No. 849,587. PATENTED APR. 9, 1907.

H. C. WARWICK.

LOCK.

APPLICATION FILED MAR. 3, 1904.

Fig. 1.

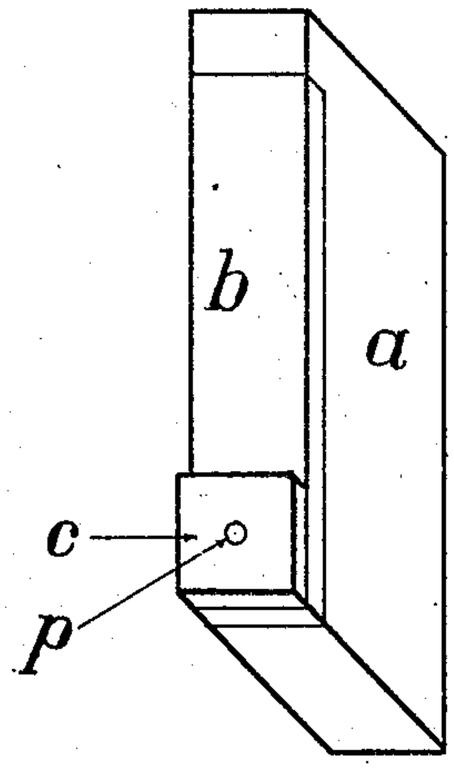


Fig. 2.

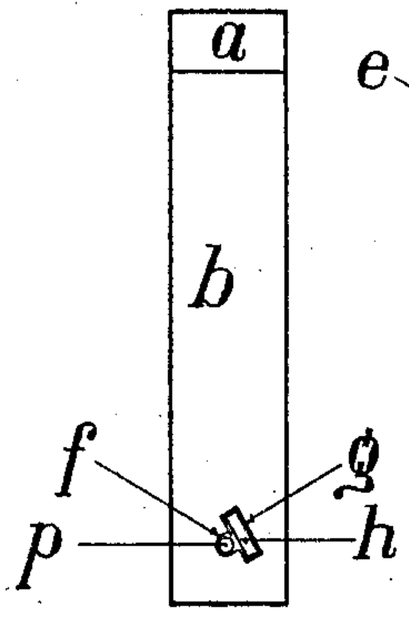


Fig. 3.

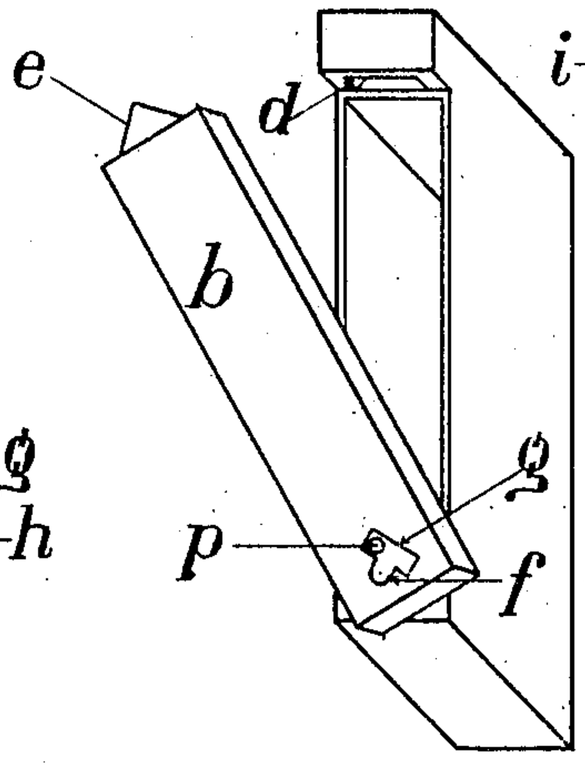
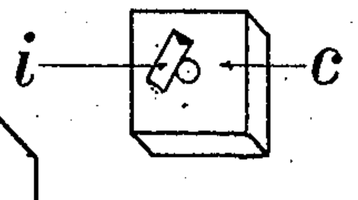


Fig. 4.



Witnesses
Paul Neumann.
Jas. A. Mackenzie

Inventor
H. C. Warwick
by Crothers & Crothers
Attorneys

UNITED STATES PATENT OFFICE.

HAROLD C. WARWICK, OF SAN FRANCISCO, CALIFORNIA.

LOCK.

No. 849,587. Specification of Letters Patent. Patented April 9, 1907.

Application filed March 3, 1904. Serial No. 196,295.

To all whom it may concern:

Be it known that I, HAROLD C. WARWICK, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented a certain new and useful Lock, of which the following is a specification.

My invention relates to and covers a new form of secret keyless lock, particularly adapted to use upon trick match-boxes, cigar and cigarette cases, trick toys, and other useful and amusing articles, but not necessarily restricted to such uses.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts.

Figure 1 is a perspective view of the outside of one form of my lock applied to a match-box. Fig. 2 is a top view of the same, but with the movable member *c* removed. Fig. 3 is a perspective view of Fig. 1, but unlocked, partly open, and with the members *c* and *h* removed. Fig. 4 is a perspective view of the under side of the member *c* of Fig. 1. This member is pivoted and may be rotated and corresponds to the knob of a combination-lock.

The chief novel feature of my lock is the use of a loose tumbler, which may be caused to fall into an opening in the locking-bolt or into an opening partly in the bolt and partly in the lock-case or body of the object to which the lock is attached or into the path of the bolt to prevent the bolt from being retracted or unlocked.

In Fig. 1, *a* is the body of the box or other article to which the lock is applied, and *b* is the bolt of the lock, which in this case serves as the cover of the box. The bolt *b* is pivoted upon the pin *p*. *c* is a movable member pivoted upon the same pin *p* and working against the surface of the bolt *b*.

Fig. 2 shows the lock locked with the member *c* removed. The opening in the bolt is shown as *g* and must extend entirely through the bolt. *h* is a loose tumbler lying in the opening *g* in the bolt. The opening *g* in the bolt must be connected with the pivot-hole *f*, so that the pin *p* can readily pass into and along said opening and allow the bolt *b* to be retracted.

Fig. 3 shows the lock unlocked. The tumbler *h* being removed permits the pin *p* to leave the pivot-hole *f* and move along the opening *g*, thus retracing the bolt. The position of the opening *g* is not important so long as it is such as to allow the bolt to be retracted. *e* is an extension or stud upon the end of the bolt, which fits into the socket *d* and holds the bolt in place when locked.

Fig. 4, being a view of the under side of the movable member *c* of Fig. 1, shows a recess or depression *i* of proper size and shape to receive the loose tumbler *h*. The recess or depression *i* must be in such a position relative to the pivot that when said movable member is turned upon the pivot *p* the recess *i* at some point in its circuit will be directly over the opening *g* of the bolt.

To lock my device, the bolt is extended, the pin *p* is brought into the pivot-hole *f*, the loose tumbler *h* is dropped into the opening *g*, and the movable member *c* is turned so as to hold the loose tumbler in place. To unlock, the lock is turned partially or wholly upside down and the movable member rotated. When the recess *i* reaches a position directly under the opening *g*, the loose tumbler *h* will fall into said recess, and if said movable member be then turned slightly farther or slightly back said loose tumbler will be held in place in said recess by the surface of the bolt. The lock can then be turned right side up, the bolt retracted, and the box or other object opened.

The chief safety of my lock lies in the fact that very few people will turn it upside down while trying to unlock it.

The loose tumbler is preferably smooth and made of a heavy metal, so that it will fall readily. In the form of lock above described I prefer a cylindrical tumbler as best adapted to hold the bolt rigid when locked.

What I claim, and desire to secure by Letters Patent, is—

In a lock, the combination with a case or body having a socket, of a combined cover and locking bolt having at one end an extension-stud for engaging in said socket and at the other end a pivot-opening and a communicating elongated tumbler-opening, a pin passing through the pivot-opening into said case or body, a loose elongated tumbler in said tumbler-opening and a movable pivoted member working against the surface of said

combined cover-bolt and having an elongated recess in its inner face adapted to register with said tumbler-opening and receive the tumbler, whereby the tumbler may be deposited in said recess and the combined cover-bolt then shifted to bring the pivot-pin into the tumbler-opening thereof and then retracted to disengage its stud from the socket and open the device, substantially as described.

H. C. WARWICK.

Witnesses:
PAUL NEUMANN,
JAS. A. MACKENZIE.