W. W. SHERAR.

ELECTRO-MAGNETIC ATTACHMENT FOR TIME-LOCKS.

No. 187,055. Patented Feb. 6, 1877.

Fig. 1.

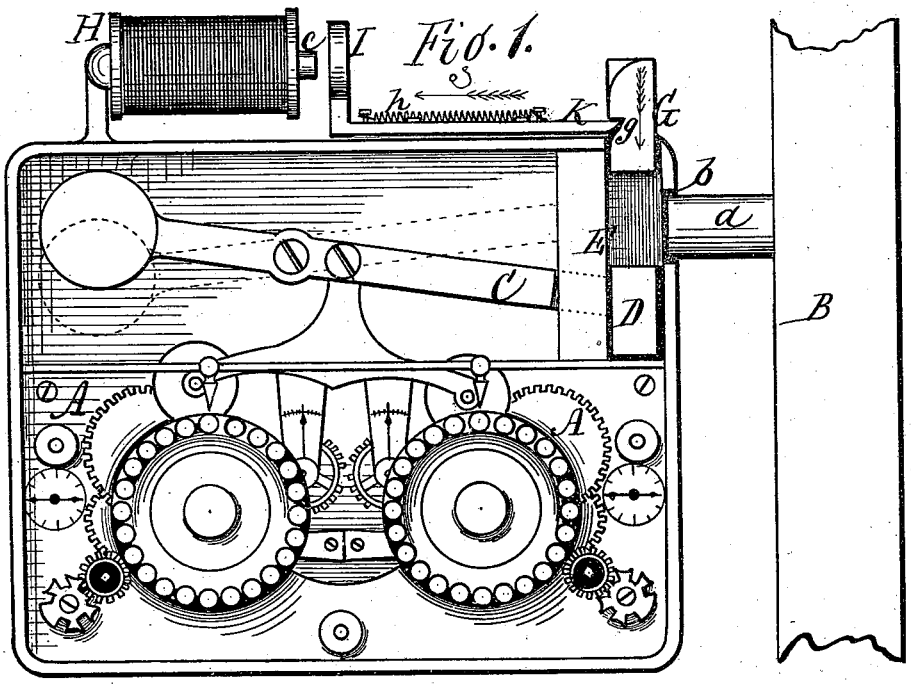


Fig. 2.

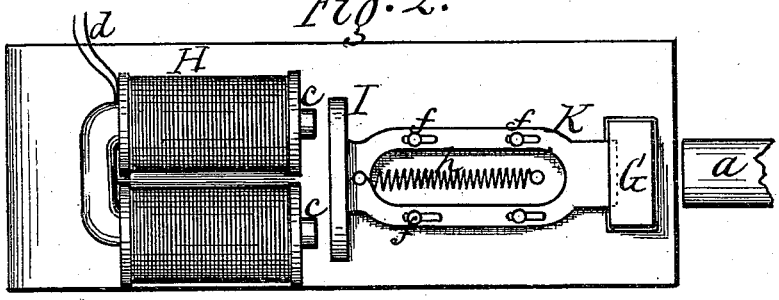
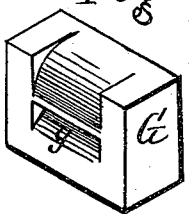


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM W. SHERAR, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN ELECTRO-MAGNETIC ATTACHMENTS FOR TIME-LOCKS.

Specification forming part of Letters Patent No. **187,055**, dated February 6, 1877; application filed October 7, 1876.

To all whom it may concern:

Be it known that I, WILLIAM W. SHERAR, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Time-Locks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of the Yale time-lock provided with my improvement. Fig. 2 is a plan of the same. Fig. 3 is a perspective view of the supplementary dog for dogging the door-bolt.

Time-locks, as now constructed, are adapted simply for securing the safe or vault during the hours when the bank is closed. So far as I am aware, no device is now in use for making the time-lock effective, in case of emergency, during the hours when the bank is open.

My invention consists of an attachment to a time-lock, whereby, in case of necessity, the door of the vault or safe can be locked independent of the time-lock by the simple touching of a key or other device, operating through the medium of an electro-magnet, as hereinafter described.

A represents an ordinary Yale time-lock. B is the door-bolt, having a tongue, *a*, which rests opposite an opening, *b*, in the case of the lock, as usual. C is the oscillating lever, which forms the lock-bolt. This is raised and lowered by the action of the time-movements. D is the dog, attached to the end of the lever, and which slides up and down in the way E. When the dog is raised it rests opposite the opening *b*, and prevents the retraction of the door-bolt. When lowered, as shown in the drawing, it allows the tongue of the door-bolt to enter the opening *b*, thereby unlocking the safe. Thus far the lock is of ordinary construction and well known. G is a supplementary dog or bolt, which also slides in the way E. It rests loosely in the top of the way, being retained in a suspended position by the means hereinafter described. When released by the holding device it falls of its own weight in the way E, and, striking on top of the dog D when lowered, or in the unlocked position, it comes opposite the opening *b*, and also prevents the retraction of the door-bolt. H is an electro-magnet of ordinary form, attached to the lock. I is the armature. *c c* are the poles of the magnet. *d d* are the insulated wires, which extend from the magnet up over the inner face of the door and through the joint of the same, (being embedded at the joint,) and thence outside the door, where they are carried to the body of the safe or vault, thereby allowing the door to swing free without affecting the wires. One wire is carried through the room, or beneath the counters, or to other positions where the cashier, the clerks, or other attendants of the office are located, and connected at different points with keys or other devices, which, when touched, establish the current from the battery with the wire. The other wire extends down to the bottom of the safe and forms the ground-connection. K is an arm or slide attached to the armature and moving with it. It is slotted and rests on studs *f f*, or is otherwise arranged to slide back and forward in a direct line, being held forward by a spring, *h*. Its front end is sharp-edged, and strikes into a notch, *g*, of the dog G, thereby holding the latter suspended, as shown in Fig. 1. When the circuit is established the magnet will draw the armature and slide back, and the dog G will be then released and fall behind the tongue of the door-bolt, as before described.

The device above described is for use during the day, when the safe or vault stands unlocked. It is necessary that the door of the safe or vault should stand shut in the proper position for locking. Then, in case of emergency, the touching of a key or other instrumentality by any attendant in the room will cause the dog G to drop and lock the safe as effectually as it is locked at night. When the time-movement comes around to proper position again the dog G will be raised by the raising of the lever C, and the dog will automatically re-engage with its retaining device.

The object of this invention is to provide for those emergencies where a bank is attacked by armed robbers in the day-time, while the vault or safe is unlocked. The touching of a key by any attendant in the room would put it out of the power of either the robbers or the attendants to open the vault.

The invention above described is susceptible of many modifications. Many changes would necessarily have to be made to adapt it to the different kinds of time-locks now in use. I, therefore, do not wish to confine myself to the particular construction described, nor to the time-lock shown. But it is necessary, in all cases, to use an electro-magnet, and also an instrumentality operated upon by the magnet that will move a dog, block, or other device over the opening in which the tongue of the door-bolt enters. In some locks it will be necessary to use a system of gearing acted on by the magnet to set the bolt. In some time-locks, also, the common lock-bolt may be operated by the magnet, to lock the door-bolt without the use of an extra dog, by means of a gearing set in motion by the magnet.

It will be understood that, although combined in a time-lock, the device forms no part of the operating mechanism of the same, but is entirely independent of it, and has a complete action of its own.

Having thus described my invention, I am aware that an electro-magnet has been combined with a time-lock for the purpose of unlocking the lock in case the time-movements stop. Such I do not claim.

What I claim herein as new is—

1. In a time-lock, the combination of an electro-magnet with a dog or bolt by suitable connecting mechanism, so arranged that, the magnet acting through said mechanism upon dog or bolt, it will cause it to shut behind and lock the door-bolt, independent of the time-movement, as herein specified.

2. In a time-lock, the combination, with the sliding dog or bolt D, of a supplementary dog, G, arranged to move behind and obstruct the door-bolt, when released from its holding device, and capable of being reset or moved to position for a new action by the said dog D, acted upon by the time-movement, as herein described.

3. In a time-lock, the combination of an electro-magnet and armature, a slide connected with the armature, and a dog or bolt retained by the slide in position to move behind and lock the door-bolt independent of the time-movement, when said dog or bolt is released by the magnet, as herein described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

W. W. SHERAR.

Witnesses:
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EDWIN SCOTT.