M. GUETT.
ELECTRIC DOOR OPENER.
APPLICATION FILED JAN. 17, 1913.
Patented Dec. 15, 1914.

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Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES

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THE MURPHY PAPER CO. PRINTED AT WASHINGTON, D.C.
To all whom it may concern:

Be it known that I, MONROE GUETT, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electric Door-Openers, of which the following is a specification.

This invention relates to that class of devices wherein a door is normally locked by the engagement of its bolt with a latch, the latch being movable but normally locked in engaging position with the door bolt by a member which constitutes the armature of an electromagnet, means being provided at a distance from the door for energizing the magnet to move its armature to unlock the latch and permit of the opening of the door.

Devices of this sort are commonly used to unlock an entrance door from the upper stories of a building, such as an apartment house, a push button being installed in the apartment which closes the circuit from a battery to the electromagnet. The armature is usually provided with some means, such as a spring, to restore it to its normal position as soon as the magnet is deenergized, and such action locks the latch in what may be termed its engaging position, and it is evident that a person wishing to open the door must act while the electromagnet is energized, it being of course understood that the door bolt is not operable by the knob. Since it is difficult to establish the necessary cooperation between the person operating the push button and the person seeking entrance, it has been customary to insert a spring-pressed plunger in the door jamb, which plunger will be pressed in against the spring when the door is closed, and normally presses the door against the latch in order that, as soon as the latch is released by the action of the electromagnet, the spring plunger will open the door slightly. The objections to such an arrangement are obvious, since it is impossible to release the latch and still keep the door closed.

It is the object of my invention to provide means for releasing or unlocking the latch without opening the door, and an embodiment of the invention is illustrated in the drawings, in which—

Figure 1 is a front view of a lock set equipped with the structure of my invention, the face plate being partially broken away, Fig. 2 is a side view of the same with one wall of the casing removed, Fig. 3 is a transverse section on the line 3—3 of Fig. 2, Figs. 4 and 5 are detail end views showing the operation of parts of the mechanism.

Referring to the drawings—a is the face plate, b the casing, c the strike plate pivoted at d—a, and normally held in closed position by the spring e; f is a dog fulcrumed in the casing and engaged by the pin g on the pivoted strike plate c; h is a keeper having a main arm 20 and an angularly disposed arm 30, which keeper is pivotally supported at the angle of the two arms, as indicated at i, the keeper being held in normal position by the spring e through the latch and dog, and the free end of the dog having engagement with the keeper at this pivotal point when in normal position.

h is the electro-magnet and m the armature held up by the spring 20, its end 30 lying back of the main arm 20 of the keeper, when the latter is in its normal position, thus forming a stop which prevents the movement of the keeper, and consequently prevents the disengagement of the free end of the dog with the keeper, thus holding the strike plate in its locking position. The side of the main arm 20 of the keeper is notched as at 40 to permit of its passage by the end 30 of the armature when the latter is drawn down by the magnet, under which conditions it will be evident that pressure on the latch moves the dog, and the dog moves the keeper until its free end disengages therefrom. Then the latch is free to move to release the door bolt. But it will be evident that if the door is not opened while the magnet is energized the moment the magnet is deenergized the spring 20 will throw the armature up back of the main arm 20 of the keeper and lock it, thus locking the latch.

My invention resides in providing means for moving the keeper by the end of the armature the instant the magnet is energized sufficiently to draw the armature down so that its end is in registering position with the notch 40 in the keeper arm 20, and this means comprises a pair of levers, 10, 20, having a common fulcrum 30, one lever 10, having a pin 11, projecting through the face plate 10 and adapted to be engaged and moved by the edge of the door when it is
closed, to what may be termed its active position. The other lever 20 has a finger 21 which bears against the front of the main arm 23 of the keeper, a spring 25 tends to

cause these two levers 10, 20, to move together, but the lever 20 is held against movement because of its engagement with the keeper arm 23; this position of the parts being shown in Fig. 4. As soon as the magnet is energized, the armature is drawn down, bringing it into alignment with the notch 43 in the keeper arm 23 and releasing the keeper; immediately the spring 25 moves the lever 20 toward the active position of

the lever 10, carrying the main arm 20 of the keeper with it by the end of the armature, this position of the parts being indicated in Fig. 5. The latch is now released or unlocked, and the door can be opened at any time, but there is nothing tending to open the door and it remains closed until pulled open. As soon as the door is opened the lever 10 is of course released, and either by a separate spring or by the spring 26 is

moved back to normal position; a pin 26 in the lever 10 engages the lever 20 and causes it to move with the lever 10 to normal position. Through the connections between the strike plate and the keeper the spring 26 moves the main arm 20 of the keeper back to normal position, releasing the armature which is raised by the spring up to a position back of the keeper arm 23.

These devices may be susceptible of alterations and modifications without departing from the spirit of the invention as set forth in the accompanying claims.

I claim as my invention:

1. In a device of the character described the combination with a latch, a keeper, and operative connecting parts, a spring for operating the latch, an armature adapted in one position to act as a stop for the keeper, and an electro-magnet adapted to operate said armature to release the keeper, of means normally inactive but operative upon the actuation of the armature to move said keeper by said stop and hold it in released position.

2. In a device of the character described, the combination with a latch, a keeper, and operative connecting parts, a spring for operating the latch, an armature adapted in one position to act as a stop for the keeper, and an electro-magnet adapted to operate said armature to release the keeper, of a pair of levers adapted to move independently of one another, a spring connecting said levers and tending to cause them to move together in one direction, one of said levers having engaging connection with said keeper, the other lever adapted to be engaged by a door to move it independently of the first mentioned lever and flex the spring.

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 Witnesses:

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