

No. 672,911.

Patented Apr. 30, 1901.

S. MERRITT.  
COMBINATION LOCK.

(Application filed Feb. 16, 1899.)

(No Model.)

FIG. 1.

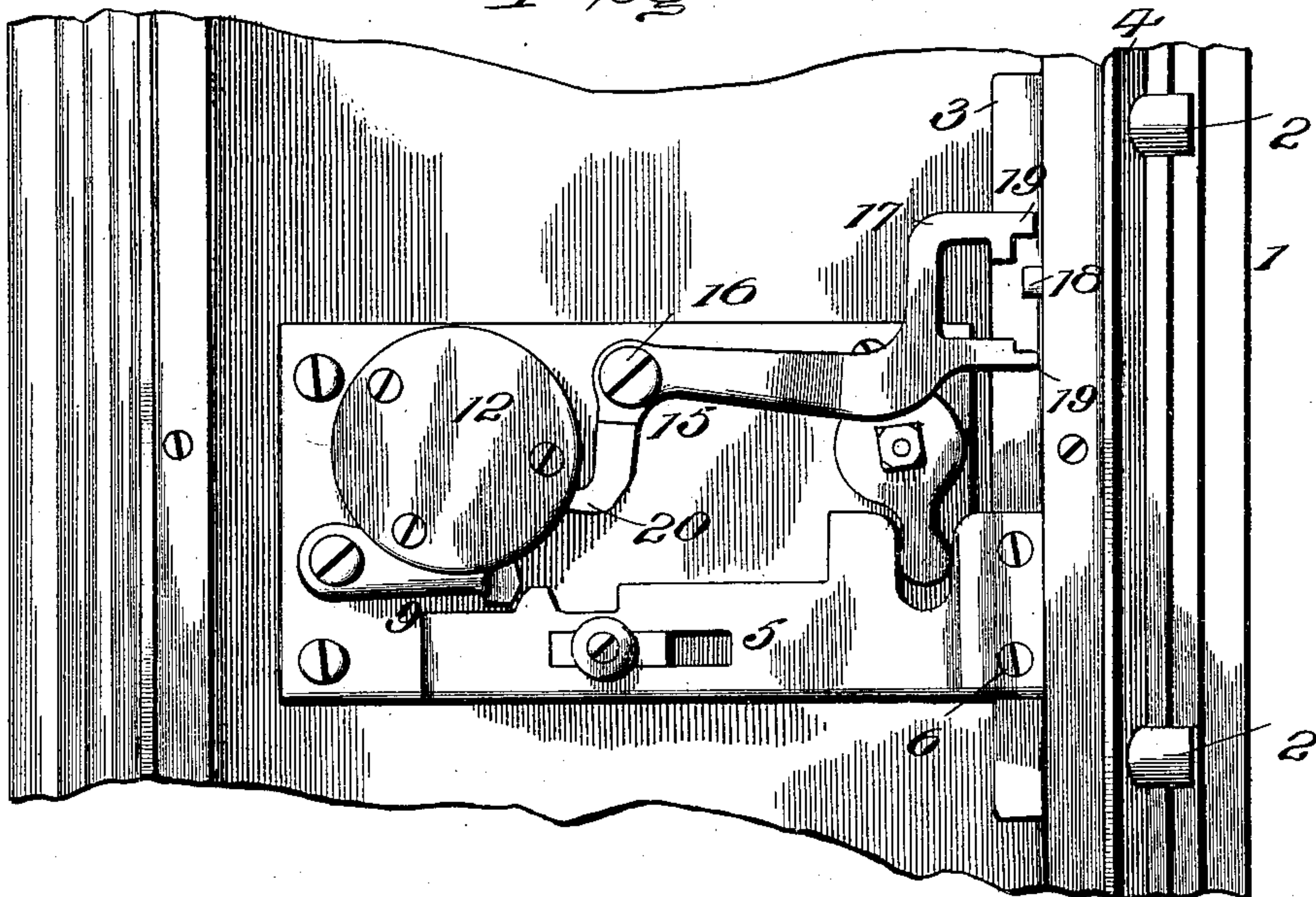
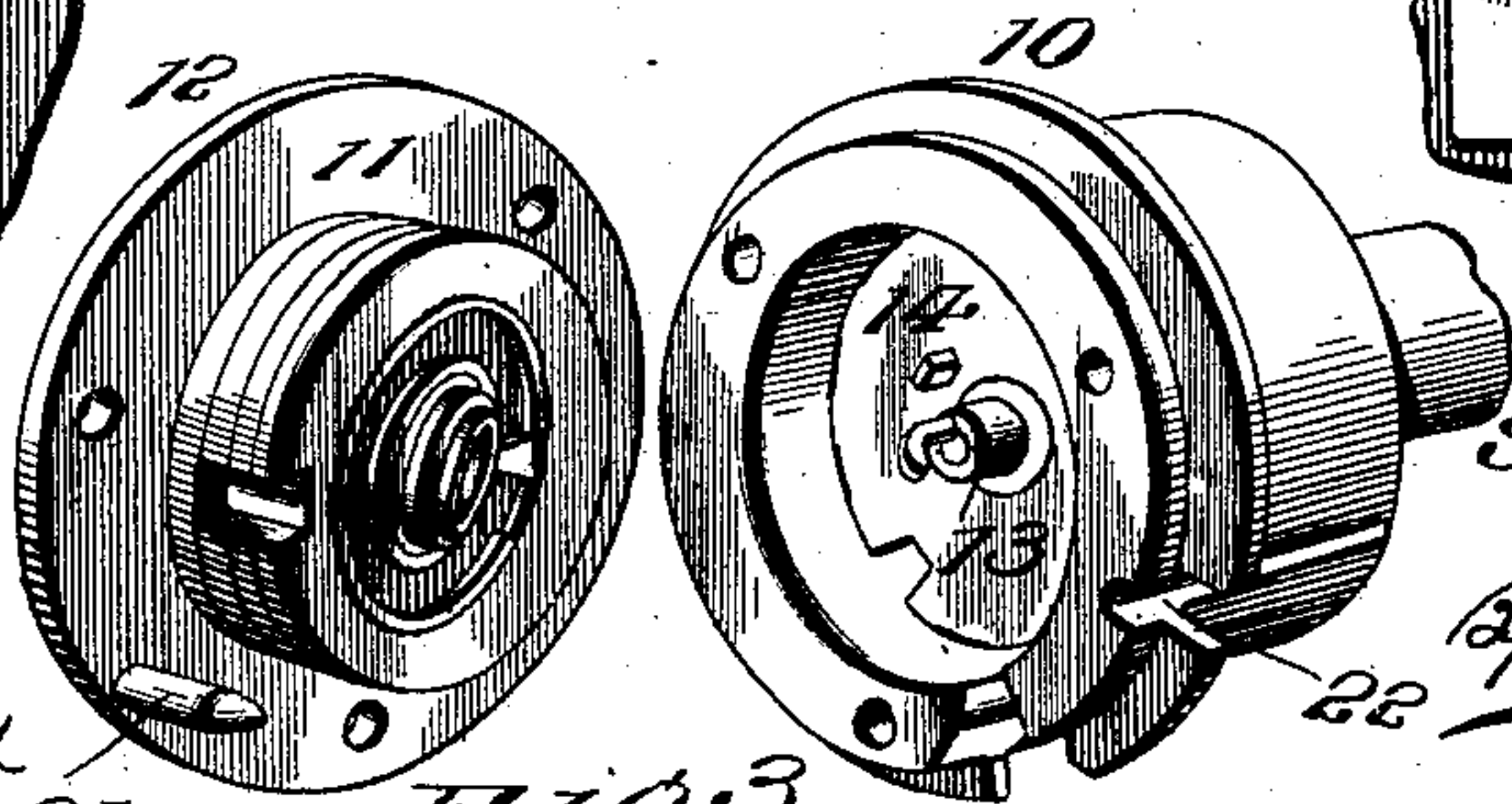
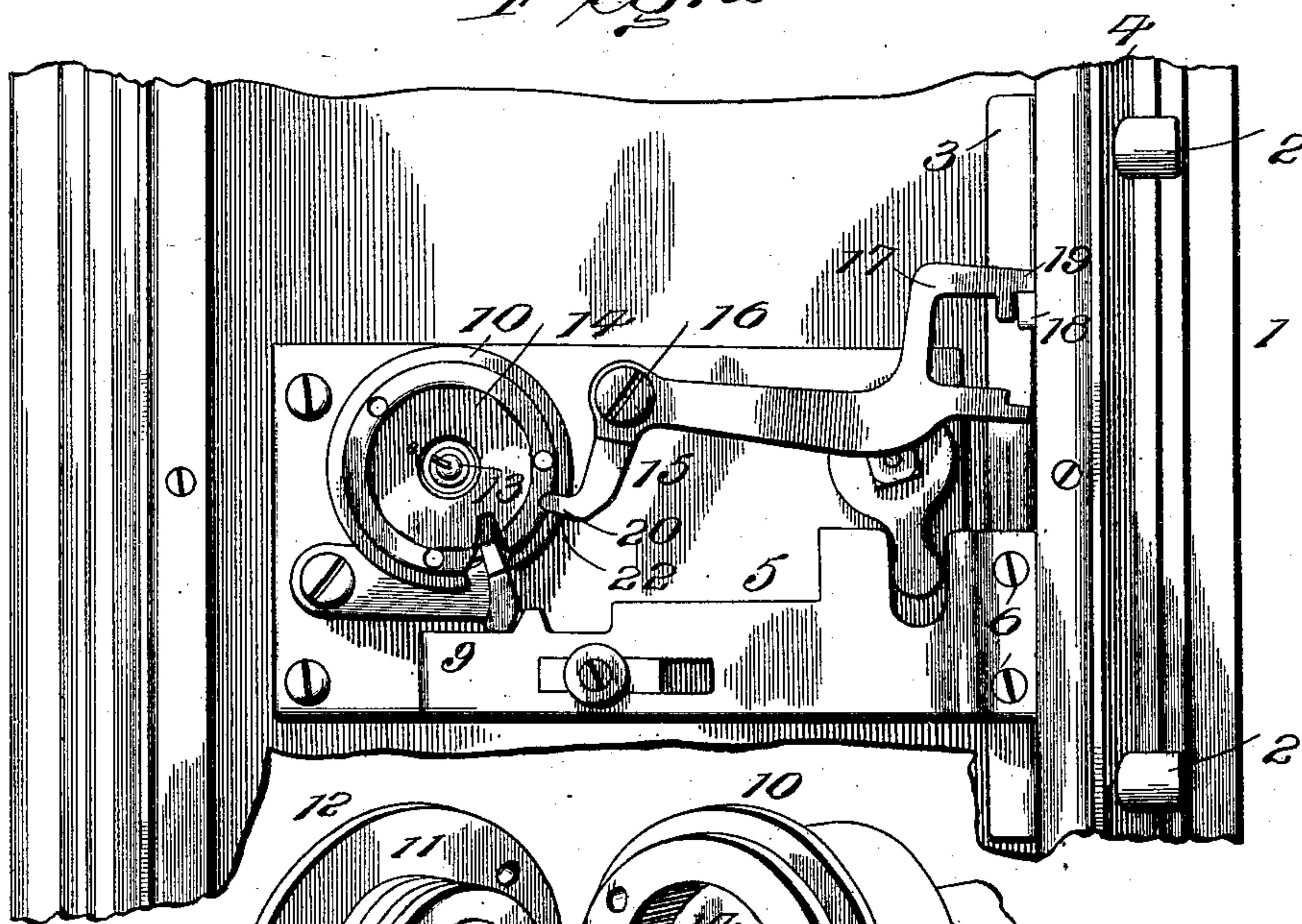


FIG. 2.



Witnesses

*For Invention*  
*H. V. Knight*

21

FIG. 3

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# UNITED STATES PATENT OFFICE.

SCHUYLER MERRITT, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE  
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## COMBINATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 672,911, dated April 30, 1901.

Application filed February 16, 1899. Serial No. 705,684. (No model.)

*To all whom it may concern:*

Be it known that I, SCHUYLER MERRITT, a citizen of the United States, and a resident of Stamford, in the county of Fairfield and State of Connecticut, have invented a certain new and useful Improvement in Combination-Locks, of which the following is a specification.

My invention relates to that class of combination-locks for safe or vault doors in which is provided a supplementary dogging device that becomes effective in case violence is done to the combination mechanism.

As heretofore constructed the supplementary dogging device was held out of dogging relation to the boltwork by the presence of the tumbler-case itself, so that it came into play only when the lock was affected by knocking off said tumbler-case; but with some classes of combination-locks, particularly on fireproof safes, it is possible to knock out the tumbler-spindle with the tumblers without knocking off the case, and thus release the ordinary locking mechanism without bringing the supplementary dog into play.

According to my invention I establish such a relation between the supplementary dogging device and the tumbler-curb that the said dogging device will be released by the displacement of the tumblers whether they be knocked off, separated from, or in connection with the tumbler-case, and whichever side of the safe is up.

My invention consists in providing the tumbler-curb which carries the tumblers with a projection which when the tumblers are put in place will engage with the supplementary dogging device and hold it in inoperative position, so that the safe-bolts may be under control of the combination-lock alone; but when said tumbler-curb is removed the supplementary dogging device will be released.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figures 1 and 2 are elevations of the inner side of a safe-door having my improvements applied thereto, and Fig. 3 is a perspective view of the tumbler-case and tumbler-curb separated.

1 represents a safe-door having locking-

bolts 2 projecting from a carrying-bar 3 and working in a guide-bar 4.

5 is a casting and retracting bar connected to the carrying-bar 3 by screws 6 and under control of the dogging-fence 9, that is in turn controlled by tumblers contained in a tumbler-case 10. The tumblers are represented at 11 in Fig. 3, and they are mounted upon a tumbler-curb 12, that forms a cap or cover for the tumbler-case 10.

13 is the tumbler-spindle that extends through the door into the tumbler-case and carries on its end the pilot-tumbler 14.

15 represents a supplementary dogging device that is in the form of a lever fulcrumed at 16 and having a bifurcated end 17, between the forks of which a lug 18 on the bolt-carrying bar 3 must pass when the bolts are retracted and between which said lug may freely pass when the supplementary dogging device is in the position shown in Fig. 1; but when in the position shown in Fig. 2 or if rocked upward to the opposite limit of its movement one of the shoulders 19 on the respective forks of said dogging device will be engaged by the lug 18, and the carrying-bar and through it the bolts will be effectively dogged, even though the tumbler mechanism may be destroyed. Moreover, in its mounting and its dogging action the supplementary dogging device is entirely exterior to and independent of the tumbler-case, and therefore not only remains unimpaired when the latter is disturbed, but is set free by destruction or displacement of the casing. My invention therefore consists in combining with such an arrangement of independent dogging device certain means whereby it is held in the normal position so long as the tumblers remain intact, as will now be described.

From the described construction of the tumbler mechanism it is obvious that neither the tumbler-case 10 nor the tumblers may be displaced without at the same time carrying away the tumbler-curb 12. I therefore bring said tumbler-curb 12 into controlling relation with the supplementary dogging device by providing said dogging device with an operating end 20 and said curb with a projection 21, that engages the end 19 and holds the dogging device in its intermediate position, in



which lug 18 may work freely in the bifurcated end. The projection 21 extends exterior to the tumbler-case, but for economy of space and insuring the return of the curb to the proper position the tumbler-curb is longitudinally grooved at 22 to receive the projection and leave a space into which the end 20 may enter when the curb is removed.

My invention has a further advantage in that when the tumblers of an ordinary combination-lock are removed—for the purpose of changing the combination, for example—the attention of the operator may be diverted and he may omit to replace the tumblers and think his safe is locked, when, in fact, it is not; but with this construction when the tumblers are removed, as in Fig. 2, the supplementary dogging device automatically falls and engages the lug 18 on the carrying-bar 3, and until the tumblers are replaced the bolts cannot be removed. To thus engage the lug 18 when the bolts are retracted the upper shoulder 19 is provided with two faces. This would call the attention of the operator to the fact that the tumblers were not in place. A further advantage arising from my invention is that the supplementary lever is detached from the lock and works automatically, and hence does not involve any change whatever in the operation of the lock itself or in the method of changing the combination, so that the added security is obtained without any increase in the complication either of setting the lock or operating it.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In combination with a safe-door, independent boltwork, an independent automatic

dog tending to dog such boltwork, and a combination-lock attached to said door independently of the automatic dog; with said dog outside the casing of said lock; the lock being provided with a tumbler-curb having a projection which, when the curb is in place, holds said independent dog out of engagement with the door-bolts, but when said curb, either alone or in connection with the lock-case, is displaced, releases said independent dog and leaves it intact upon the door to dog the door-bolts.

2. The combination of the boltwork of a vault or safe, a supplementary dogging device suitably pivoted and provided with a bifurcated end having shoulders on the inner sides of its forks, a lug or projection on the boltwork moving between the forks as the bolts are cast and retracted, and a tumbler-case having a cover carrying a projection which engages the supplementary dogging device to hold it out of engagement with the lug or projection on the boltwork.

3. In a vault or safe the combination of the boltwork, the supplementary dogging device arranged substantially as described for dogging said boltwork having a controlling end, a tumbler-case having a groove or recess in its outer surface in which the said controlling end of the supplementary dogging device may enter, and a cover for said tumbler-case having a projection exterior of the case, and entering the groove or recess to displace the controlling end of the dogging device therefrom; substantially as set forth.

SCHUYLER MERRITT.

Witnesses:

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