

UNITED STATES PATENT OFFICE.

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LOCK.

SPECIFICATION forming part of Letters Patent No. 503,706, dated August 22, 1893.

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To all whom it may concern:

Be it known that I, WILLIAM J. NEIDL, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention relates to improvements in locks, and the object of my improvement is mainly to produce an efficient and closely adjusted lock and one that is easily operated and by reason of its simple construction may be produced at a small cost.

In the accompanying drawings: Figure 1 is a front elevation of my lock with the cap plate removed. Fig. 2 is a like view of the same with the parts in a different position and with a portion of the lock bolt and face plate broken away. Fig. 3 is a vertical section of the same on the line $x x$ of Fig. 1 looking toward the right, and Fig. 4 is a like section on the same line looking in the opposite direction.

A designates the main portion of the case, B the face plate and C the cap. A slotted cylinder or key hub 5 is arranged to partially rotate in suitable bearings in the two sides of the case and is acted upon by a spring 6 to hold it in its normal position, said spring being connected by one end to an arm on said cylinder or hub, and by its opposite end to a pin on the case. This key cylinder or hub is provided with a stop pin 7, which coming in contact with a stop shoulder 8 on the case, limits the movement of the hub in one direction so that the spring holds it with the key slot 9 in substantially a horizontal position, while at the same time said hub is free to be rotated in a direction to bring the open side of the slotted hub toward the tumblers 10. The bolt D is thrown outwardly by means of an arm 11 on the hub 12 which has its bearings in the two sides of the case and which may be operated by a suitable shaft and turn button from either side of the door. A spring 13 is secured to the case with one end resting in a slot in the lock bolt D as shown in Fig. 1 which acts to force the lock bolt into the case as in Fig. 2 whenever the lock bolt is free. The lower end of this spring 13, in Fig. 2, is

broken away in order to show other parts. This lock bolt D is provided with a fence 14 for being engaged by the ends of the tumblers 10, and at another point with the fence 15 for being engaged by the shoulders 16 of the tumblers 10. When the lock bolt is turned out, as in Fig. 1, the ends of the tumblers rest against the fence 14 so as to hold the bolt in that position. By inserting the key in the slot 9 of the cylinder or key hub 5 and turning the key to bring its bitted edge upwardly under the tumblers, the tumblers are all lifted so that their ends clear the fence 14, while the shoulders 16 will at the same time clear the fence 15 and permit that portion of the tumblers to pass between the fences, supposing of course that a properly bitted key has been inserted. Upon release of the key, the spring 6 immediately returns the key hub or cylinder, together with the key, to its normal position. In order to again throw out the bolt for locking the door, the turn button, carrying the hub 12 and arm 11 is operated to throw the bolt from the position shown in Fig. 2 to that shown in Fig. 1.

In order to prevent the lock bolt from being operated to force it out by the turn button of the hub 12 during the day, I provide the stop 17 whose flattened end projects through a bearing in the face plate as shown in Fig. 2, while its opposite end is provided with a crank pin 18 for throwing the slide 19 to project its end into the notch 20 in the lock bolt as shown in Fig. 2; but whenever desired, this stop may be turned from the position shown in Fig. 2 to that shown in Fig. 1 so as to withdraw the slide 19 from the bolt and permit the bolt to be turned outwardly again by the turn button of the hub 12. The tumblers 10 are provided with the usual springs 21 for pressing them downwardly.

I claim as my invention—

1. The combination of the lock bolt D having the fence 14 at one point and the fence 15 above the same but at a different point in its length, a series of tumblers 10 having their ends fitted to abut against the fence 14 and the shouldered portion 16 for engaging the fence 15, the width of the tumbler being such that a portion of it may pass the confronting

faces of said fences, substantially as described and for the purpose specified.

2. The combination of the bolt D, the spring for throwing it inwardly, a set of tumblers for holding it in its projected position, the key cylinder or hub 5 provided with a stop device and the spring 6 for holding said hub in its normal position, substantially as described and for the purpose specified.

3. The combination of the bolt D, the spring for throwing it inwardly, a set of tumblers

for holding it in its projected position, the turn button for throwing said bolt D inwardly against the action of said spring and the stop and slide for locking said bolt in its retracted position, substantially as described and for the purpose specified.

WILLIAM J. NEIDL.

Witnesses:

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