(No Model.)

F. SEDGWICK.

ELECTRIC MECHANISM FOR OPERATING SAFE BOLT WORK.

No. 329,223. Patented Oct. 27, 1885.

Fig. 1.

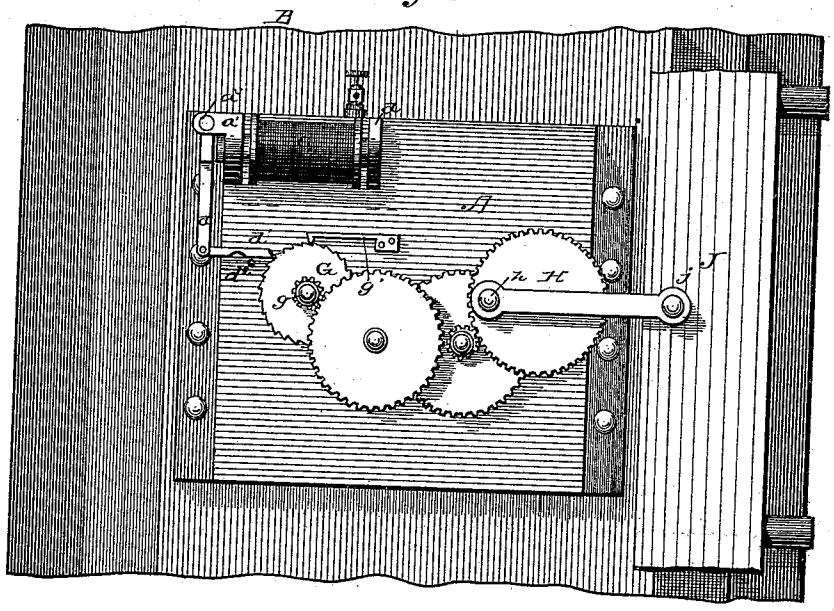


Fig. 2.

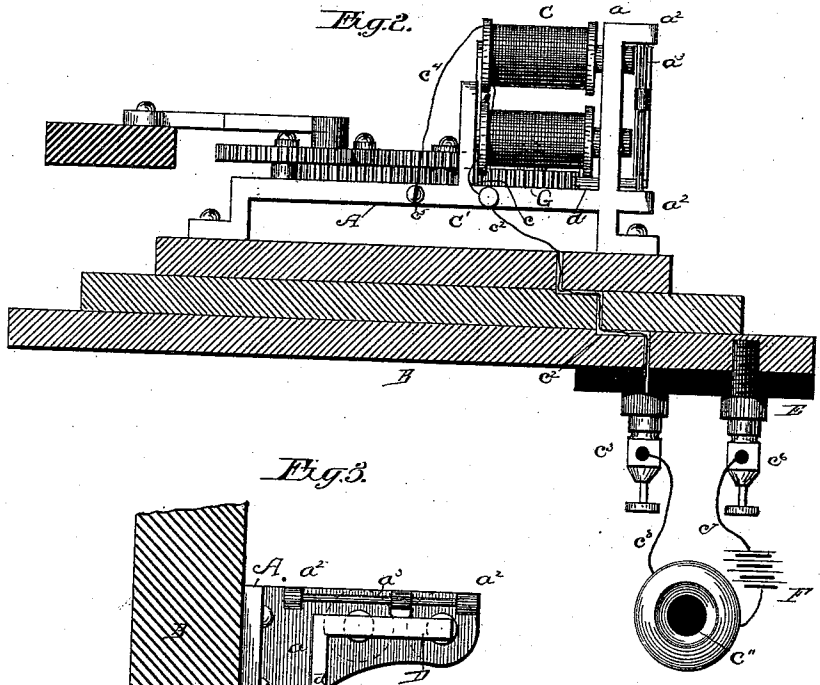
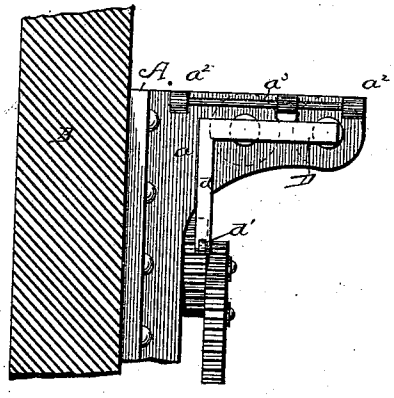


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK SEDGWICK, OF CHICAGO, ILLINOIS.

ELECTRIC MECHANISM FOR OPERATING SAFE BOLT-WORK.

SPECIFICATION forming part of Letters Patent No. 329,223, dated October 27, 1885.

Application filed March 10, 1885. Serial No. 158,308. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SEDGWICK, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric Mechanism for Operating Safe Bolt-Work, of which the following is a description, reference being had to the accompanying drawings, in which—

Figure 1 is a view of the inside of a safe-door, showing my improved mechanism applied thereto and connected with the bolt-bar. Fig. 2 is a horizontal sectional view in plan of a safe-door to which said mechanism is attached; and Fig. 3 is an end view of said mechanism, showing a part of the door in section.

Like reference-letters indicate like parts in the different figures.

The object of my invention is to provide an electrical mechanism whereby the bolt-work of safes may be thrown and retracted from the outside, thereby rendering said safes more secure by dispensing with spindles or other mechanical appliances which necessitate having a hole or holes through the door for their reception. I accomplish said object by means of one or more electro-magnets attached to the inside of the safe-door, and having suitable electrical connections with a battery-cup and a circuit-breaking device upon the outside, said magnets being adapted, when excited, to operate suitable mechanism connected with the bolt-work, and thus throw or retract the same, substantially in the manner hereinafter more particularly described and claimed.

In the drawings, A represents a plate of metal or any suitable frame-work, which may be attached by bolts or screws to the inside of the safe-door B, said frame having cast or otherwise rigidly attached thereto brackets *a a'*, Fig. 2, to which is secured, by means of screws, an electro-magnet, C, connected by a wire, *c*, with a binding-post, *c'*, from which a wire, c^2, Fig. 2, is carried through the safe-door B, whence it connects preferably with a binding-post, c^3, attached to a vulcanite plate, E, secured to the safe-door, said wires *c* c^2 being properly insulated. The terminal wire c^4 is connected by a screw, c^5, to the frame or plate A, which has a metallic connection with the safe-door B, into the outer plate of which a binding-post, c^6, is screwed, as shown, by which said magnet C may be connected with a battery, F, through a circuit-wire, c', and circuit-breaker or push-button C″, which is in turn connected with the binding-post c^3 by wire c^8, thereby enabling the circuit to be completed with the battery F and magnet C by pressing the button C″ in the usual way.

Upon the ends respectively of the bracket *a* and plate A are extensions or lugs a^2 a^2, which form bearings for a rod, a^3, by means of which is loosely pivoted or suspended an armature, D, attached thereto, and provided with a rigid extension or pendent arm, *d*, Figs. 1 and 3, the normal position of which is vertical. To the lower end of said arm is attached a gravity-pawl, *d'*, which is sustained normally in a horizontal position, substantially as shown, by a stud or pin, d^2, attached to the plate A, said pawl being adapted to engage a ratchet-wheel, G, having a pinion, *g*, which forms one of a train of gears of any desired number, according to the power required, terminating in a wheel, H, to which is attached a pitman, *h*, connecting by means of a wrist-pin, *j*, to the bolt-bar J. A spring-stop, *g'*, is attached to the plate A, so as to engage with the teeth of the ratchet-wheel G and regulate its movement by preventing the same from going too far forward or back.

Upon pressing the button C″ the magnet C is excited and attracts the armature D, thus actuating the pawl *d'* and moving the ratchet-wheel one notch. As soon as the circuit is broken by releasing the button, the arm *d* by virtue of its own gravity assumes a vertical position, and draws the pawl *d'* back in position for a second engagement, so that by manipulating the button C″ the wheel H is caused to make a half-revolution, thus throwing the bolt-work, while a further manipulation completes said revolution and retracts said bolts, as shown in the drawings.

The above-described device may serve as a valuable auxiliary in connection with my improved mechanism for operating safe bolt-work by means of compressed air, for which application for Letters Patent is filed herewith, in case said mechanism should from any cause fail to act, which combination may form the subject of a separate application.

Having thus described my invention so as

to enable others skilled in the art to exercise the same, I claim as new—

The combination, with the bolt-work of a safe, of the magnet C, electrically connected with a circuit-breaker, C″, and battery-cup, an armature attached to a loosely depending arm provided with a pawl arranged to engage a ratchet-wheel, and means, substantially as shown, for connecting the latter with said bolt-work, substantially as described, and for the purposes specified.

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