

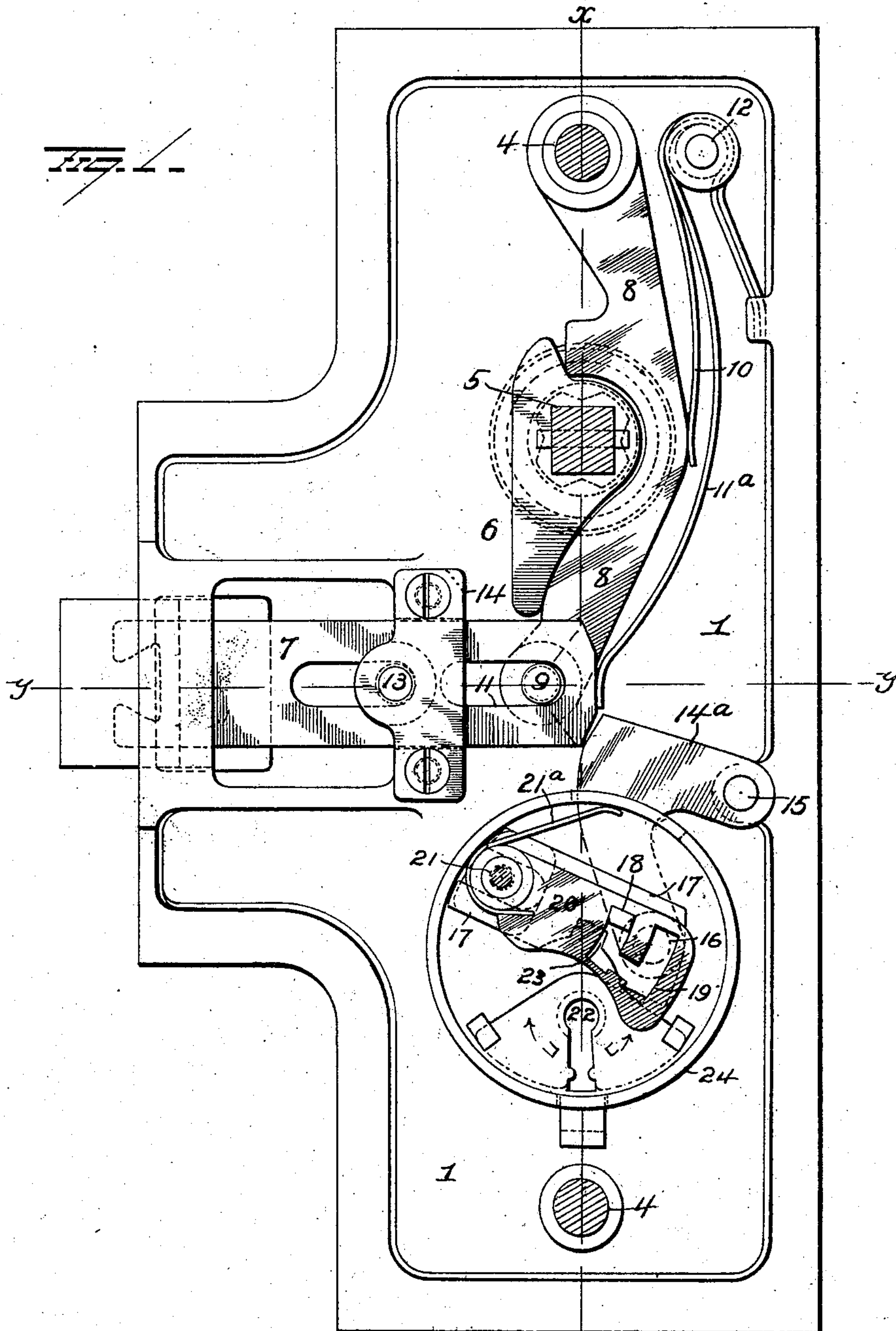
No. 889,734.

PATENTED JUNE 2, 1908.

H. R. TOWNE.
LOCK.

APPLICATION FILED NOV. 5, 1906.

3 SHEETS—SHEET 1.



WITNESSES

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G. J. Downing

INVENTOR

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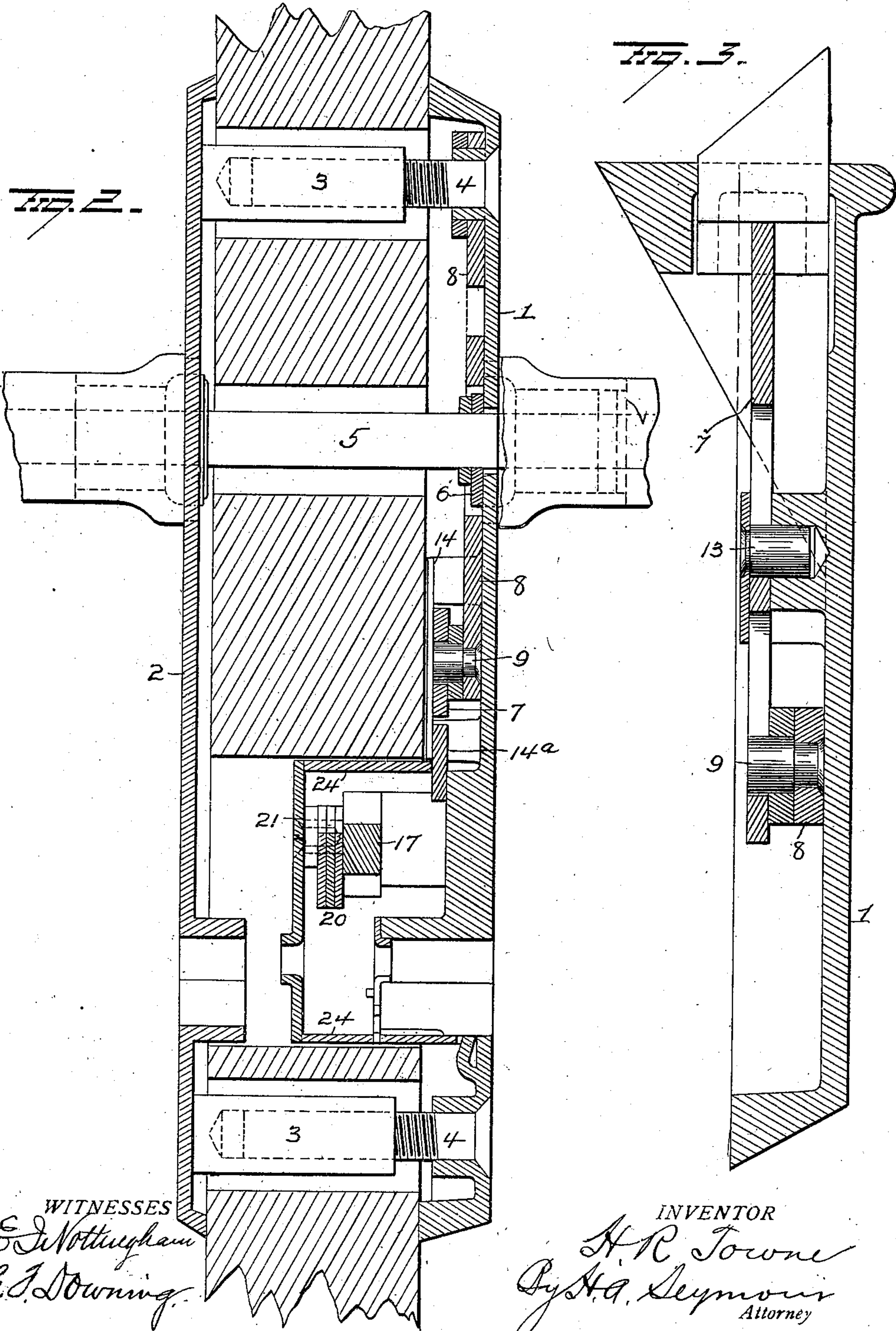
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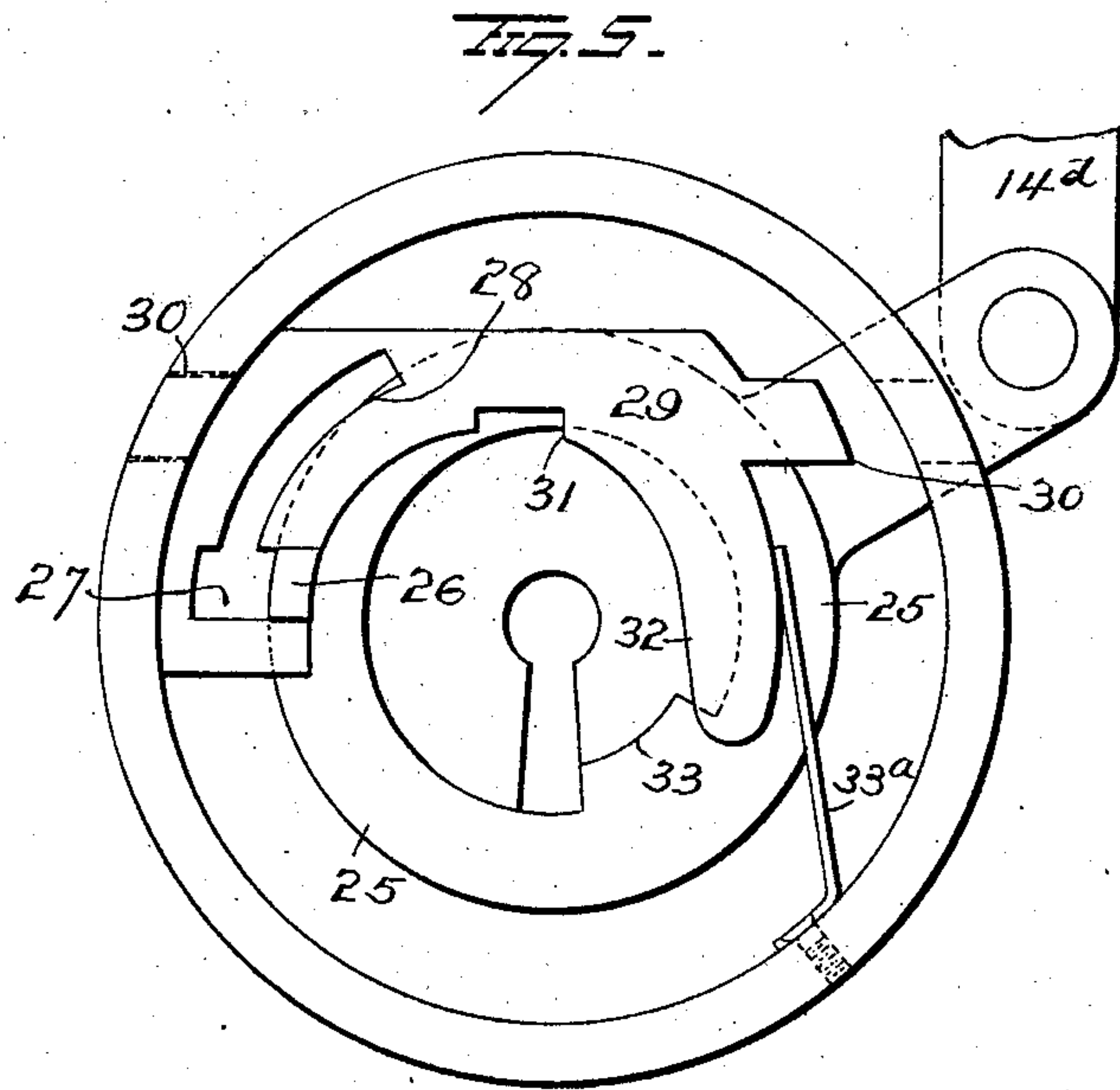
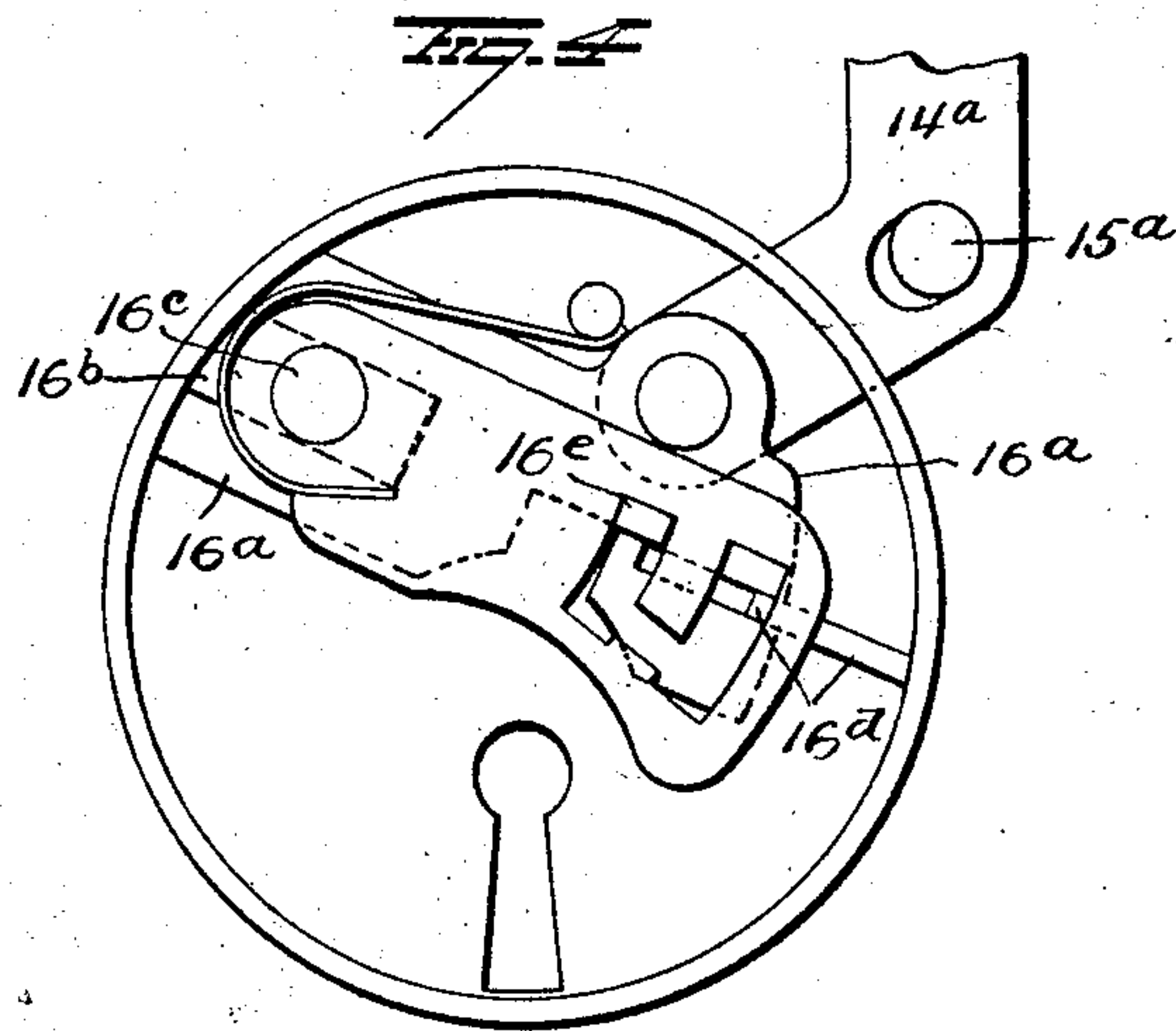
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UNITED STATES PATENT OFFICE.

HENRY R. TOWNE, OF NEW YORK, N. Y., ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF STAMFORD, CONNECTICUT.

LOCK.

No. 889,734.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed November 5, 1906. Serial No. 342,098.

To all whom it may concern:

Be it known that I, HENRY R. TOWNE, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in locks, the object being to provide an improved lock wherein all the mechanism thereof except the knob spindle, is carried wholly by the inner escutcheon plate, thereby simplifying and cheapening the work of applying the lock to a door.

A further object is to provide a lock wherein the bolt thereof is actuated by the knobs, with means controlled by an ordinary wing key for dogging the bolt in its locking position.

With these ends in view my invention consists in the parts and combinations of parts and in the details of construction as will be more fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation of the inner face of the inner escutcheon plate showing the mechanism thereon. Fig. 2 is a view in vertical section taken on the line $x-x$ of Fig. 1, through a section of a door, with the two escutcheon plates secured thereto. Fig. 3 is a view in transverse section taken on the line $y-y$ of Fig. 1 and Figs. 4 and 5 are views in elevation of several forms of mechanism for dogging the bolt.

1 represents the inner escutcheon plate of the lock and 2 the outer plate, the latter being provided with inwardly projecting socketed studs 3, to receive the screws 4 inserted through the inner plate, and screw threaded to be engaged by said screws. The door is cut or bored to receive these studs and screws, consequently the plates which rest against the opposite faces of the door may be adjusted by means of the telescopic screw connection shown, to doors of varying thicknesses.

The knob spindle 5 passes through both plates 1 and 2 and the door, and is provided adjacent to the inner plate 1 with a roll back 6 through which the bolt 7 is retracted.

8 is the bolt actuating lever, pivoted at one end to plate, and connected at its other end by a pin 9 to the rear end of bolt 7, the pin 9 resting within an elongated slot 11 in the rear end of the bolt. The lever 8 bears against the roll back 6 at both sides of the spindle 5 in the usual manner, so as to be actuated by the rotation of the knob spindle in either direction.

The lever 8 is yieldingly held in contact with the roll back 6 of the spring 10, and the bolt 7 is yieldingly held in its locking position by the spring 11^a, both springs 10 and 11^a being mounted on the stud 12.

The bolt 7 is mounted in a socket formed in the outer lip or flange of the plate 1 as clearly shown in Fig. 3, and is supported and guided in rear of said socket, by the stud 13 carried by the plate 14, secured by screws as shown in Fig. 1 to the escutcheon plate 1, the stud 13, carried by said plate 14, passing through an elongated slot in the stem of the bolt, with its inner end resting within a recess formed in a projection integral with the inner face of plate 1.

With the construction thus far described it will be seen that the bolt 7 can be retracted by the knobs, the spring 11^a tending to hold the bolt in its locking position, and the spring 10 holding the lever 8 in contact with the roll back 6.

14^a is an L-shaped dogging lever pivoted at 15 to plate 1, and provided at its other end with a pin 16 by which it is connected to the sliding plate 17, carrying a fence 18 which latter rests within the closed U-shaped gates 19 of the tumblers 20. The plate 17 is slotted at its forward ends as shown in dotted lines in Fig. 1, to embrace the post 21, to which latter are also pivoted the tumblers 20. These tumblers are normally held in a depressed position by the springs 21^a, and are actuated by an ordinary wing key introduced through the key opening 22 in escutcheon plate, 1.

In Fig. 1 the lever 14^a is shown with its elbow in rear of the bolt 7 thus locking the latter against withdrawal. To release this bolt 7, the key is introduced through opening 22 and turned (in Fig. 2) to the left. The key first lifts the several tumblers, until the fence 18 is in a line with the opening connecting the parallel members of the gates 19 in the tumblers. When the parts are in the

position last described, the key engages shoulder 23 on plate 17, and the continued movement of the key slides said plate longitudinally, thus carrying the fence into the
5 outer member of the gate.

The rearwardly sliding movement of the plate 17, swings the lever 14^a on its fulcrum, carrying the shoulder thereof below the plane of movement of the sliding bolt 7, thus releasing the bolt and leaving it free to be re-
10 tracted by the knobs. This sliding movement of plate 17 carries the fence into the outer member of the gate, and as the key leaves the tumblers the latter drop, thus
15 locking the lever 14 in its depressed position and out of the path of movement of the bolt. By inserting the key and turning it in the opposite direction, lever 14 will be moved up into the path of movement of the bolt 7 and
20 dog the movements of the latter.

The tumbler, sliding plate and part of lever 14 are all inclosed by a casing 24 secured to the inner face of plate 1. This plate
25 1 is provided at its edges with a flange of sufficient depth to house the bolt, roll back lever, and lever 14^a, when the plate 1 is applied to the face of a door, hence in order to apply the lock it is simply necessary to bore or cut holes for parts which secure the two
30 plates 1 and 2 together, for the knob spindle and for the casing 24, and as these cuts are all concealed and covered by the plates, they can be made sufficiently large, for the ready attachment without any attempt at close
35 fitting, thus permitting the locks to be applied quickly and at comparatively small cost.

In the modification shown in Fig. 4 the dogging lever 14^a is in the form of a bell-
40 crank pivoted at its elbow to the pin 15^a the slot in the lever being somewhat larger than the pin so as to permit of a sliding, as well as pivoted movement of the dogging lever. The lower end of the lever 14^a is pivoted to the
45 sliding plate 16^a which latter is slotted at one end to receive the rib 16^b carrying the post 16^c on which the tumblers are pivotally mounted, and is also slotted at its other end to receive the rib 16^d the two ribs 16^b and 16^d
50 forming guides on which the plate 16^a slides. This sliding plate is provided with the fence 16^e which rests and moves in the U-shaped gates in the tumblers as explained in connection with Fig. 1 and locks the lever 14^a in
55 its dogging and also in its inoperative positions. With this construction the turning of the key first elevates the tumbler or tumblers until the horizontal member of the gate is in line with the fence. The key at
60 this juncture engages the shoulder on the sliding plate and moves the latter longitudinally thus bringing the fence into the opposite member of the gate. This movement of the sliding plate rocks the dogging lever to a
65 position to dog the bolt while a reverse slid-

ing movement of the plate carries the dogging lever out of the path of movement of the bolt.

In Fig. 5 the dogging lever 14^d is pivoted to an arm projecting from the disk 25. This
70 disk 25 is provided with a fence 26 which rests in the horizontal member 27 of the gate 28. This gate is in the sliding plate 29, which is provided with the tongues 30, which seat in slots in the wall of the cylindrical cas-
75 ing, one of said tongues being always wholly or partly in its seat or pocket. This plate 29 is also provided with a shoulder 31, engaged by the key and with a depending tongue 32 also engaged by the key after the latter
80 leaves the shoulder 31. Disk 25 is also provided with a shoulder or lug 33 located adjacent to the lower end of tongue 32 and adapted to be engaged by the key while the latter is still in contact with the tongue.
85

In the operation of this device the key is introduced and turned until it engages the shoulder on the sliding plate; the continued movement of the key moves the plate 29
90 against the pressure of spring 33^a, until the curved portion of the gate is in line with the fence. This sliding movement of the plate withdraws the tongue at one end of the sliding plate out of its seat and carries the
95 tongue at the other end of the plate to its seat on the opposite side of the casing. The key moving in contact with the tongue 32, holds the plate in the position last described until the key reaches the shoulder 33 on the
100 disk; the continued rotation of the key now turns the disk, thus carrying the fence up into the curved portion of the gate, and withdrawing the dogging lever 14^d from the path of the bolt. After the fence has entered the curved section of the gate; the lat-
105 ter is held against rearward movement until the disk has been turned in the direction to restore the fence to its normal position in the base of the gate, after which the spring forces the sliding plate to its normal position and
110 again locks the disk against rotation, with the dogging lever in a position to dog the bolt.

Having fully described my invention what I claim as new and desire to secure by Let-
115 ters-Patent, is:—

1. In a lock, the combination with an escutcheon plate and a sliding bolt, of a dog adapted to be moved so that a part thereof
120 will project into the path of movement of the bolt, a plate pivotally connected to said dog and having a fence, and a tumbler having a gate within which the fence on the plate moves.

2. In a lock the combination with an es-
125 cutcheon plate and a bolt slidably mounted on said plate, of a dog pivoted to said plate, and adapted to be turned so that a part thereof will project into the path of move-
130 ment of the bolt, a plate pivotally connected

to said dog and having a fence, and a series of tumblers each having a gate within which the fence on the plate moves.

3. In a lock, the combination with an escutcheon plate, and a sliding bolt mounted thereon, of a dog pivoted to said plate and adapted to be turned so that a part thereof will project into the path of movement of the bolt, a sliding plate pivotally connected to said dog and provided with a fence, and a series of pivoted tumblers each having a gate within which the fence on the sliding plate moves, all of said parts being carried by the escutcheon plate.

4. The combination with an escutcheon

plate and a sliding bolt carried thereby, of a dogging lever pivoted to said plate, a plate slidingly mounted at one end and pivotally connected to said dogging lever, the said sliding plate being provided with a fence, and a series of tumblers adjacent to the sliding plate, each tumbler having a gate for the reception of the fence on the sliding plate.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

HENRY R. TOWNE.

Witnesses:

FRANK H. TAYLOR,
WM. A. CUDLIPP.