

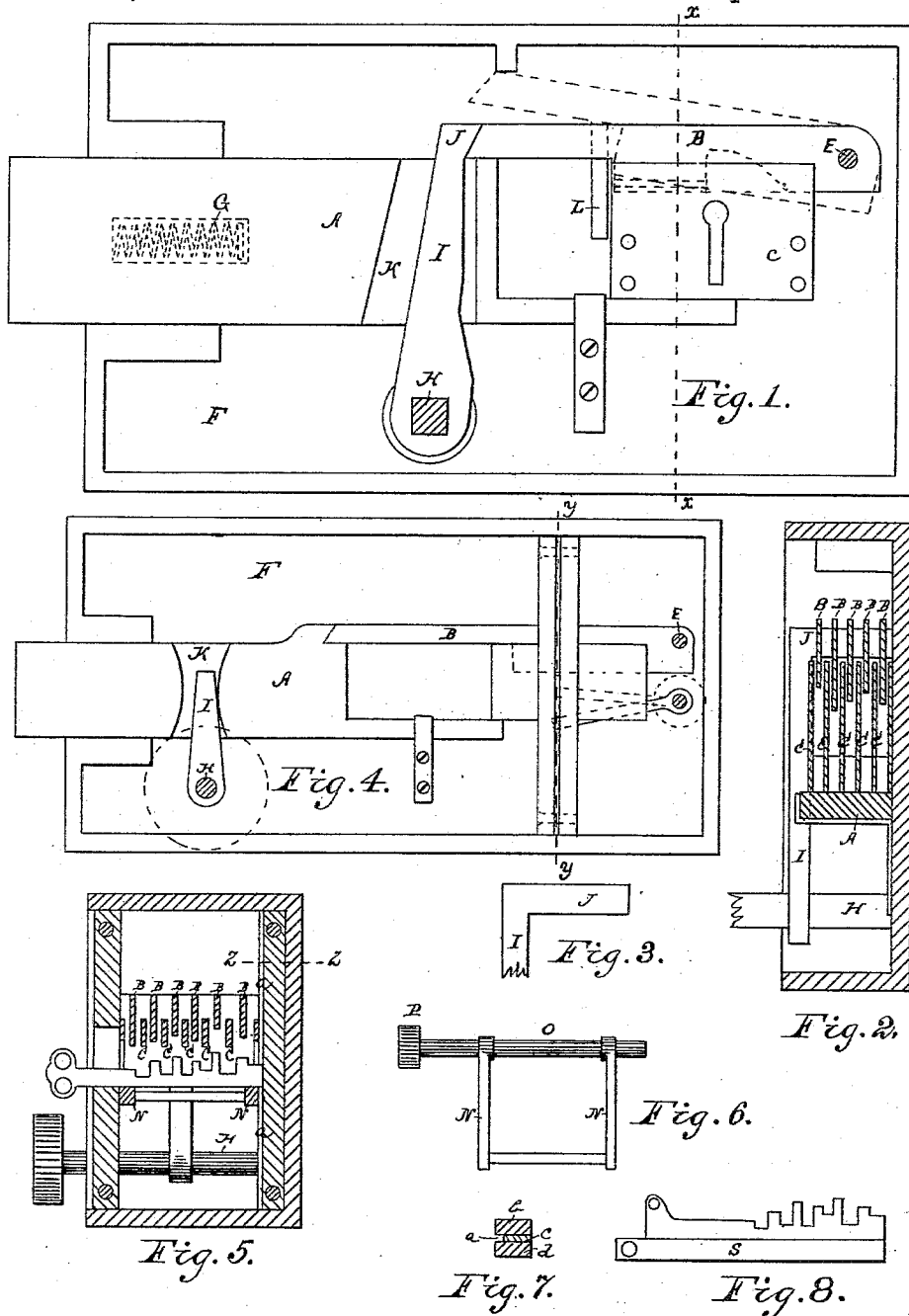
(Model.)

D. F. HAASZ.

LOCK.

No. 339,644.

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LOCK.

SPECIFICATION forming part of Letters Patent No. 339,644, dated April 13, 1886.

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To all whom it may concern:

Be it known that I, DANIEL F. HAASZ, a citizen of the United States, and a resident of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification.

The object of my invention is to furnish a lock which will be simple, inexpensive, and secure.

In the accompanying drawings, forming part of this specification, and in which similar letters of reference indicate similar parts throughout the several views, Figure 1 is a side view of my lock as arranged for the door of a house; Fig. 2, a section of Fig. 1 on the line *x x*; Fig. 3, an end view of top of lever I, for operating bolt in lock shown in Fig. 1; Fig. 4, a front view of my lock as arranged for a safe; Fig. 5, a section of Fig. 4 on line *y y*; Fig. 6, a plan of lever for raising the key in the safe-lock; Fig. 7, a section through key-guide on line *z z*, Fig. 5; and Fig. 8, a modified device for raising the key.

A is the bolt; B, the tumblers; C, partitions dividing the tumblers from each other; E, pivot upon which tumblers are hung; F, case or box surrounding the works.

In Figs. 1 and 2, which represent front and sectional elevations of a lock for front doors of dwelling-houses, &c., the bolt A is thrown into its keeper by a spring, G, which may be arranged in any convenient manner. The tumblers B when not raised by the key are in the position shown in Fig. 1 by the full lines—that is, they lie along the top of the bolt A. The bottom part of the tumblers may be perfectly straight, or, in order to make it more difficult to raise them, they may be cut out, as shown in Fig. 1 by the dotted lines. When cut away in this manner, great care has to be taken in raising them, for if the key is turned too much the tumblers fall by gravity and prevent the bolt from being shot back.

H is the knob-spindle, upon which is the knob of the lock. This knob-spindle carries an arm, I, which extends to the top of bolt A, and is bent over, as shown in Fig. 3, so as to extend across the top of this bolt.

K is a slot in the side of bolt A, through which the arm I passes.

The front ends of the tumblers B are beveled off, as shown in Fig. 1, and the upper part, J, of the arm I is furnished with a corresponding bevel. When the tumblers are down, it is impossible to turn the bolt A by turning the knob on the knob-spindle H, for the arm I, before it can reach the rear end of slot K in bolt A, strikes against the tumblers B, and is prevented by them from moving any more in this direction. When the tumblers are raised by the key so as to clear the top J of arm I, said arm will strike the rear side of slot K, and will force the bolt A back.

The object of beveling off the front ends of the tumblers B, and the rear part, J, of arm I is to render it more difficult to pick the lock, for if one tumbler is raised and is held up by arm I, another cannot be raised without causing the first tumbler to fall.

In order to open the lock from the inside of the door without using the key to raise the tumblers, I use a slide or lever, L, which may be pushed up to raise the tumblers.

The form of the lock which I propose to use for safes is shown in Figs. 4 and 5. In this case the bolt has no spring to throw it into the keepers, and instead of the arm I upon the knob-spindle engaging the tumblers, the bolt is formed with a shoulder, which abuts against said tumblers. The key is exceedingly thin, and is not turned in order to raise the tumblers, but it is raised vertically by suitable mechanism and lifts the tumblers up. The tumblers are similar to those already described, and their number may be varied at will.

In Figs. 4 and 5 a lever is shown for raising the key. The key is run into the key-hole and its bottom rests upon the top of the arm or arms N, which are carried by a rod, O, which is held in suitable journals in the lock-case. One end of the rod O passes through the door of the safe, and is furnished with a knob, P, by turning which the arms N may be raised to raise the key. The key while being raised is guided by the key-hole and by a slot, *a*, which is formed by bolting three plates *b*, *c*, and *d*, Fig. 7, together. The key upon being raised straight up raises the tumblers clear of the dog on the bolt A, and by turning the knob P the arm I draws the bolt A out of its keepers.

Instead of the lever described above for

raising the key, a slide or wedge, S, Fig. 8, may be inserted in the key-hole under the key, to raise the key and the tumblers.

As is usual in safe locks, the works may be
5 surrounded with hardened steel plates, so as to prevent them being bored into.

Having thus described my invention, I claim—

1. The combination, in a lock, of the bolt A,
10 tumblers B, knob-spindle H, and arm I with bent top J, the front ends of said tumblers

and the rear end of said bent top J being beveled off, all substantially as and for the purposes set forth.

2. The combination, in a lock, of the bolt A, 15
tumblers B, guide a, rod O, with arms N, arm I, and the key, all substantially as and for the purposes set forth.

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