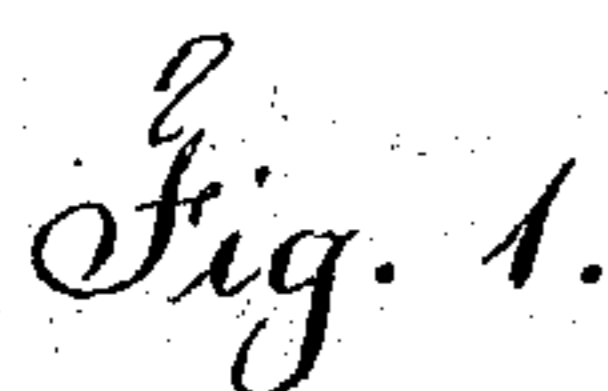


Time-Lock.

No. 161,052.

Patented March 23, 1875.



Witnesses

Chas H. Smith
Geo. D. Walker.

Inventor

Daniel Moore.
per Lemuel W. Perrell

UNITED STATES PATENT OFFICE.

DANIEL MOORE, OF BROOKLYN, NEW YORK, ASSIGNOR TO JOSEPH GOLD-MARK, OF SAME PLACE.

IMPROVEMENT IN TIME-LOCKS.

Specification forming part of Letters Patent No. **161,052**, dated March 23, 1875; application filed February 13, 1875.

To all whom it may concern:

Be it known that I, DANIEL MOORE, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Fastenings for Safe and Vault Doors, of which the following is a specification:

This invention is made for the purpose of dispensing with all key-holes, turning handles, or other appliances acting from the outside upon parts within the safe, thereby effectually preventing burglars opening the safe except by the destruction of the actual material thereof. I make use of a lever-catch, acting in connection with bolts, so that the bolts are shot into place in the act of closing the door. To this lever a weight is applied, and also a receptacle for mercury or other flowing material, and a reservoir of such material is provided from which such material is allowed to run in a regulated stream, and according to the position of the weight upon the lever, so more or less time will be consumed, during which the mercury accumulates in the receptacle upon the lever sufficient to produce an accumulation that overbalances the weight and liberates the bolts automatically. In connection with this I make use of an electric indicator to denote when the apparatus is properly in position and operative.

In the drawing, Figure 1 is a section of part of a vault or safe, and of portions of the apparatus; and Fig. 2 is a modification of part of the apparatus.

The door *a* and safe or vault *b* are of any usual construction, and *c* represents a bolt sliding in the guides *d* and entering the loops *e* on the door. The lever *f* is upon a fulcrum, *g*, and its end may be formed as a latch to catch into the hook *h* upon the door; and the end of this lever *f* also serves to lift the bolt *c* as the door is closed, and to withdraw said bolts when the time arrives that the door can be opened. Attached to or suspended from the lever *f* is a receptacle, *l*, for mercury, sand, or other material that is allowed to run into it from the reservoir *m* that is provided within the safe or vault; and there is upon the lever *f* a weight, *n*, that, preferably, is adjustable; and there is a scale, *o*, fixed contiguous to this

weight, so as to indicate the number of hours during which the safe will remain closed.

The operation is as follows: Before the safe is closed the vessel *l* is emptied into a suitable vessel, and the contents poured into the upper vessel *m*, the cock *u* whereof is set at a definite position when the apparatus is first adjusted. The weight *n* is set opposite the mark indicating the number of hours that are to elapse before the safe can be opened and the weight is clamped by the screw *s*. The safe is then closed, and the bolts and fastenings are self-acting, and fall catching the door firmly. The weight accumulates in the receptacle *l* in consequence of the mercury, sand, or similar material running from the reservoir *m* into the receptacle *l* until the accumulation is sufficient to counterbalance the weight *n* and move the lever *f*, which thus becomes a scale-beam, and the bolts *c* and weight *n* are raised and the latch *h* liberated, so that the door *a* can be opened; and it will be apparent that the time occupied before the accumulation of weight will be sufficient to liberate the bolts will depend upon the distance that the weight *n* is placed from the fulcrum *g*, so as to have more or less leverage, and that the time occupied can be accurately denoted in hours upon the fixed scale; thereby the safe-bolts will be liberated at the proper time only.

In order to change the mercury from the vessel *l* to the receptacle *m* the latter may be hung on a swinging arm, *t*, as shown in Fig. 2, so that the same may be turned down to the position shown by dotted lines, and the mercury allowed to run from the vessel *l*; and then said receptacle *m* is elevated by turning said arm up again into the position shown by the full lines. Stops should be provided for determining the position of the arm *t*.

I make use of the lever *u* with a spoon-shaped end, upon which the mercury or other material runs, and this swings down periodically by the weight that accumulates, and, discharging its contents, again rises, and this lever touches a circuit-closer, *v*, and closes an electric circuit to an alarm or indicating instrument placed at any desired distance away.

The instrument that is placed in the electric circuit may be arranged to strike a bell every time the lever *w'* moves and closes the circuit, thereby denoting that the apparatus at the safe is in operative condition, and, if desired, the lever *w'* may act upon the circuit-closer as the former is moved, so as to prevent the circuit being closed when the bolts are liberated, thus producing an indication of the fact that the lock is in a condition for the door to be opened.

I claim as my invention—

1. An adjustable weight, *n*, applied to and combined with the bolt-actuating lever *f*, the

reservoir *m*, the receptacle, and the supply-regulator, substantially as set forth.

2. The reservoir supply-regulator receptacle and locking-lever, in combination with an electrical alarm and a circuit-closing lever, *w'*, actuated by the mercury or other material as it passes from the reservoir to the receptacle upon the lever, as set forth.

Signed by me this 3d day of February, A. D. 1875.

DANL. MOORE.

Witnesses:

GEO. T. PINCKNEY,
GEO. D. WALKER.