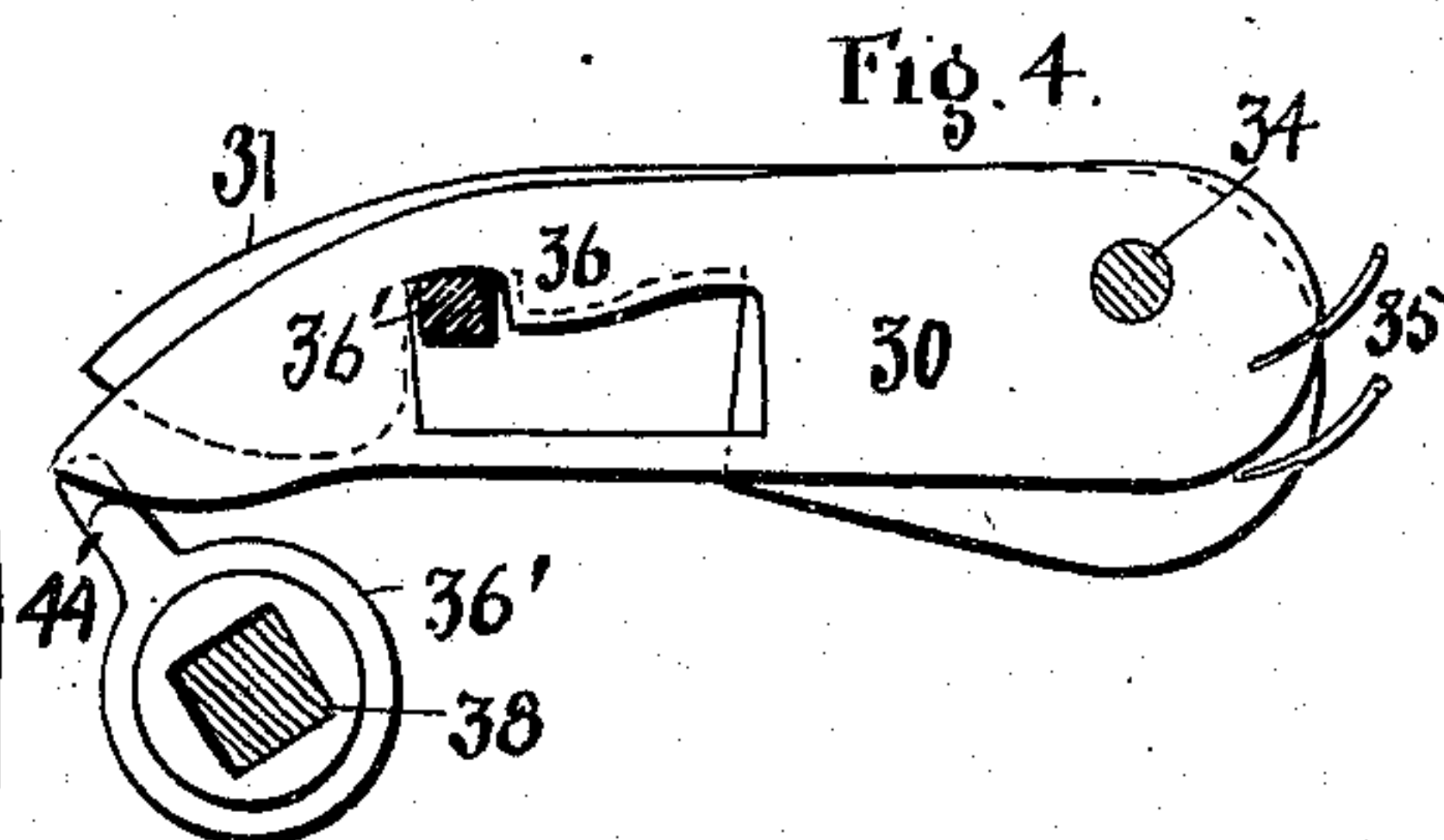
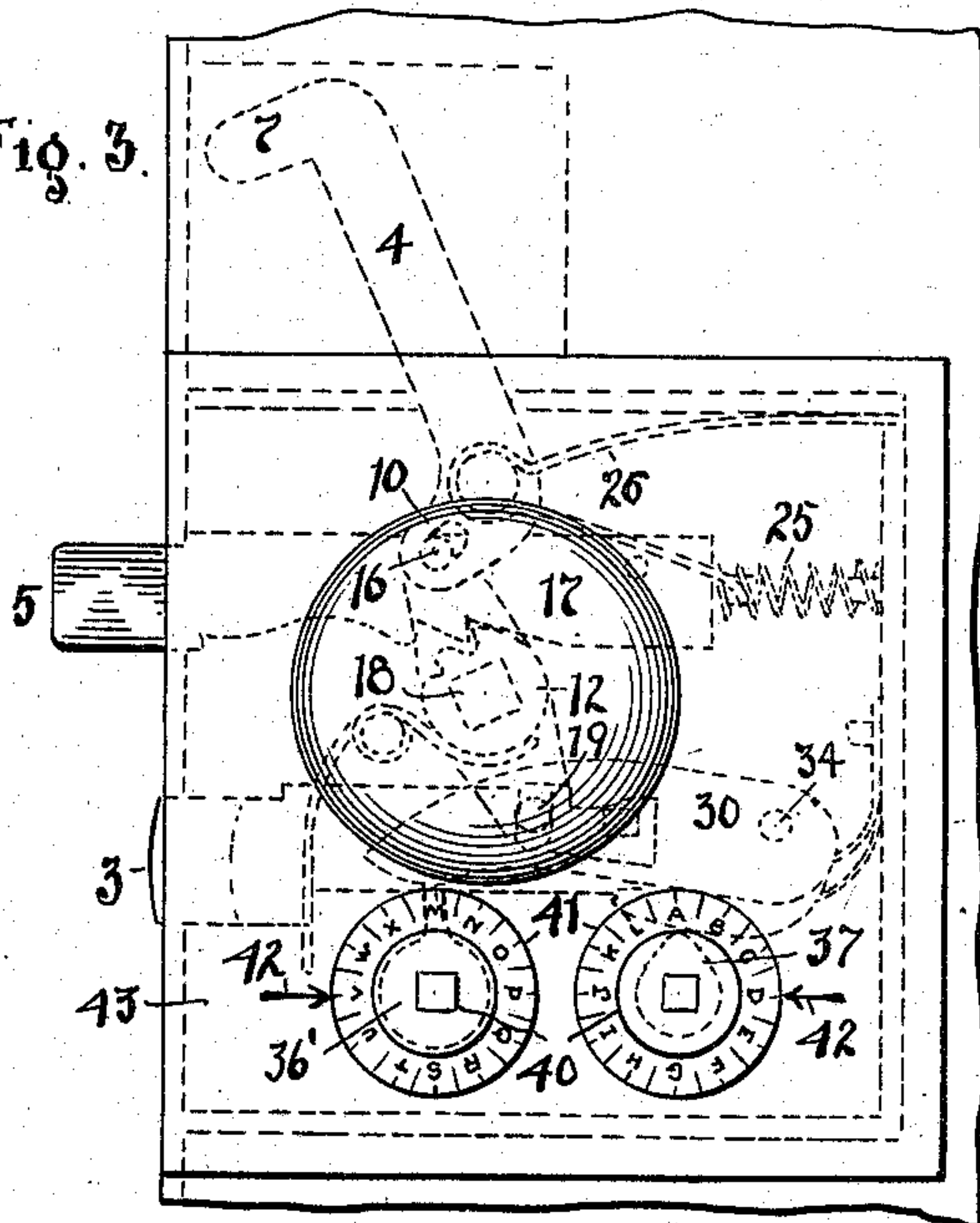


Fig. 4.

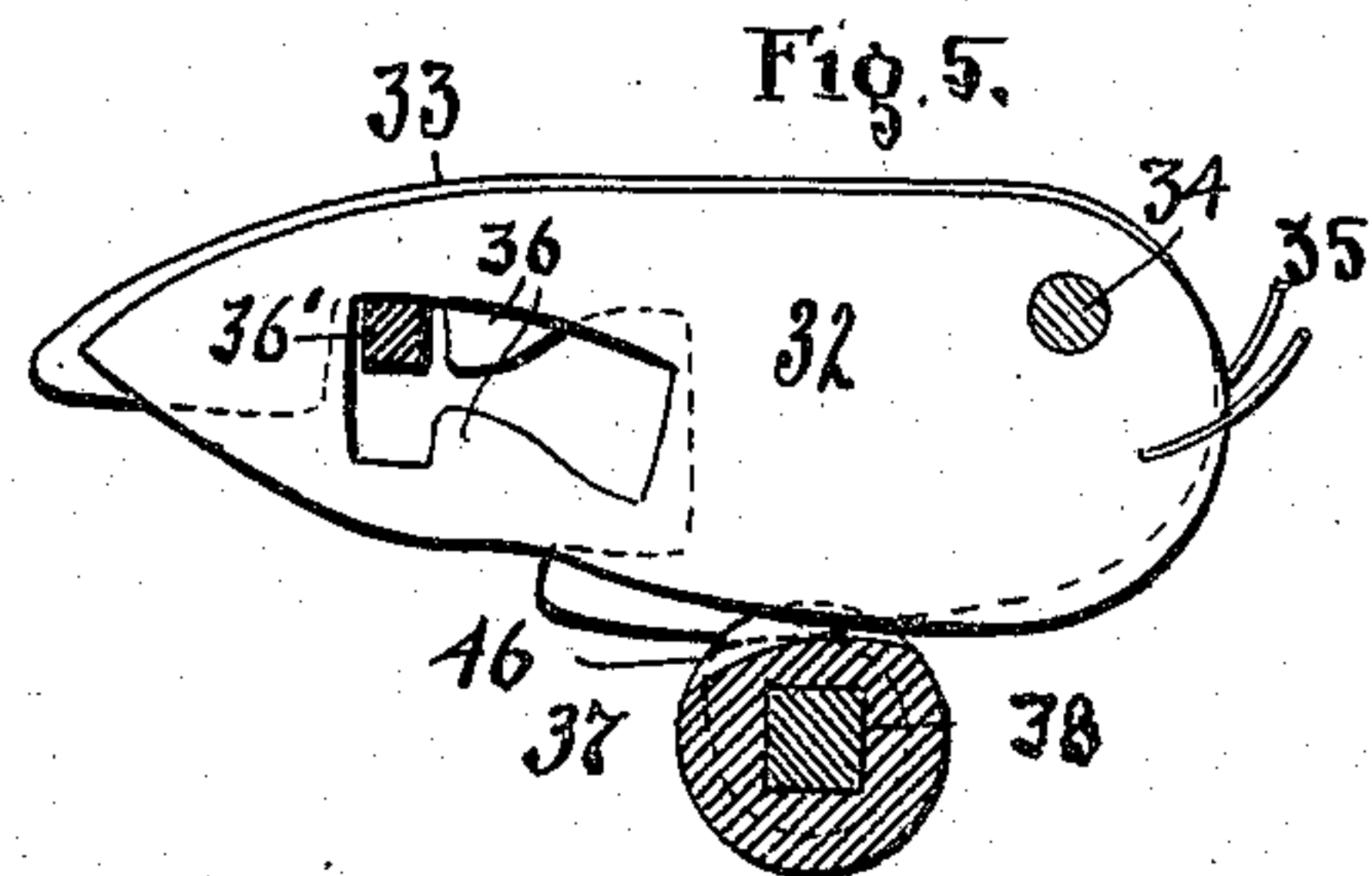


Fig. 5.

ATTEST.

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UNITED STATES PATENT OFFICE.

JOHN SLIGA, OF CLEVELAND, OHIO.

DOOR-LOCK.

No. 840,666.

Specification of Letters Patent.

Patented Jan. 8, 1907.

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To all whom it may concern:

Be it known that I, JOHN SLIGA, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Door-Locks; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in door-locks; and the improvement consists in the construction and arrangement of parts substantially as shown and described, and particularly pointed out in the claims.

My object is embodied in a door-lock adapted for either silding or swinging doors, but especially the former; and the lock comprises a combination of self-contained locking and unlocking elements permanently mounted on the door.

In the accompanying drawings, Figure 1 is a central sectional elevation of my improved lock, showing the bolts engaged with the locking-plate on the other door, assuming that two doors are to be locked together. Fig. 2 is a cross-section on line 2 2, Fig. 1. Fig. 3 is a face view of the door and the controlling members of the lock. Figs. 4 and 5 are separate views in diagrammatic form of the two pairs of locking-dogs and their respective controlling keys or tumblers.

My improved lock is especially adapted for use with railroad-car doors and is intended to avoid the use of separate keys for each car and its door-lock. To this end I have designed a combination-lock which will give me a great many different lock combinations for different doors.

The lock comprises casing 2, which is set in a mortised recess of the door, as usual, and three separate bolt members mounted within said casing and hereinafter designated as "sliding latch 3," "pivoted catch 4," and "sliding bolt 5." Catch 4 is pivotally mounted upon casing 2 by cross-pin 6 and has a hook 7 at its outer end adapted to engage locking-plate 8 on either the jamb of the door or another door 9, and said catch has a slotted extension 10 near its pivot-pin 6 wherewith operating engagement is made with a rocking member 12, also pivotally mounted within casing 2. Member 12 has a pair of oppositely-projecting arms 14 and 15, and a pin 16 on arm 14 constantly engages

slotted extremity 10 and defines the movement of catch 4. Rotation is imparted to member 12 by means of handles or knobs 17, mounted upon square cross-shaft 18. Latch 3 is operatively engaged by pin 19 on arm 15 of member 12, and said pin rides in slot 20 to move the said latch back and forth when member 12 is rotated. Thus rotation of member 12 by handle 17 in one direction will throw latch 3 and catch 4 out of locking engagement with plate 8 and if rotated in the other direction positive locking action of the parts is the result. A wire spring 21, coiled upon post 22 of the casing 2, engages member 12 and latch 3 and serves to throw said latch out. Bolt 5 has two ratchet-teeth 23 on its bottom edge, which are designed to engage teeth 24 on member 12, and a coil-spring 25 bears against the inner end of bolt 5 and against the casing to press said bolt outward. Assuming that the lock is used with a pair of sliding doors, it will be seen that when the doors are brought edge to edge plate 8 will strike bolt 5 and force the same inward and thereby throw latch 3 and catch 4 into locking relation with plate 8, because of the engagement between teeth 23 and 24 on bolt 5 and member 12, respectively. There is one tooth on bolt 5 and also one on member 12, which is rounded, so that said bolt may be moved independently at times, and a bow-spring 26 serves to hold said bolt down into working relation with member 12.

The means for positively locking latch 3 and catch 4 comprises a set of dogs 30, 31, 32, and 33, mounted side by side upon a common pivot-pin 34 on casing 2. Each dog has a spring 35 attached thereto at one end, which bears against casing 2. Each dog is also provided with a tooth 36 and a cut-out or slotted portion, whereby locking or free traveling engagement is provided for between all the dogs and a projection 36' rigidly mounted on the side of latch 3. Each dog must be brought to a predetermined position before projection 36' can free itself, so as to permit latch 3 to move inward, and as this latch is positively connected to member 12 and catch 4 is also positively connected with member 12 it will be seen that both latch 3 and catch 4 are locked and unlocked together.

The means for unlocking all the dogs consists of a pair of keys or tumblers 36' and 37, respectively, each of which is mounted upon

its own cross-shaft 38 and separately controlled by thumb-nuts 40 on each side of the door. Each thumb-nut has a disk 41 provided with suitable characters adapted to register with a mark 42 on the face-plate 43 of the door and whereby the position of the tumblers in respect to the dogs is determined. It is necessary to set both tumblers in order that complete unlocking of the parts may be obtained, and tumbler 36' has a stepped projection 44, which is adapted to engage the free ends of dogs 30 and 31 to raise the same and remove teeth 36 from the path of projection 36' on latch 3, and tumbler 37 is provided with cam-surfaces 46, which are adapted to engage dogs 32 and 33, and when said tumbler 37 is brought to the proper position dog 33 is unlocked, and if all the other dogs are also so properly positioned latch 3 is free to be drawn in.

What I claim is—

1. In door-locks, a sliding latch, a pivoted catch having a slotted extension and a rotary member having arms and pins thereon slidably engaged within said extension and with said latch, means to rotate said member and a set of locking-dogs therefor, and unlocking members for said dogs.

2. In door-locks, a sliding latch and a pivoted catch and a rotary member operatively connected with the said parts, in combination with a set of locking-dogs for said parts and a set of unlocking rotary engaging members for said dogs.

3. In door-locks, a sliding latch and a pivoted catch having a slotted extension and a toothed rotary member having arms and pins thereon adapted to provide operating engagement between said parts, and a sliding bolt having teeth adapted to engage with said toothed rotary member, in combination

with a set of locking-dogs for said parts and unlocking members for said dogs.

4. In door-locks, a set of three bolt members operatively connected with each other and means to actuate the same, in combination with a series of locking-dogs adapted to engage with one of said members, a pair of unlocking members for said dogs, and means on the outside of said lock adapted to determine and set said unlocking members for unlocking.

5. A door-lock comprising a sliding latch and a pivoted catch and a rotary member having operating engagement with said parts, and a sliding bolt having operating engagement with said rotary member, in combination with a set of pivoted dogs adapted to have locking engagement with said sliding latch, and a set of combination unlocking members for said dogs.

6. In door-locks, a casing and three separate bolt members mounted therein comprising a sliding latch and a pivoted catch and a sliding bolt, and a rocking member operatively engaged with each of said bolt members, in combination with a set of dogs pivotally mounted within said casing and a projection on said sliding latch operatively engaged with said dogs, and a set of rotatable members for operatively engaging separate dogs, means to set said dog-operating members in predetermined positions, and means to operate said rocking member for throwing the bolts.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN SLIGA.

Witnesses:

R. B. MOSER,
C. A. SELL.