

(No Model.)

W. C. FISHER.

LOCKING AND RELEASING MECHANISM FOR LOCKS.

No. 347,029.

Patented Aug. 10, 1886.

Fig: 1.

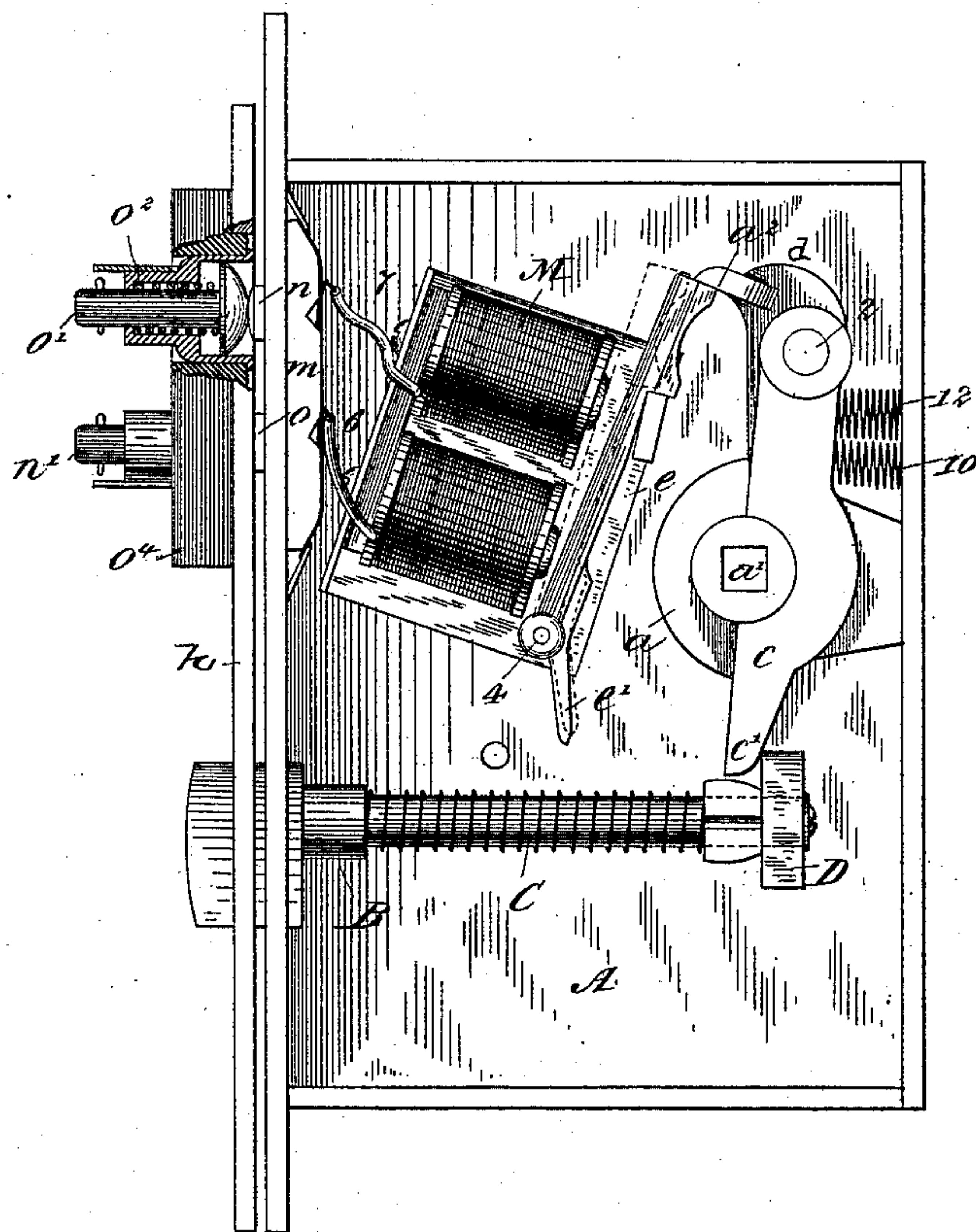
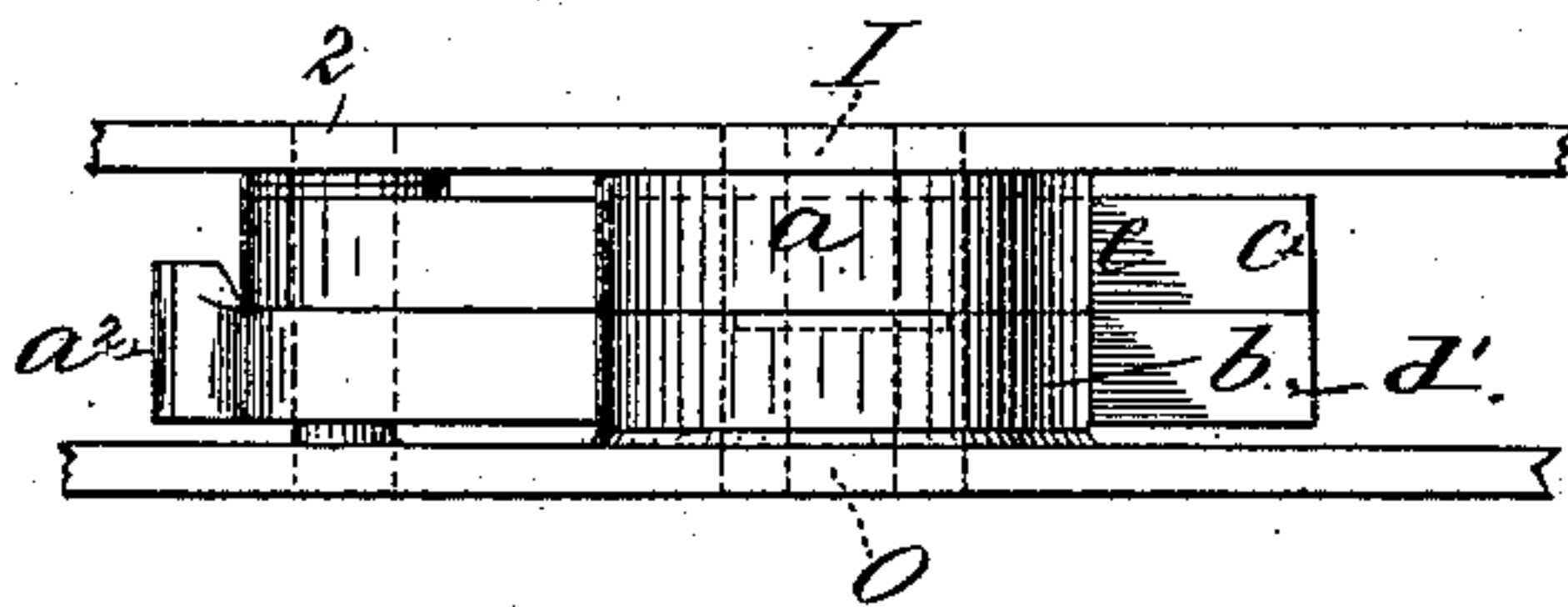


Fig: 2.



Witnesses:
John A. Regnier
John F. C. Prunkler

Inventor,
William C. Fisher,
by Crosby Gregory attys

UNITED STATES PATENT OFFICE.

WILLIAM C. FISHER, OF BOSTON, MASSACHUSETTS.

LOCKING AND RELEASING MECHANISM FOR LOCKS.

SPECIFICATION forming part of Letters Patent No. 347,029, dated August 10, 1886.

Application filed October 21, 1885. Serial No. 180,468. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. FISHER, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Locking and Releasing Mechanisms for Locks, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to locks of that class wherein the inside knob is free at all times to retract the slide-bolt, but the outside knob can only do so at the will of an attendant within.

The invention has for its object to provide the lock with mechanism for locking the slide-bolt, so as to prevent the same from being retracted by the outside knob.

The invention consists in the combination with a two-part knob-spindle, of two tumblers, one connected with each knob-spindle, and two pivoted levers arranged to be moved, respectively, by the two tumblers, and to engage the slide-bolt, to thereby retract it, one of the said levers having a detent which is engaged by a retaining device, thereby locking the said lever in fixed position, and means, substantially as will be described, for moving the said retaining device to release the detent-lever, as will be set forth.

The retaining device herein shown for locking the detent-lever in position, to prevent the movement of its tumbler, consists of a pivoted lever, which also serves as the armature of an electro-magnet located within the lock, said armature or retaining device being controlled to thereby release the lever by the electro-magnet at the will of the person in attendance within the building.

Figure 1 shows in side elevation a mortise-lock, the cover being removed, and looking at it from the inside, and Fig. 2 is a detail, to be referred to.

The lock-case A, slide-bolt B, its spring C, engaging-plate D, are all as in ordinary locks of the class herein referred to, and so form no part of my invention.

In this class of lock the spindle is divided, as usual, so that the outside knob-spindle, O, and the inside knob-spindle, I, may rotate independently of each other. The inside knob-spindle, I, has upon it a tumbler, *a*, and the outside knob-spindle, O, has a like tumbler,

b, each tumbler having a hub, as at *a'*, which takes a bearing in the side plate of the lock. As the inside knob-spindle, I, is rotated its tumbler *a* strikes against an engaging lever, *c*, pivoted at 2, moving it on its pivot, so that the end *c'* of the said lever in engagement with the plate D of the slide-bolt B retracts it, thereby permitting the door to which the lock is applied to be opened. As the outside knob-spindle, O, is rotated its tumbler *b* strikes against the lever *d*, also pivoted at 2; but the said lever does not move, for it is locked in position by a retaining device, *e*, shown as a lever pivoted at 4, it being arranged to drop by gravity and engage a detent, *d'*, projecting from the upper end of the said lever *d*. When the retaining device is moved on its pivot, to disengage the lever *d*, and the outside knob-spindle is rotated, its tumbler *b* will operate as does the tumbler *a*—viz., it strikes against the said lever *d*, and causes the portion *d'* thereof to strike the plate D of the slide-bolt B, thereby retracting it. The levers *c d* are returned to their normal position by the spiral springs 10 12.

The retaining device may be moved on its pivot in various ways; but in this instance the lock is arranged to be under the control of a person stationed within a building or apartment, and therefore an electro-magnet, M, is employed, which, when energized, attracts the retaining device *e*, which serves as an armature therefor. The magnet M is in electric circuit with a battery and any ordinary circuit-controller—as, for instance, a press-button located at any distance from it. The wires 6 7 leading from the poles of the magnet M pass through the insulating-block *m* to contact-pieces *n o*, projecting from the face of the lock, flush with the edge of the door. As the door is closed the two contact-pieces *n o* bear against contact-pieces *n' o'* in the striker-plate *h*, located in the jamb of the door, and preferably controlled by a spring, *o'*, to compensate for swell and shrinkage of the door. These contact-pieces *n' o'* are socketed in an insulating-block, *o'*, from which the electric circuit continues.

When it is desired to open the door from the outside, the attendant, in response to any suitable signal, operates the circuit-controller, (not shown,) energizing the magnet M and

attracting the retaining device *e*, thereby releasing the lever *d* and permitting the outside knob-spindle, when rotated, to force its tumbler *b* against the lever *d*, causing the latter to retract the slide-bolt B in usual manner.

The retaining device *e* is herein shown as provided with a projection, *e'*, so that, if desired, any suitable key may be applied to the lock, the key-guard striking the said projection and moving the retaining device on its pivot, thereby releasing the lever *d*.

By the employment of the contact-pieces herein shown the devices may be very easily and cheaply applied to doors, simply mortising being required.

I claim—

1. The combination, with a two-part spindle, and two tumblers, one connected, respectively, with each part, two pivoted levers acted upon, respectively, by the tumblers, to engage the free ends of the said levers with the slide-bolt and retract it, of a retaining device consisting of a pivoted lever, to lock one of the said levers in fixed position, and means, substantially as described, for moving the retain-

ing device, to thereby release its engaging-lever, all as set forth.

2. The combination, with a two-part spindle, and tumblers connected with each part respectively, pivoted levers to be acted upon by the tumblers, to retract the slide-bolt, of a retaining device consisting of a pivoted lever engaging a detent fixed to or integral with one of the said levers, the detent, and an electromagnet, to control the operation of the retaining device, substantially as described.

3. In a lock, the combination, with an electromagnet controlling the operation thereof, of contact-pieces *n o*, projecting from the face of the lock, and spring-controlled contact-pieces *n' o'*, located in the striker-plate, against which the contact-pieces *n o* strike, all substantially as described.

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

WILLIAM C. FISHER.

Witnesses:

G. W. GREGORY,
B. J. NOYES.