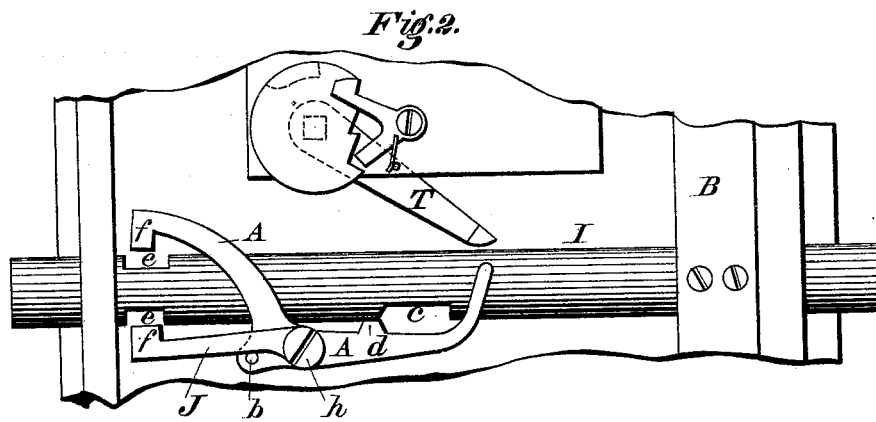
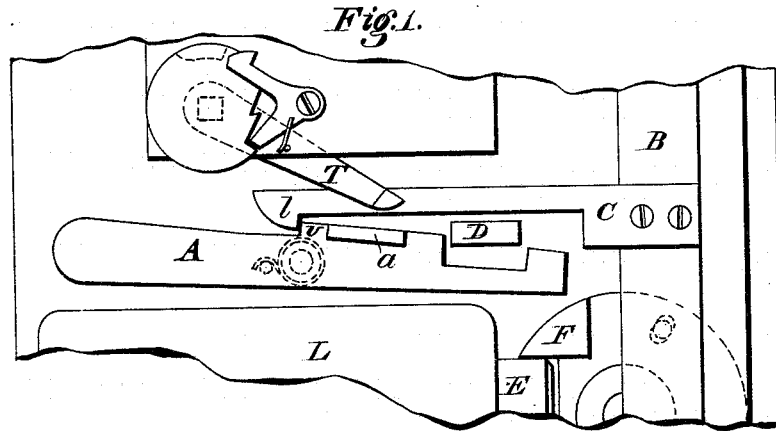


W. KOOK & J. L. HALL. •
Time-Lock.

No. 218,385.

Patented Aug 12, 1879.



Witnesses:
Donn P. Twitchell.
D. P. Cowl

Inventors:
Wm. Kook &
J. L. Hall,
by Dodger & Son,
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM KOOK AND JOSEPH L. HALL, OF CINCINNATI, OHIO; SAID KOOK
ASSIGNOR TO SAID HALL.

IMPROVEMENT IN TIME-LOCKS.

Specification forming part of Letters Patent No. 218,385, dated August 12, 1879; application filed
October 24, 1878.

To all whom it may concern:

Be it known that we, WILLIAM KOOK and JOSEPH L. HALL, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain Improvements in Automatic Dogging Devices for Safes, &c., with Time Attachments, of which the following is a specification.

This invention consists in one or more automatic dogging devices, so applied as to dog the bolt-work of a safe or vault door, with a time attachment arranged to release said dogging devices, and hold them released until the door is closed and the timer set again, as hereinafter more fully described.

Figures 1 and 2 represent the invention with the dogging devices applied directly to the bolt-work.

In Fig. 1 is shown a section of a safe or vault door, with a pivoted dogging-lever, A, so arranged that the shoulder on its front end will engage between a stud, D, rigidly secured to the door, and the shoulder of the stump or bar C, rigidly attached to the slide or connecting bar B of the bolt-work. A coiled spring is wound around the bolt on which the bar A is pivoted, and has its end bearing on a pin in the bar, as shown in dotted lines, so as to throw up the front of the bar A and hold it in position to dog the bolt-work, even if the safe should be turned upside down.

As shown in Fig. 1, the stump C is prolonged beyond the locking-shoulder, and at its rear end is provided with a hook, *l*, arranged to engage with a shoulder, *v*, on the bar A, so that when the bolt-work is shot or thrown forward this hook will operate to throw down the front end of bar A.

It will be seen from this that when the bolt-work is thrown forward to its full extent, as it must be when the safe-door is locked, the dogging-bar has no effect—in other words, does not dog it—but that the moment the bolt begins to be opened, or is thrown back far enough to release the pressure of the hook *l*, the front end of the bar A is thrown up between the stud D and stump C, and effectually holds the bolt-work fast. It therefore becomes necessary to provide some means for holding the bar A down, so that the bolt-work may be retracted at the proper time, and for this pur-

pose a time attachment is used, of which T represents the arm or lever.

Any suitable time attachment may be used; but we prefer that patented to H. Gross, February 8, 1876, No. 173,121, to which reference is made for a more full description.

The time attachment is so applied that at the proper time for opening the safe or vault the arm T will be brought to bear upon a lug, *a*, or in any other manner operate on the bar A, so as to hold its front end depressed, after which, of course, the bolt-work can be moved as usual.

It is designed to use on the door also a lock, L, of which E indicates the bolt, arranged to engage under a lug, F, projecting from the face of a disk secured upon the arbor or handle that moves the bolt-work, as represented in Fig. 1.

By this arrangement it will be seen that while the dogging-lever is held depressed the lock may still be used during the day, and that at night both it and the dogging-lever may be used to hold the bolt-work fast. At the same time, if by any means the lock should be picked or forced, still the door could not be opened, because, until the hour for opening it shall arrive, the lever A will automatically dog the bolt-work the instant any attempt is made to open it.

In Fig. 2 the dogging device is shown applied to one of the bolts instead of to the slide or connecting bar, the principle or mode of operation, however, being the same. In this case the dogging-bar A is shown pivoted loosely on a bolt, *h*, and has a hook, *f*, on its rear end arranged to engage in a notch, *e*, cut in the bolt, so as to prevent it from being retracted. In front of its pivot this bolt is provided with a projection, *d*, arranged to bear against the under or opposite side of the bolt I, and thereby hold the hook *f* detached from the bolt when the bolt-work is thrown forward, as represented in Fig. 2.

The bolt I is cut away, as at *c*, just in front of this projection *d*, so that as the bolt is moved back the projection entering this recess *c* permits its rear end to fall, so that the hook *f* will engage in the notch *e* and dog the bolt.

Instead of the spring to make the bar A en-

gage in case the safe is turned over, another lever or supplementary arm, J, is used, it being pivoted loosely and resting on a pin, *b*, as shown. It also has a hook, *f*, arranged to engage in a corresponding notch, *e*, on the under side of the bolt.

It will be seen that in case the safe be turned over, so that the hook *f* of the lever A falls away from its notch *e*, the arm J, by the same operation, will be made to engage with its notch *e* on the opposite side of the bolt, and the bolt be locked fast just the same.

It is obvious that the arm J may be rigidly connected to the lever A, instead of being pivoted loosely, and still operate in the same manner. The only difference between this and the plan shown in Fig. 1 is, that in this gravity is used, whereas in the other case a spring is used. Either or both may be used, as may be preferred. The time attachment for releasing the dogging-lever, and holding it released during the day, is applied in this the same as in the other case, as clearly shown in Fig. 2.

It is obvious that an automatic dogging device constructed to operate on this principle may be readily applied to the door of any safe or vault on which sliding bolts are used, and with a suitable time attachment can be used entirely independent of the lock ordinarily used, or in connection therewith, as may be desired. Any force applied to the bolt-work

cannot affect the time attachment, as the force cannot be transmitted to it. It can also be easily and cheaply applied to safes already in use.

Having thus described our invention, what we claim is—

1. In combination with the bolt-work of a safe or other door, a pivoted lever, A, automatically acting to dog the bolt-work whenever an attempt is made to retract the latter, the combination being substantially such as shown and described.

2. In combination with the bolt-work of a safe or vault door, a dogging device arranged to be operated by the bolt-work whenever an attempt is made to retract the latter, whereby said device is made to automatically dog said bolt-work, substantially as described.

3. In combination with an automatic dogging device arranged to be thrown into operation by the bolt-work upon an attempt to retract the latter, a time attachment arranged to hold said dogging device out of operation at a predetermined time, substantially as and for the purpose herein set forth.

WM. KOOK.
JOSEPH L. HALL.

Witnesses:

R. W. BULLA,
R. T. PULLEN.