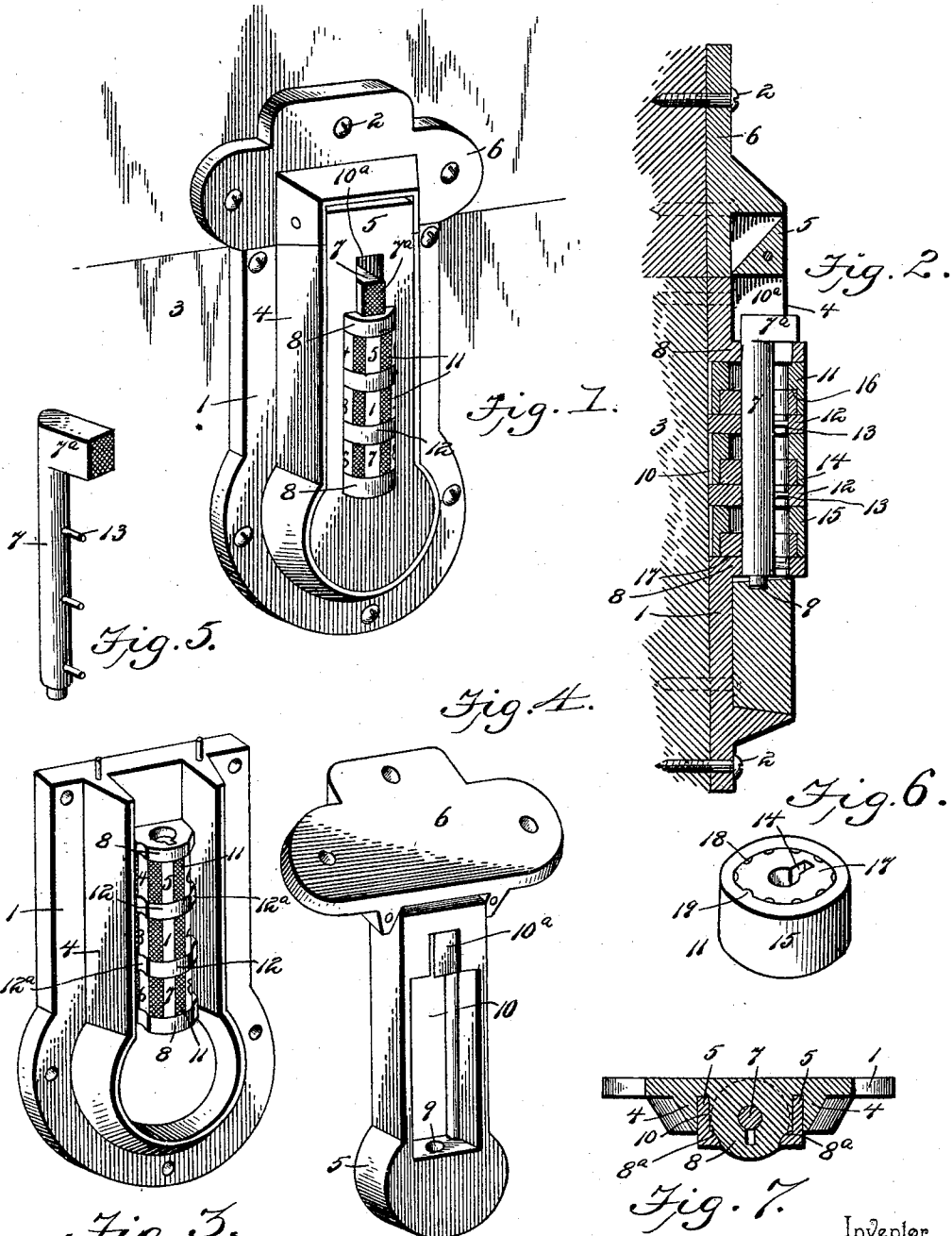


(No Model.)

C. D. LOGAN.
COMBINATION LOCK.

No. 588,229.

Patented Aug. 17, 1897.



Witnesses

Milton O'Connell,
C. E. D. Duff

By his Attorneys,

Crawford D. Logan,

C. E. D. Duff

UNITED STATES PATENT OFFICE.

CRAWFORD D. LOGAN, OF COAL HILL, ARKANSAS, ASSIGNOR OF ONE-HALF
TO D. K. SAMS, OF SAME PLACE.

COMBINATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 588,229, dated August 17, 1897.

Application filed April 9, 1897. Serial No. 631,428. (No model.)

To all whom it may concern:

Be it known that I, CRAWFORD D. LOGAN, a citizen of the United States, residing at Coal Hill, in the county of Johnson and State of Arkansas, have invented a new and useful Combination-Lock, of which the following is a specification:

My invention relates to combination-locks, and has for its objects to provide a lock specially adapted for use in connection with trunks, chests, and the like, and also to provide a lock of which the tumblers are mounted upon a base-plate adapted to be attached to the front wall of the receptacle, while the shackle is provided with a securing-plate for attachment to the lid or cover of the receptacle.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a lock constructed in accordance with my invention applied. Fig. 2 is a longitudinal section of the same. Fig. 3 is a detail view in perspective of the member which is adapted for attachment to the body of the receptacle. Fig. 4 is a similar view of the shackle and attached securing-plate. Fig. 5 is a detail view in perspective of the bolt. Fig. 6 is a detail view in perspective of one of the tumblers. Fig. 7 is a transverse section of the lock.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a base-plate adapted to be secured by suitable devices, such as screws 2, to the exterior surface of the front wall of a trunk or receptacle, a portion of which is indicated at 3, and rising from this base-plate is a wall 4, forming a receptacle, open at its frontside, for containing the shackle-engaging devices. The shackle 5 is pivotally mounted or hinged upon a securing-plate 6, adapted to be fastened by any suitable means to the lid or cover of said trunk or receptacle and constructed of such an exterior shape and size as to fit snugly within the receptacle 4. (See Fig. 1.)

The shackle-securing devices comprise a

bolt 7, mounted in upper and lower alined guides 8 and adapted when the shackle is in the receptacle or socket 4 of the base-plate to engage a bolt-opening 9 in the lower end of a slot 10 in said shackle, said slot 10 being adapted to allow the exposure of the outer sides of a series of tumblers 11, which are arranged in coöperation with said bolt and concentrically therewith. The bolt is provided at one end with a finger-hold 7^a to operate in the slot extension 10^a in the shackle to allow movement of the bolt when released by the tumblers to disengage the other extremity thereof from the bolt-opening. The sides of the slot 10 are undercut to bear upon shoulders 8^a on the guides 8 and also engage corresponding shoulders 12^a on spacing-blocks 12, interposed between contiguous tumblers.

The bolt is provided with pins or projections 13 to pass through notches 14 in the tumblers, thus forming an interlocking connection between said bolt and tumblers, and in practice I prefer to construct each tumbler of an exterior annulus or shell 15, provided with a shoulder 16, and an inclosed adjustable core 17, containing an opening for the reception of the bolt and adapted to rest upon said shoulder of the annulus or shell. This core is provided with a peripheral series of notches 18, adapted to engage a rib 19 on the inner surface of the annulus or shell, whereby the position of the core with relation to the combination-characters on the exterior surface of the annulus or shell may be varied to change the combination of the lock.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a lock of the class described, the combination with a pivotal shackle, of a receptacle or socket for the shackle, a sliding bolt mounted in said receptacle or socket and adapted to engage a bolt-opening in the shackle, a finger-hold on the bolt being exposed through a slot in the shackle when the latter is in place in the receptacle or socket,

and tumblers mounted upon said bolt and having their outer sides exposed through the slot in the shackle, substantially as specified.

2. In a lock of the class described, the combination of a pivotal shackle, a receptacle or socket for the shackle; a sliding bolt mounted in the receptacle or socket for engaging a bolt-opening in the shackle and having a finger-hold exposed through a slot in the shackle, a series of tumblers mounted upon and concentric with the bolt and having an interlocking connection therewith to secure the bolt in its extended position, and spacing-blocks interposed between contiguous tumblers, said shackle having a slot through which are exposed the outer sides of the tumblers, and said slot having undercut walls to engage shoulders on said spacing-blocks, substantially as specified.

3. The herein-described combination-lock for trunks, chests, and similar receptacles, the same having a base-plate provided with an upstanding flange forming a shackle-socket and adapted to be secured to the side of a receptacle, a pivotal shackle adapted to fit within said socket and provided with a securing-plate for attachment to the receptacle lid or cover, said shackle having a longitudinal slot and a communicating bolt-opening, a bolt mounted to slide in guides arranged in fixed positions in the shackle-socket and adapted to engage said bolt-opening when the shackle

is fitted in the socket, and tumblers mounted upon the bolt between the guides thereof and having an interlocking connection with the bolt, said tumblers being exposed through the slot in the shackle, whereby they may be manipulated to engage and release the bolt, substantially as specified.

4. In a combination-lock, the combination with a shackle, and a bolt for engaging the shackle, of a series of tumblers having an interlocking connection with the bolt, each tumbler comprising an annulus or shell having a shouldered interior surface, a removable annular core fitted in said annulus or shell and resting upon the shoulder therein, said core having a central opening through which the bolt extends, and being provided with the means for engaging the same, and a fixed rib on the inner surface of said annulus or shell for engaging either of a plurality of notches in the exterior surface of the core, whereby the latter may be secured in any desired position with relation to the annulus or shell, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CRAWFORD D. LOGAN.

Witnesses:

J. H. BUTTS,
L. LOWTHER.