F. W. COLE.

SIGNAL BOX.

APPLICATION FILED JULY 16, 1906.

970,800. Patented Sept. 20, 1910.

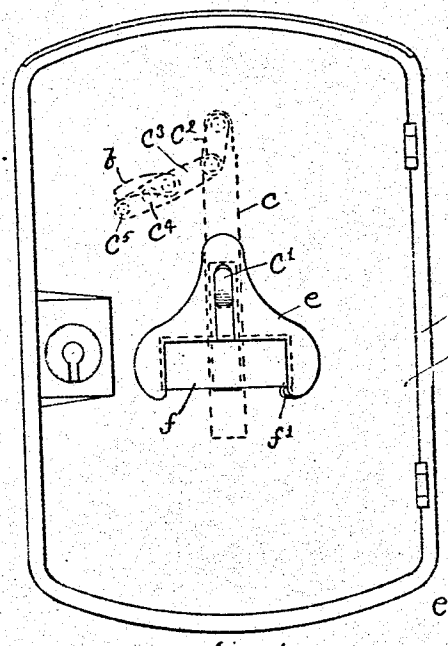

Fig. 1.

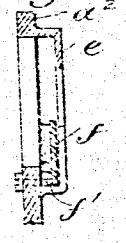

Fig. 6.

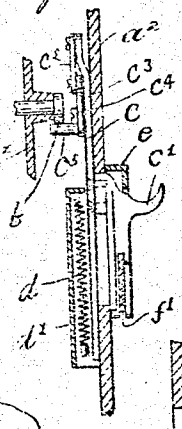

Fig. 3.

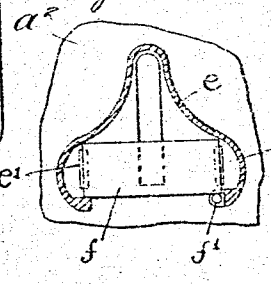

Fig. 4.

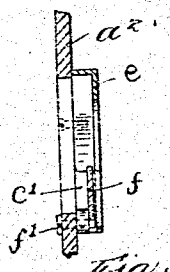

Fig. 5.

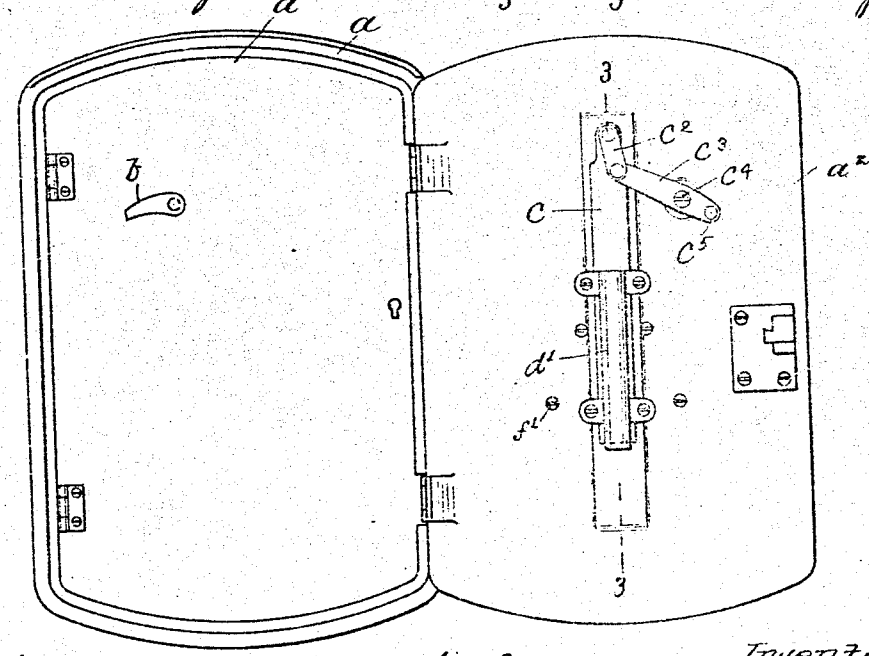

Fig. 2

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UNITED STATES PATENT OFFICE.

FREDERICK W. COLE, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO THE GAMEWELL FIRE ALARM TELEGRAPH COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SIGNAL-BOX.

970,800. Specification of Letters Patent. Patented Sept. 20, 1910.

Application filed July 10, 1906. Serial No. 325,442.

To all whom it may concern:

Be it known that I, FREDERICK W. COLE, of Newton, county of Middlesex, State of Massachusetts, have invented an Improvement in Signal-Boxes, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to signal-boxes, and has for its object to provide a box with an external or exposed actuator for the signal-transmitting mechanism, and an improved form of frangible device which obstructs movement of said actuator, but does not cover and thereby render it non-accessible.

Figure 1 shows in front elevation a signal-box having an actuator for the signal-transmitting mechanism and a frangible locking-device therefor. Fig. 2 is a similar view of the box showing the box door open. Fig. 3 is a vertical section of a portion of the box door taken on the dotted line 3—3 Fig. 2, the actuator for the signal-transmitting mechanism being shown in side elevation and the frangible locking-device in section. Fig. 4 is a detail of the support for the frangible locking-device for the actuator. Fig. 5 is a vertical section of the support for the frangible locking-device. Fig. 6 is a modification to be referred to.

a represents the shell or case of the box; *a'* the inner door to the back side of which the signal-transmitting mechanism is supported in the usual manner, and *a²* the outer door of the box; *b* the winding-arm or let-off for the signal-transmitting mechanism by which it is wound up and set in motion or is let off. The winding-arm or let-off is located at the front side of the inner door and is arranged to be engaged and operated by an actuator which is arranged on the outer door of the box.

An actuator of the sliding type is herein shown, yet my invention is not limited to the employment of an actuator of this type. The actuator herein shown consists of a sliding-bar *c*, placed upon the inside of the outer door having a hook or pull *c'* secured to it, which projects through a slot in said door and is accessible at the exterior of the box, to be engaged to pull down the sliding-bar. The hook or pull serves as the hand-engaging portion of the actuator. The upper end of the sliding-bar *c* is connected by a link *c²* with one end of a lever *c³* pivoted at *c⁴* to the door, the opposite end of said lever having a rearwardly extended projection *c⁵* adapted to engage the winding-arm *b*. When the sliding bar is pulled down the lever *c³* will engage and operate the winding-arm and will set in motion the signal-transmitting mechanism. Thus the actuator mechanically operates the signal-transmitting mechanism.

For the purpose of raising the sliding-bar a spring *d* is provided which is contained in a recessed plate or frame *d'* secured to the box door at the inner side thereof and the upper end of said spring is connected to the upper end of said plate or frame and the lower end thereof is connected to the sliding-bar. At the front of the box-door the hook or pull is permanently uncovered and is therefore accessible to be engaged and operated to send in the signal.

To provide against sending in false alarms, a frangible-device is provided for the actuator which obstructs its movement but does not cover its external or exposed hand-engaging portion, and, as herein shown, a frame *e* is placed against the front of the box-door, which is secured thereto by screws from the inside of said door, or said frame may be formed integral with the door, as shown in Fig. 6. Said frame is slotted to permit the hook or pull being extended through it and to provide for up and down movements of said hook or pull. Below said slot it is recessed to provide a space between it and the door. Two lugs *e'*, formed on the door, extend outwardly into the recess in the frame *e* at opposite sides thereof which approach the front wall of the frame but which terminate a sufficient distance from said front wall to leave a narrow space between the ends thereof and the frame. In this narrow space a glass plate *f* is placed. The plate is arranged in the recess transversely with respect to the movement of the hook or pull and is of such dimensions that its upper edge occupies a position just beneath the hook or pull and thereby prevents downward movement of the hook or pull until broken. The plate is slipped into the recess provided for it and is held in place by a screw *f'* which passes through the door from the inside. To insert the plate first the end farthest from the fastening screw is inserted, then the

plate is rotated in its own plane about one corner of the end first inserted, as a center, to the position shown in Fig. 4, after which the fastening screw is inserted. The plate may be removed at any time by removing said screw or a new plate may be supplied. The glass plate *f*, which is thus supported beneath the hook or pull, serves as a frangible locking-device therefor, in that it positively prevents movement of the hook or pull to set in motion the signal-transmitting mechanism to transmit the signal until broken. The frame *e*, it will be observed, incloses the frangible-plate in such manner that it cannot be easily broken except by a blow from the front, thereby reducing the liabilty of accidental breakage to the minimum; that it supports the frangible-plate by its ends and protects the edges thereof, so that it serves as or furnishes end-supports for said plate, while the hook or other exposed hand-engaging portion of the actuator engages the plate intermediate its length.

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

1. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-plate arranged on the front side of the box door beneath the hand-engaging portion of said actuator and transversely with respect thereto, whereby it is engaged by said hand-engaging portion intermediate its length, and recessed end-supports for said frangible-plate arranged on the front side of said box door, the entrance to the recesses thereof being arranged at the bottom, and means for holding the frangible-plate in position in the end-supports, substantially as described.

2. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-member obstructing movement of said actuator, but which does not cover the hand-engaging portion thereof, and a frame arranged on the front side of the box door inclosing said frangible-member, having a slot through which the hand-engaging portion of said actuator extends, which is open at its lower end to permit the hand-engaging portion to engage the frangible-plate, substantially as described.

3. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-member obstructing movement of said actuator, but which does not cover the hand-engaging portion thereof, and a frame arranged on the front side of the box door having a recess to receive said frangible-member and to support it at its ends and having a slot through which the hand-engaging portion of said actuator extends, which is open at its lower end to permit the hand-engaging portion to engage the frangible-member, substantially as described.

4. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-member obstructing movement of said actuator, but which does not cover the hand-engaging portion thereof, and a frame arranged on the front side of the box door having a recess for the frangible-member, which is open at the bottom to permit of the introduction of said member, and having a slot through which the hand-engaging portion of the actuator extends, which permits engagement thereof with the frangible-member, and means for holding the frangible-member in the recess in the frame, substantially as described.

5. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-member obstructing movement of said actuator, but which does not cover the hand-engaging portion thereof, and a frame arranged on the front side of the box door having a recess for the frangible-member, which is open at the bottom to permit of the introduction of said member, and having a slot through which the hand-engaging portion of the actuator extends, which permits engagement thereof with the frangible-member, and means accessible only at the interior of the box door for holding the frangible-member in the recess in the frame, substantially as described.

6. A fire-alarm box having a winding-arm, a pivoted lever on the box door for engaging said winding-arm, a sliding-member on the box door connected with said pivoted lever, and a frangible locking-device for said sliding-member, substantially as described.

7. A fire alarm box having a winding-arm, a pivoted lever on the box door for engaging said winding-arm, a sliding-member on the box door connected with said pivoted lever, and a frangible plate located beneath said sliding-member which obstructs its movement, substantially as described.

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

FREDERICK W. COLE.

Witnesses:
B. J. NOYES,
H. B. DAVIS.