

(No Model.)

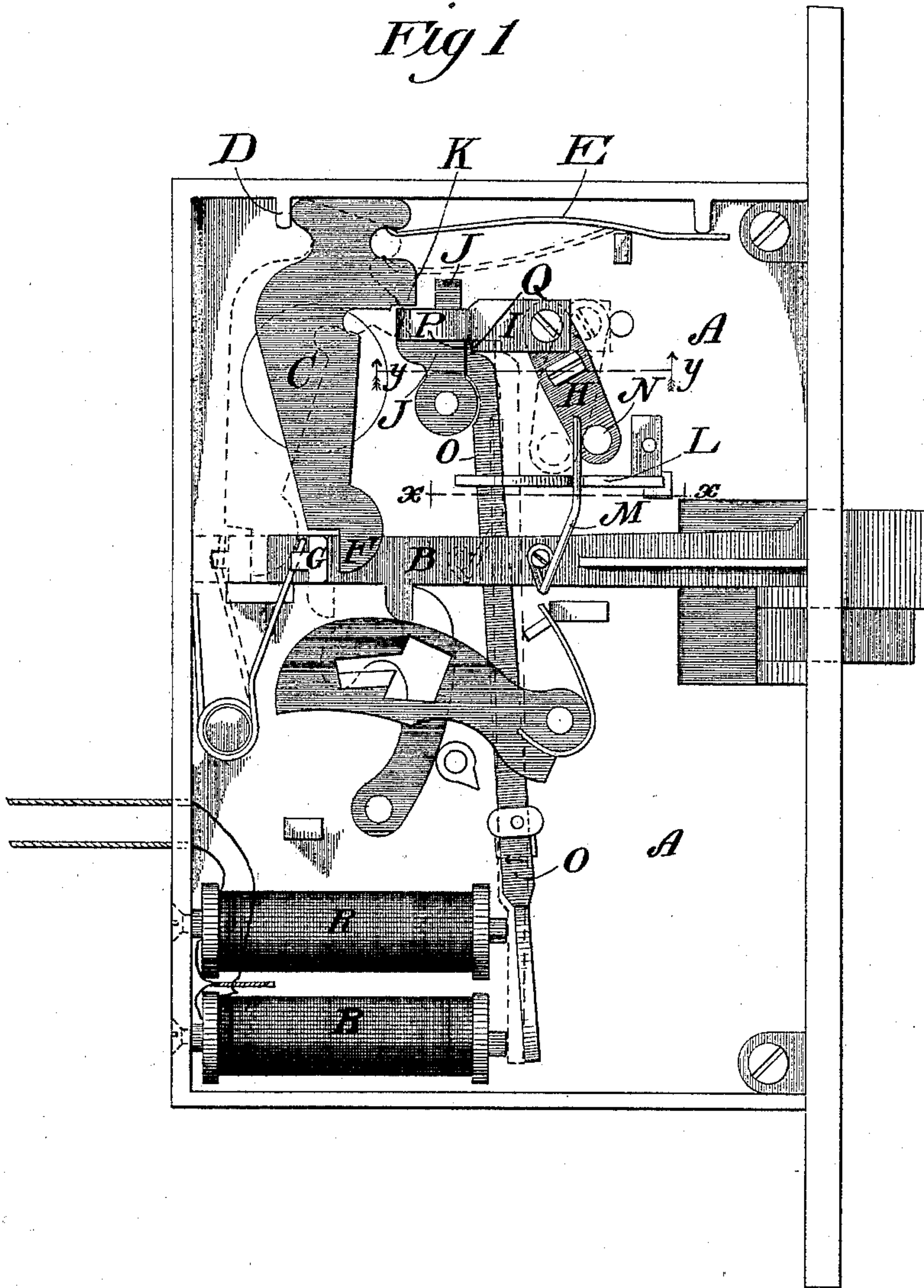
C. B. BEERS.

ELECTRICALLY OPERATED DOOR LOCK.

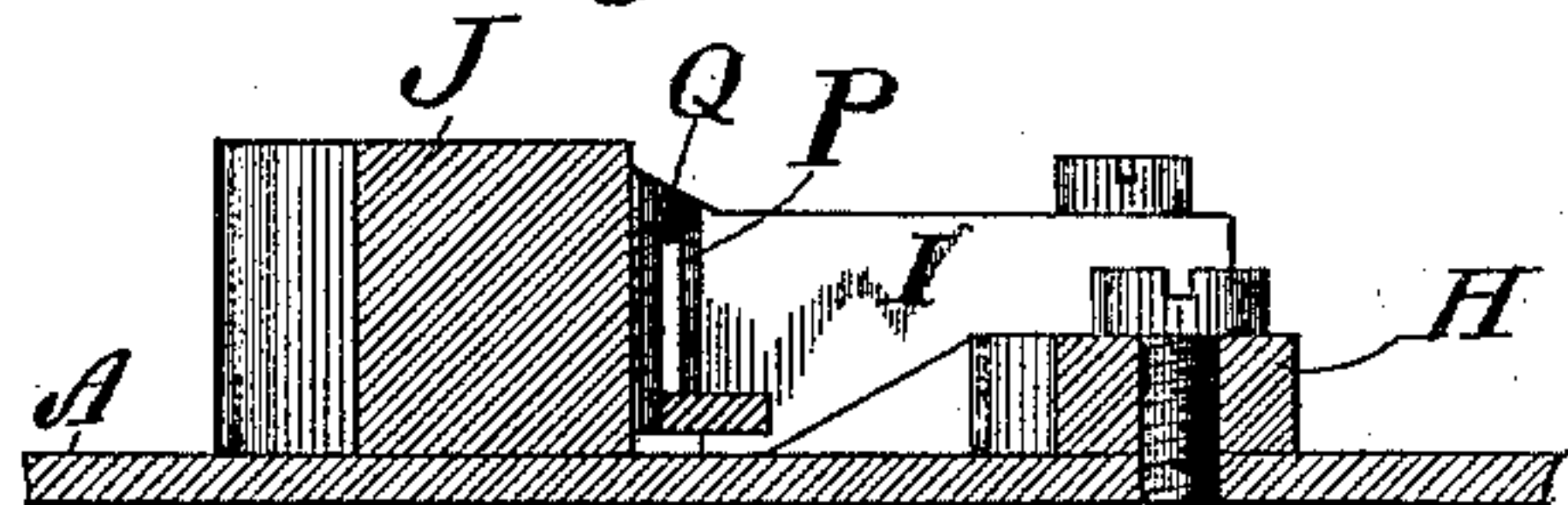
No. 396,723.

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*Fig 1*

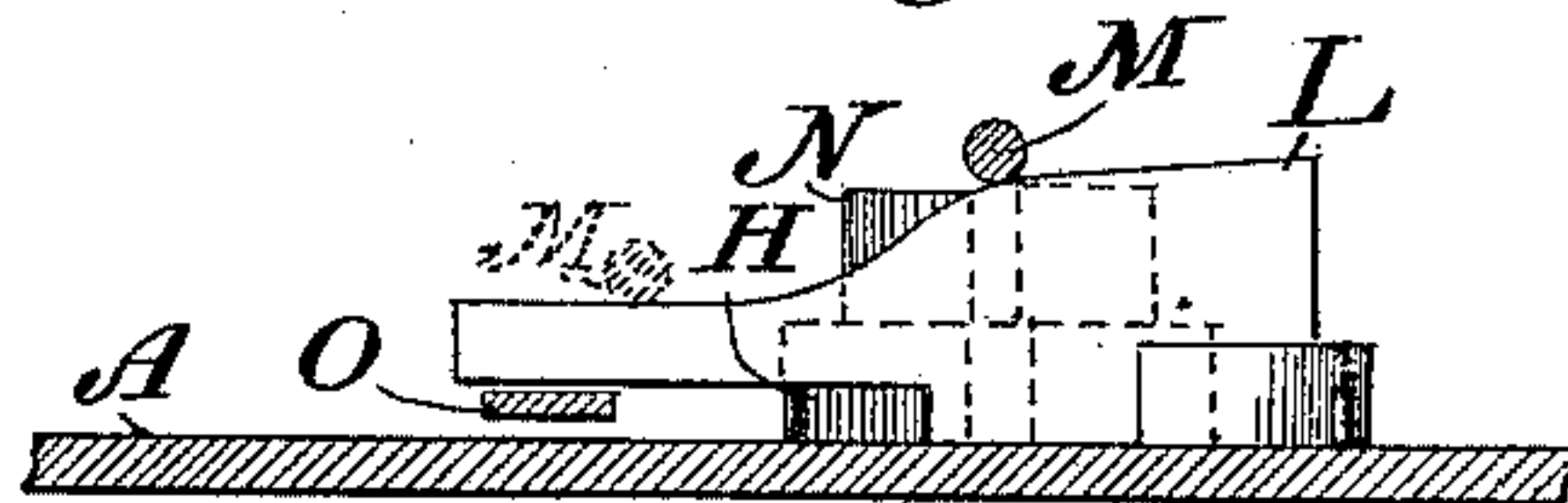


*Fig 3*



*Witnesses*  
*S. Williamson*  
*E. S. Sumner*

*Fig 2*



*Inventor*  
*Charles B. Beers*

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*Atty.*



# UNITED STATES PATENT OFFICE.

CHARLES B. BEERS, OF BRIDGEPORT, CONNECTICUT.

## ELECTRICALLY-OPERATED DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 396,723, dated January 29, 1889.

Application filed March 19, 1888. Serial No. 267,653. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. BEERS, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Door-Latches; 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 certain new and useful improvements in locks and latches, but has especial reference to latches which are operated by the ordinary knob and spindle.

The object of my invention is to lock and unlock the latch-operating spindle, especially in instances where the lock is located on the first floor of a building while the operator is on a higher floor, while at the same time the retraction of the latch by the ordinary night-key is not interfered with.

With these ends in view my invention consists in the details of construction and combination of elements, such as will be hereinafter fully set forth, and then specifically designated by the claims.

In order that those skilled in the art to which my invention appertains may more fully understand the same, I will proceed to describe its construction and operation, referring by letter to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of an ordinary "Niles" front-door lock with the casing removed provided with my improvement, and Figs. 2 and 3 enlarged detail sections at the lines *x x* and *y y* of Fig. 1.

Similar letters denote like parts in the several figures of the drawings.

I have shown my improvement adapted for use in connection with an ordinary Niles front-door lock, since it is necessary only to lock and unlock the outside knob, and therefore the Niles construction affords especial advantages, because it embodies independently-operating knobs. It will be obvious, however, that my improvement is equally as well adapted for the purpose of locking and unlocking the ordinary straight spindle of a

latch, and I therefore do not wish to be limited in this respect. In the Niles construction there are tumblers, (two in number and designated hereinafter by the letter C,) to which the knob-shanks are respectively hooked, and the outer knob-shank has hitherto been locked and unlocked by means of a bolt adapted to be thrown within and without the field of action of the outer tumbler, said bolt being operated by means of push-levers which project through the face-plate of the lock. While this construction accomplishes the result aimed at, it has one disadvantage, and that is it requires to be manipulated locally. My improved construction does away with this system of locking and unlocking the latch, and is best understood by the following description.

A is the lock-casing, and B the latch arranged to operate in precisely the same manner as in the said Niles construction. The knob-spindle tumblers (only the outer one being shown) are denoted by C. These tumblers are hung at their rear ends between a lug, D, projecting from the casing, and the end of a strong plate-spring, E, in the same manner and for the same purpose as in the Niles construction aforesaid. The free ends of said tumblers terminate in a lip, F, which extends immediately beyond a shoulder, G, formed at the rear end of the latch, whereby when the tumblers are swung toward and against said shoulder the latch will be withdrawn, all of which is well known and in common use.

H is a rock-lever pivoted to the casing so as to swing freely, and I is a bolt loosely pivoted to the outer end of said lever and adapted to be reciprocated by the rocking movement of the latter.

J is a bearing formed with the casing, and within which the bolt is guided in its line of movement.

The tumbler C has a shoulder, K, which extends parallel with and in close proximity to the bolt I, so that when the latter has been shot forward it extends beyond said shoulder and opposes the swing of the tumbler to withdraw the latch.

L is an inclined fin secured to or formed integral with the casing, and M is a spring-arm



secured to the latch and extended across the face of the said fin. In normal position this arm is elevated against its resiliency, and is supported in such position at the top of the incline of said fin, as shown in solid lines in Figs. 1 and 2; but when the latch is withdrawn said arm will travel down said incline.

N is a pin which projects upward from the rock-lever H to a plane slightly below the top of the incline of the fin L, but above the bottom of said incline. This pin is immediately below the spring-arm M when the rock-lever is in the position shown in dotted lines and the bolt I drawn back to permit of the swing of the tumbler C on the retraction of the latch, so that it will be readily understood that as the latch is retracted the spring-arm will be carried behind the pin and below the top thereof, whereby when the latch is allowed to shoot forward to its normal position said spring-arm will abut against the pin and swing the rock-lever back and cause the bolt to be thrown beyond the shoulder K in locking abutment therewith, as shown in solid lines in Fig. 1. It will thus be seen that the latch is always automatically locked.

O is a lever pivoted loosely to the casing and having at the forward extremity a tongue, P, which projects snugly behind a shoulder, Q, on the bolt I, so that any swing of the rear end of said lever in the direction indicated by the small arrow thereon will cause said tongue to abut against the shoulder Q, and thereby withdraw the bolt I from the field of the swing of the tumbler C. The rear portion of this lever is made of soft iron, and is within the magnetic field of an ordinary magnet, R, from which latter the two wires of the coil are run to any suitable and ordinary push-button circuit-closer.

The operation of my improvement is as follows: Suppose the wires are run to any story in a building commonly known as a "flat." Upon the ringing of the bell at the street-door, and after ascertaining through the usual speaking-tube that a person seeks an entrance to the house, the push-button is pressed, the circuit thereby closed, and the

rear end of the lever O, which is really an armature, attracted by the magnet, thus causing the tongue P to throw back the bolt I and leave the tumbler C free for the manipulation of the outer knob to withdraw the latch. When the knob is released, the arm will strike against the pin N and shoot the bolt behind the tumbler, thus automatically locking the outer knob.

One of the great advantages of my improvement is that its construction does not in the least interfere with the manipulation of the latch by the ordinary night-key, since said latch may be readily thrown back and forth without disturbing the normal position of a single element of my construction.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the electro-magnet, the lever O, pivoted to the casing and having at one end an armature within the field of said magnet and at the other end a tongue, P, the sliding bolt I, having a shoulder, Q, and the latch-operating tumbler having a shoulder, K, substantially as shown and set forth.

2. In a door-latch, the combination of the latch-operating tumbler, the latch having a shoulder against which said tumbler abuts, a bolt adapted to lock said tumbler as against operation, a pivoted rock-lever carrying said bolt and having upwardly-projecting pin, a vertical fin secured to the latch-casing and having its upper edge inclined from a point above said pin to a point below the same, and the spring-arm secured to the latch and extended in normal position across said fin and above said pin, whereby when the latch is retracted said arm will ride down the fin to a position behind said pin, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES B. BEERS.

Witnesses:

WM. J. TANNER,  
R. S. WILCOX.