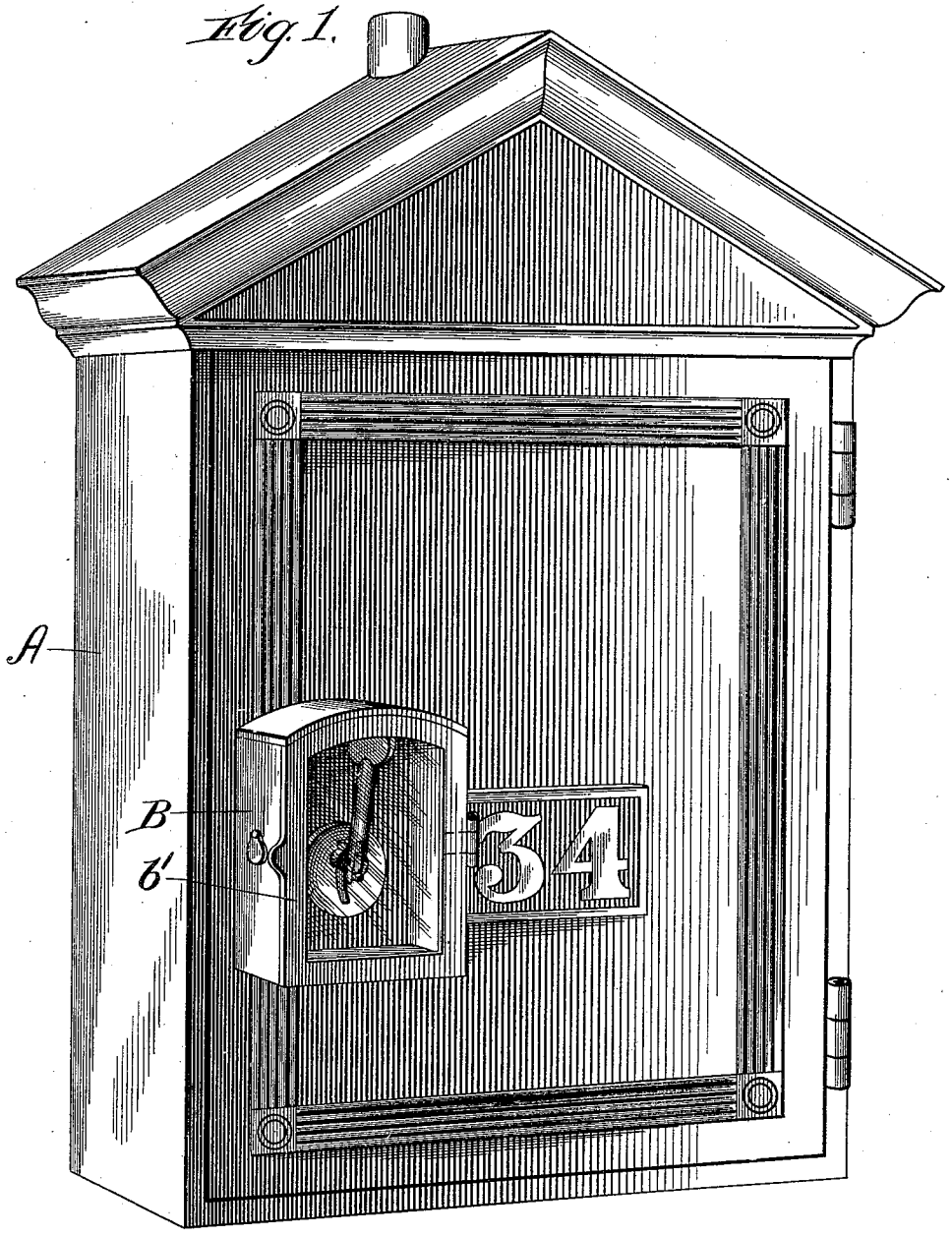
(No Model.) 2 Sheets—Sheet 1.

C. A. ROLFE.

FIRE ALARM BOX.

No. 543,103. Patented July 23, 1895.

Fig. 1.



Witnesses:
Arthur F. Durand.
Reta M. Wagner.

Inventor:
Charles A. Rolfe
by Chas. G. Page Atty.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

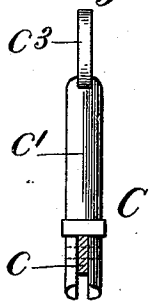


Fig. 2.

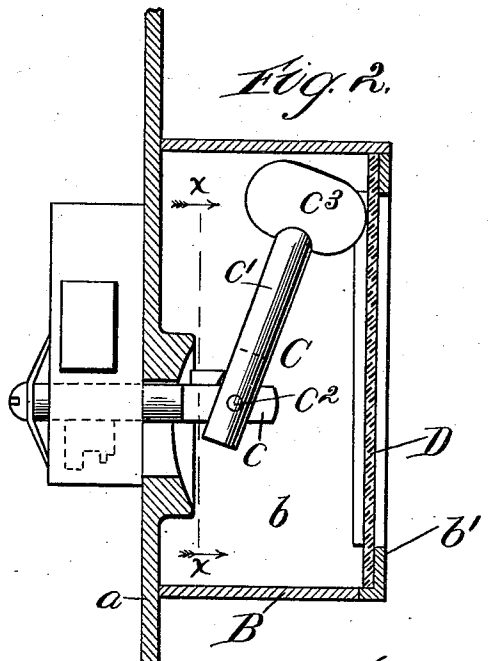


Fig. 5.

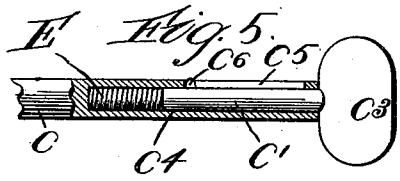


Fig. 6.

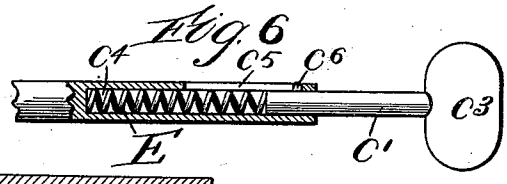
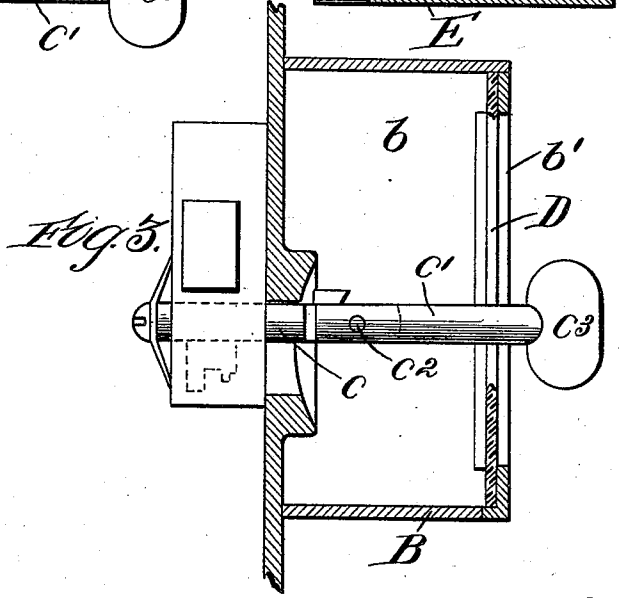


Fig. 5.



Witnesses:
Arthur F. Durand,
Rota M. Wagner.

Inventor:
Charles A. Rolfe
By Chas. G. Page Atty.

UNITED STATES PATENT OFFICE.

CHARLES A. ROLFE, OF CHICAGO, ILLINOIS.

FIRE-ALARM BOX.

SPECIFICATION forming part of Letters Patent No. 543,103, dated July 23, 1895.

Application filed May 10, 1895. Serial No. 548,818. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. ROLFE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Fire-Alarm Boxes, of which the following is a specification.

My invention relates to fire-alarm boxes in which access can be had to a key for opening the box by breaking a glass or analogous frangible plate arranged to form a portion of a casing which provides a key-guard. This frangible plate desirably forms the front of a small casing, within which the portion of the key which projects from the keyhole is confined, whereby by breaking through the frangible plate the key can be reached and turned. It frequently happens, however, that when the frangible plate is broken through and the key thus reached and turned the hand of the party at the box while being thrust into and withdrawn from the small casing containing the key becomes cut by such portions of the frangible plate as are not broken away, such accidents being also liable to occur during the act of turning the key. These accidents also happen more frequently at night, although, owing to the usual haste and excitement of the person seeking to reach and operate the key, they are common at all times. The object of my invention is to avoid these objectionable features, and to such end I provide the box with a key which is normally retracted within the compartment or casing and arranged to automatically project therefrom when a suitable portion of the frangible plate is broken away.

In the accompanying drawings, Figure 1 represents in perspective a fire-alarm box provided with an extensible key in accordance with my invention. Fig. 2 is a vertical section through a portion of the main door provided with a lock and extensible key and the small casing inclosing the projecting portion of the key. Fig. 3 is a like view illustrating a portion of the frangible plate broken away and the key projected through the opening thus formed. Fig. 4 is a section taken through the key on line $x\,x$ in Fig. 2, looking in the direction of the arrows, so as to show the swinging portion of the extensible key in cross-section. Fig. 5 illustrates a portion of a modified construction of extensible key, partly in longitudinal section and partly in elevation, the extensible member of the key being retracted. Fig. 6 is a like view showing the extensible member projected from the shank portion of the key.

The fire-alarm box A is constructed with a main hinged door a and a small casing B arranged upon said door and adapted to cover the keyhole in the latter. The key C is employed for opening the main door and is left in the keyhole, and the small casing B is adapted to contain the portion of the key which projects from the keyhole. The front of the chamber or compartment formed by the small casing is mainly composed of a glass or analogous frangible plate D, which must be broken through before access can be had to the key by a person who cannot otherwise open the casing.

In the first four figures the extensible key C is constructed with a shank portion c and an outer swinging section or handle portion c', which is pivoted at c^2 to the shank of the key. By such arrangement the swinging handle portion of the key can be swung back within the chamber b of the small casing, as in Figs. 1 and 2, whereby the key will in effect be retracted within such chamber, and when thus retracted the enlarged and practically-weighted end c^3 of the key will bear against the rear side of the frangible plate. When, however, a portion of the frangible plate is broken away, as in Fig. 3, the handle portion of the key will swing out through the opening thus made through the frangible plate, and hence the key will in effect be extended from the chamber, within which it has been normally confined. When the key is thus extended its handle end can be readily grasped and the key as a whole can be turned without any liability of the hand of the operator being cut by such portions of the frangible plate as have not been broken away.

In Figs. 5 and 6 the handle portion c' of the key has a sliding connection with its shank portion c, and for such purpose one of said members is provided with a socket, in which the other member is received. For example, the shank c is provided with a socket c^4, in which the handle portion c' is arranged to slide, and with such arrangement the shank is

also provided with a longitudinally-arranged slot c^5, in which a stud c^6 on the handle portion projects, so that while the handle portion is free to slide the key as a whole can be turned by turning its handle end. The handle end c^3 of this construction of extensible key normally bears against the rear side of the frangible plate, and as a means for extending or projecting the handle end of the key when the frangible plate is broken through the socket c^4 contains a spring E, which is arranged back of the rear end of the handle portion c' and normally compressed or retracted, as in Fig. 5, whereby, when the frangible plate is broken through, the handle portion of the key will be projected by reason of the expansion of the spring, as in Fig. 6.

By the foregoing it will be seen that with either construction of key the handle portion of the key will be automatically extended from the confining-chamber b when the glass is broken through and that the key can be turned without danger.

It is understood that after the frangible plate has been broken a new plate can be substituted, and that for such purpose the casing B can have at its front a hinged frame b', which is normally locked and which can be locked by a proper party holding a key for the same.

What I claim as my invention is—

1. A fire-alarm box provided with a key-guard consisting of a casing having a frangible portion which is to be broken preparatory to operating the key and an extensible key adapted for opening the box, and having its extensible handle-portion normally confined within the casing and arranged to project therefrom when the frangible portion of the casing is broken, substantially as set forth.

2. A fire-alarm box provided with a key-guard consisting of a casing having a frangible plate which can be broken through so as to expose the interior of the casing, and an extensible key for opening the box having its handle portion normally confined within the box and bearing against the rear side of the frangible plate, said handle portion of the key being arranged to automatically project through an opening in the frangible plate when the latter is broken through, substantially as set forth.

3. A fire-alarm box provided with a key-guard consisting of a casing provided with a frangible plate which can be broken through so as to expose the interior of the casing, and a key having a hinged swinging handle portion which is normally confined within the casing and arranged to project from the same when the frangible plate is broken, substantially as described.

CHARLES A. ROLFE.

Witnesses:
ARTHUR F. DURAND,
RETA M. WAGNER.