

H. F. ALLEN.

TIME ATTACHMENT FOR LOCKS.

No. 182,093.

Patented Sept. 12, 1876.

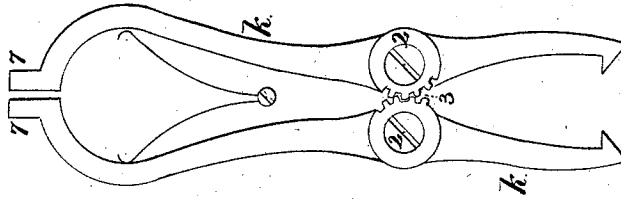


Fig. 2.

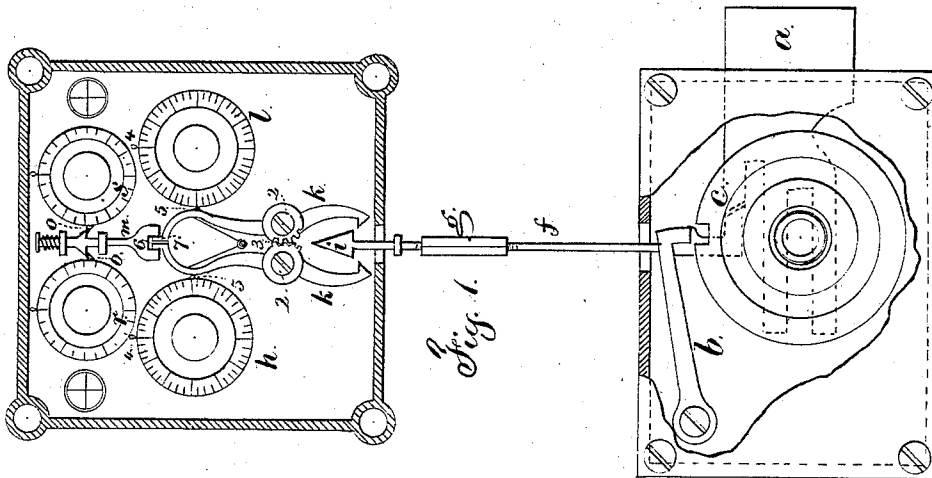


Fig. 1.

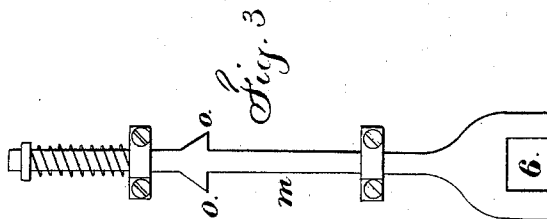


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE

HENRY F. ALLEN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN TIME ATTACHMENTS FOR LOCKS.

Specification forming part of Letters Patent No. **182,093**, dated September 12, 1876; application filed September 10, 1875.

To all whom it may concern:

Be it known that I, HENRY F. ALLEN, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Time-Locks, of which the following is a specification:

Time-locks have been made in which a stop has been applied to the bolt, which stop prevents the bolt being retracted until a certain time arrives, and the stop is so acted upon by a clock-movement that the bolt may thereafter be withdrawn.

In locks of this kind there is one time-movement, and if that becomes inoperative there is no way of opening the safe or vault except by violence. I construct the mechanism between the lock and time movements so as to make use of two time-movements, either one of which will be operative, thereby rendering it almost impossible for the lock to remain permanently closed; and I construct the mechanism that holds the stop-works out of action so that they will be liberated at a given time by independent clock mechanism.

In the drawing, Figure 1 is an elevation, partially in section, of the lock and clock dials and stop mechanism. Fig. 2 is an elevation in larger size of the stop-forceps; and Fig. 3 is an elevation of the forceps-lock that retains them out of action until the time arrives for the time-works to operate.

a represents the bolt, and it also serves to indicate the series of bolts or other securing devices for a safe or vault. *b* is the dog or fence in the lock itself. This is shown in connection with notched circular tumblers *c*; but said dog may be the bolt-dog in locks that have a dog or fence applied within the lock-case to the bolt. When this dog is held up the lock cannot be operated, either by combination-tumblers or by a key; but when the dog is allowed to drop the other parts of the lock become operative. These movements are well known in locks and require no further description. The link *f* is connected with the dog *b*, and a screw-sleeve, *g*, with right and left hand threads, or a shackle or turn-buckle serves to adjust the length of said link. At the upper end of the link is the doubleinclined catch *i* that is between the catches or jaws of the forceps *k*. These forceps *k* are made of

two levers on separate fulcra 2; but geared together by the segmental gears 3, so that they are opened or closed equally by moving either lever of the forceps. The time-dials *h* and *l* are provided with suitable numbers indicating hours, and there is a stationary pointer, 4, to each, and there is a cam, 5, upon each dial, and these dials can be set so that at a certain hour the cam 5 will be brought into contact with one side of the forceps-lever. It is generally preferable to have the dials revolved by clockwork once in forty-eight hours, and one dial may operate to open the forceps one morning, and the other the next; but I prefer to have a second cam upon each dial, and set those cams upon pivots, so that they can be turned aside on Saturday and not be operative on Sunday.

By the means thus far described the forceps will be opened by one or both of the dials at the time to which they are set, and in case of the clock mechanism of one of the dials *h* or *l* becoming inoperative the other one will act upon both levers of the forceps to open them and allow the catch *i*, link *f*, and dog *b* to drop, so that the other parts of the lock can be operated in the ordinary way in opening or closing the lock.

If, however, no other device was employed the forceps would become operative if the safe-door was closed and the dog elevated in locking the lock. To prevent this I employ the forceps-lock *m*, that is made as a sliding bar, at the end of which is the notch 6, that receives within it the ends 7 of the forceps, so as to hold them open and out of action until a certain time, which is predetermined in setting the dials *r* *s*, which are revolved once in twenty-four hours, and, by fingers *o*, lift the lock-bar *m* and liberate the forceps, so that they either catch the link *f* and hold up the dog, or are in a position to catch said link when the inclined catch *i* is forced up by the dog between such forceps. In this manner the time mechanism is kept out of action except between certain hours, which when once adjusted requires no attention except the winding of the clocks, and if either one of the clocks runs down or becomes inoperative the others perform all the required duties.

I do not claim a time-lock in which there is

a dog that is specially provided for and operated by the time mechanism, as this has been used. In my lock the dog, which is employed for its ordinary object, as a dog or fence, is connected with the time mechanism, and at the same time performs its ordinary duty when unacted upon by the time mechanism. I do not claim connecting the time-movement directly to the dog or fence of a lock.

I claim as my invention—

1. The combination of the forceps *k*, link *f*, and dog or fence *b*, with the two time-dials *h l* and their operative cams 5, substantially as set forth.

2. The spring-forceps *k*, made of two levers

upon separate centers, and provided with the segmental gears 3, in combination with the two time-dials *h l* and the connection to the dog or stop *b*, substantially as set forth.

3. The forceps-lock *m*, made of a sliding bar moved by a clock-dial, in combination with the forceps *k* and time mechanism of the lock, substantially as set forth.

Signed by me this 7th day of September, 1875.

HENRY F. ALLEN.

Witnesses:

CHAS. H. SMITH,
HAROLD SERRELL.