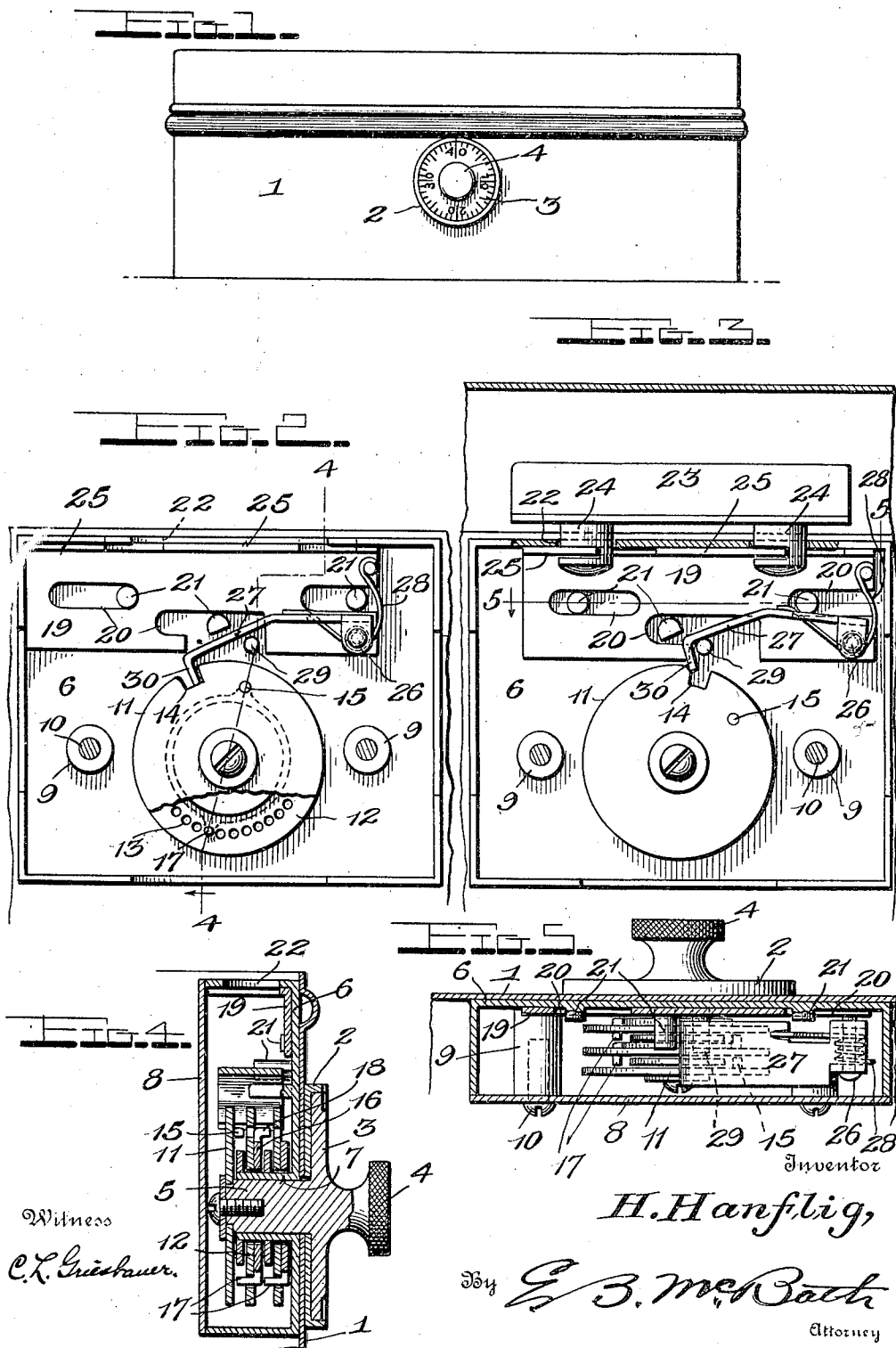


H. HANFLIG.
COMBINATION LOCK.
APPLICATION FILED MAY 28, 1917.

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HARRIS HANFLIG, OF CHARLESTOWN, MASSACHUSETTS.

COMBINATION-LOCK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRIS HANFLIG, a citizen of the United States, residing at Charlestown, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Combination-Locks, of which the following is a specification.

This invention relates to a combination lock especially adapted to be fitted to boxes formed of thin metal, but also capable of use in other places. A further object of the invention is to provide a lock of this kind which can be soldered in position, the combination being changed by opening the lock at the back instead of the front, the front being soldered in position.

The invention also consists of the novel features of construction hereinafter described, pointed out in the claim and shown in the accompanying drawings, in which:—

Figure 1 is an exterior view of a box with my lock applied thereto.

Fig. 2 is a rear view of the lock mechanism; partly broken away, the back plate of the lock casing being removed.

Fig. 3 is a rear elevation of the lock mechanism, a box top being partly shown in section and the lock parts being in locking position.

Fig. 4 is a section on the line 4—4 of Fig. 2.

Fig. 5 is a horizontal section on the line 5—5 of Fig. 3.

In these drawings 1 designates a box on the front face of which is placed a flanged disk 2 within the flange of which rotates a dial 3. Said dial carries a knob 4 and shaft 5. To the inside of the box is soldered a lock casing 6 the front plate of which carries an inwardly extending sleeve 7 which forms both a bearing for the shaft 5 and also a bearing for the tumblers to be described hereafter.

The casing has a removable back plate 8 secured to studs 9 into which screws 10 thread. A tumbler 11 is mounted on the shaft 5 and tumblers 12 on the shaft sleeve 7, the latter being shown as two in number, but it is obvious that any desired number of tumblers may be employed. The tumblers 12 are provided with openings 13 to permit changing of the combination. All of the tumblers are notched as at 14. A pick-up pin 15 is carried by the tumbler 11 and plates 16 bear on the tumblers 12 and

carry oppositely extending pins 17 and 18, the pins 17 being the longer and passing through the opening 13.

The combination is readily changed by shifting the plates 16 thereby changing the relative position of the pins. The tumbler 11 is of course fast to the shaft, while the tumblers 12 are loose on the sleeve. Only the plate 16 adjacent the intermediate tumbler is provided with a pin 18. In working the lock the pin 15 picks up the first pin 17 and the pin 18 the second pin 17.

A slide 19 having slots 20 is supported in place and guided and limited in its longitudinal movement by pins 21 carried by the front face of the casing 6.

The top of the casing has openings 22 and to the box lid is secured an angled plate 23 having notched locking studs 24 which pass through the openings 22 and are engaged by flanges 25 carried by the slide 19. Engagement of these flanges with the notches of the studs locks the lid in closed position.

Pivotally mounted on a pin 26 carried by the slide 19 is an angled lever 27 normally pressed downwardly by a spring 28. The tongue 30 of the lever is adapted to engage the notches 14 of the tumblers when brought into proper alinement. A pin 29 carried by the front of the casing is so positioned that as the tumblers, after engaging the tongue 30 and bringing the slide 19 into locking position are turned to the right, the pin will engage and partly lift the lever out of said notches.

This permits free turning movement to scatter the tumblers. It will also be noted that this lever rests on the pin 29 and immediately below and adjacent a pin 21, and the last mentioned pin would act as a stop after the lever had been thrown entirely out of the notches against reverse movement of the lever, and of course the plate 19 to which the lever is connected. When the notches are brought into alinement again the pin permits the lever to drop sufficiently into the notches to cause sufficient sliding movement of the plate to bring the tongue entirely into the notches, thus permitting unlocking.

It will be noted that by constructing the lock and its casing in this manner the combination can be changed from the back. This permits the soldering of the front of the casing to the inside of a box of such thin material that would make it practically im-

possible to secure in place a lock by the usual means of screws. At the same time I have a lock which can be employed in places where the usual form of combination lock
5 is employed.

What I claim is:—

In a lock comprising a slide and rotatable notched tumblers, an angled lever carried by the slide and adapted to engage the tum-

bler notches, and a fixed pin adapted to en- 10
gage the underside of the lever on longitudinal movement of the slide and lift the lever clear of the tumblers, thereby permitting their free movement prior to complete withdrawal of the lever from said notches, 15
as and for the purpose set forth.

In testimony whereof I affix my signature.

HARRIS HANFLIG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."