No. 693,028. Patented Feb. 11, 1902.

E. A. JUDD.

KEYLESS LOCK.

(Application filed July 17, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1

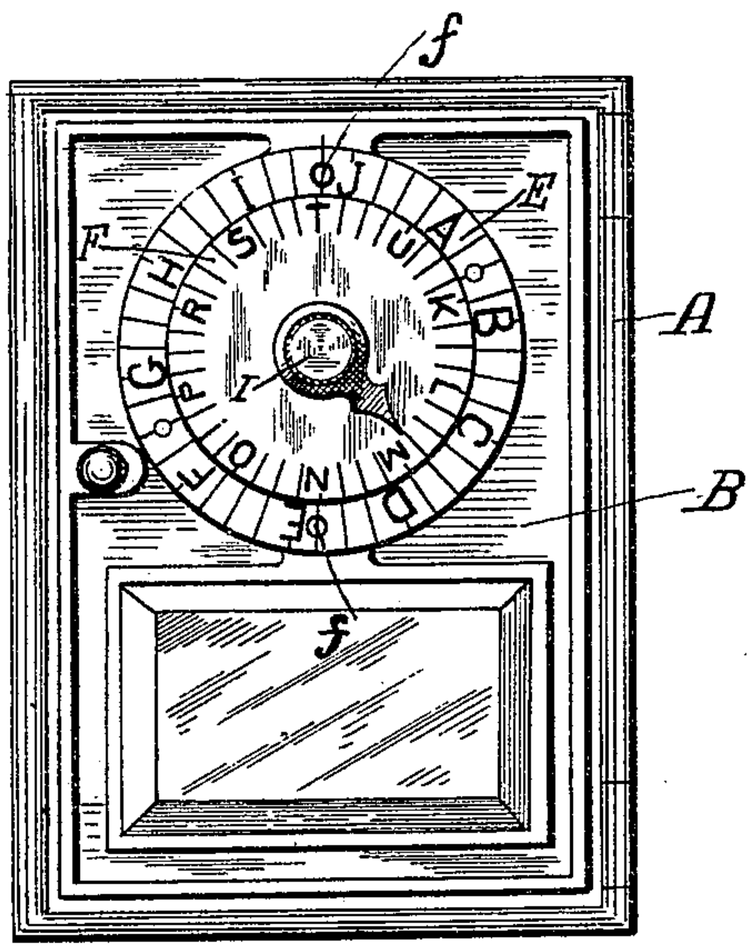


Fig. 2

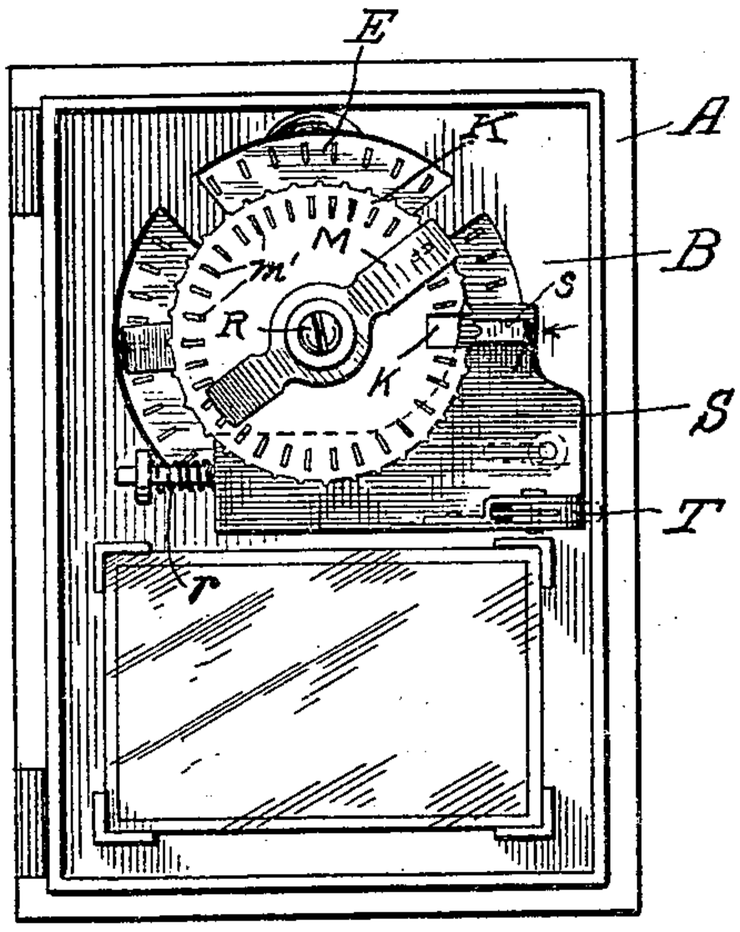
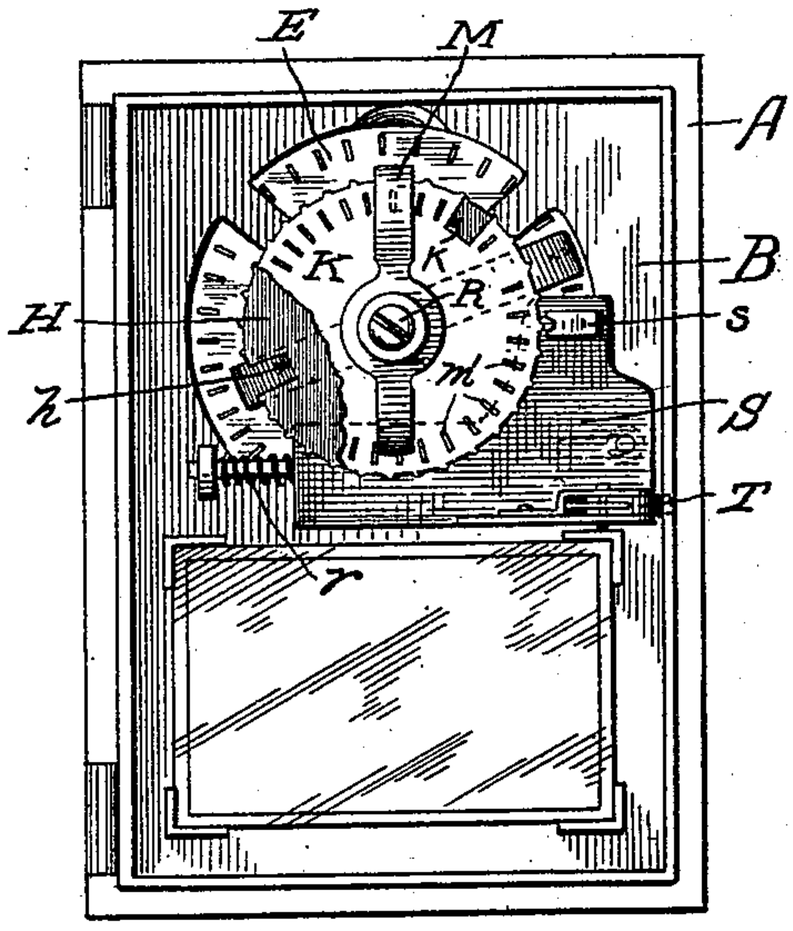


Fig. 3



Witnesses
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2 Sheets—Sheet 2.

Fig. 6

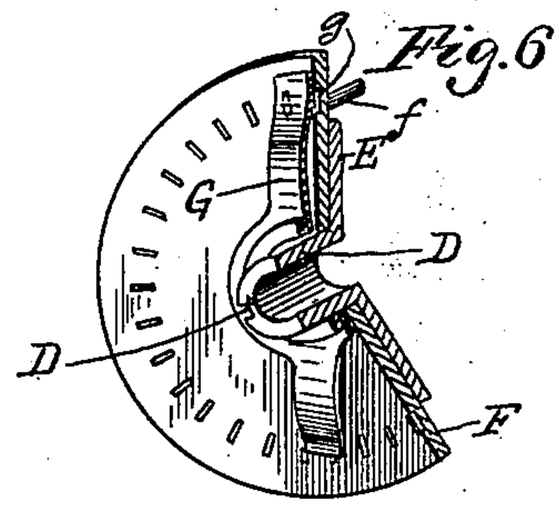


Fig. 7

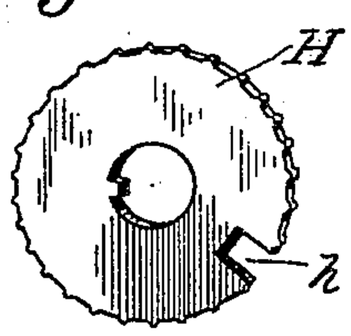


Fig. 10

Fig. 4

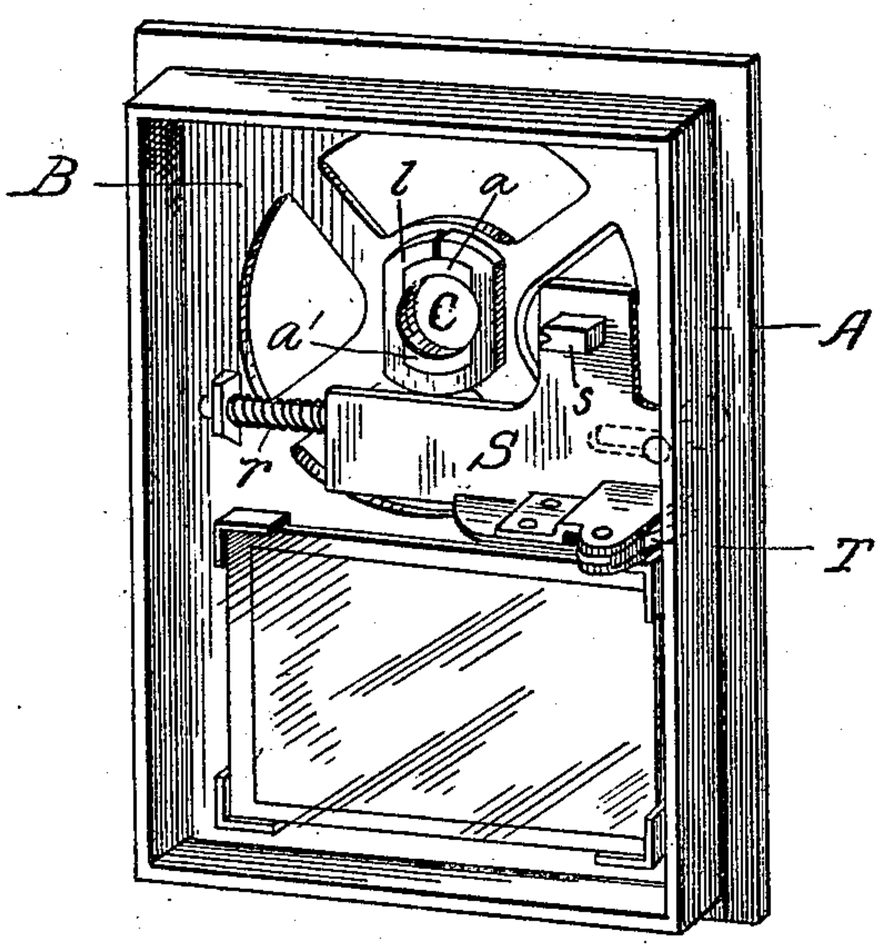


Fig. 11

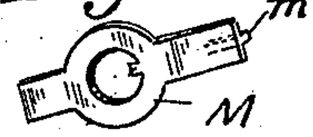


Fig. 8

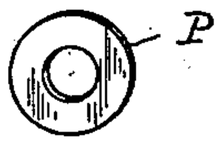


Fig. 9

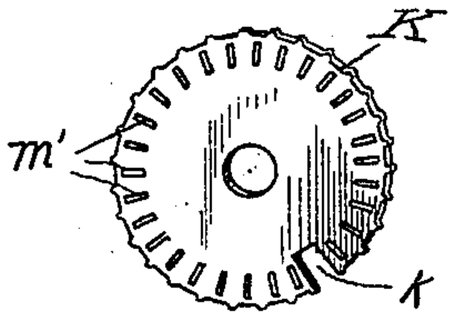
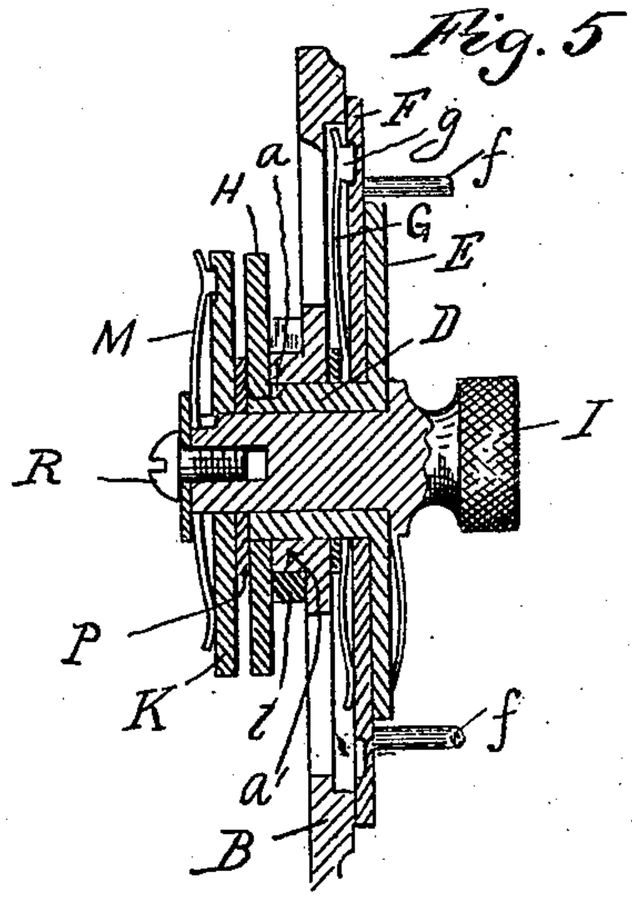


Fig. 5



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD A. JUDD, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO CORBIN CABINET LOCK COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

KEYLESS LOCK.

SPECIFICATION forming part of Letters Patent No. 693,028, dated February 11, 1902.

Application filed July 17, 1901. Serial No. 68,623. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. JUDD, a citizen of the United States, and a resident of New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Keyless Locks, of which the following is a specification.

The object of my invention is to produce a lock of the class specified having features of novelty and advantage. This invention is adapted for use wherever a keyless lock is desired—as, for instance, on a post-office box—and I have shown my invention as embodied in a lock for use on a post-office box.

Figure 1 is a view in front elevation of the door and frame of a single post-office box. Fig. 2 is a view in rear elevation, showing the parts in their unlocked positions. Fig. 3 is a view in rear elevation, showing the parts in their locked positions. Fig. 4 is a rear view in perspective of the frame and door after the movable parts of the lock have been removed. Fig. 5 is a central sectional view showing the parts assembled. Fig. 6 is a view in perspective of the dials and the means for connecting the dials together. Fig. 7 is a view of one of the tumblers operated by the larger dial. Fig. 8 is a view of the washer which separates the tumblers. Fig. 9 is a view of the second tumbler, which is operated by a knob. Fig. 10 is a view of the knob which operates the second tumbler. Fig. 11 is a view of the connecting means between the knob of Fig. 10 and the tumbler of Fig. 9.

Referring to the drawings, A is the frame.

B is the door, hinged to the frame in the ordinary manner. Through the door is the hole C, and on the inner face of the door, above and below the hole, are the lugs a a'. A spring-clamp b fits about the lugs a a', the opening in said clamp when it is closed being slightly smaller than the diameter of the hole C through the door. Closely fitting the hole C in the door and held in position frictionally by the clamp l is the bushing D, which extends slightly beyond the lugs a a'. To the part of the bushing which projects in front of the door are secured two dials E F, one of which, E, is keyed to the bushing, the other one, F, being loose thereon. Handles f are secured to the dial F for the purpose of turning it. These two dials are connected, so that they will move together, by means of a spring-plate G, having a projection g, which enters recesses in the rear face of the dial F. This spring-plate is also keyed to the bushing D. It is clear that by raising the projections on the spring-plate out of the recesses in the dial F the two dials may be moved relatively to each other and the combination altered with respect to the dial F. To the inner end of the bushing D, which extends slightly beyond the lugs a a', is keyed the tumbler H, having in it the slot h. A knob I, carrying a pointer which coöperates with the smaller dial E, has a stem which projects through the bushing D slightly beyond the inner end thereof. On this stem is located a second tumbler K, having a slot k. This tumbler is mounted so as to turn with the knob, being connected with said stem through the spring-plate M, which is keyed to the stem and has a projection m, adapted to engage a recess m' in the face of the tumbler K. The face of the tumbler K has a series of recesses m', and it is clear that by moving the spring-plate M so that its projection will engage different recesses the combination of the tumbler K may be changed. Between the two tumblers is located the washer P, which bears against the end of the bushing D and the tumbler K. The parts are all secured together by the screw R, which is fastened into the end of the stem on the knob I. Owing to the frictional engagement between the inner end of the bushing and the tumbler K when the dial is turned all of the movable parts of the lock move with them. When the knob which operates the tumbler K is turned, the dials and the tumbler H are stationary. It is evident, therefore, that to set the combination the tumbler H should be first brought to its proper position by moving the dial F. The tumbler K is then brought into proper position by turning the knob, which carries an indicator coöperating with the smaller dial E.

Secured to the door is the lock-bolt S, carrying a stump s and the spring-actuated latch T. The lock-bolt is normally held in its forward position by means of the spring r. To

unlock the door, it is necessary to have the slots in the two tumblers register with one another and in line with the path of movement of the stump. This permits the stump to move into the slot sufficiently to allow the door to be unlocked.

It is to be clearly understood that I have described herein the preferred arrangement of the parts; but I do not wish to limit myself to the precise construction shown and described.

I claim as my invention—

1. In a keyless lock in combination, a plurality of dials mounted one above the other adapted to move in unison, means for changing the relation of these dials with reference to one another, a plurality of tumblers mounted on the same axis with the dials, connections between one of said dials and one of said tumblers, and an indicator coöperating with the second dial and connected with the second tumbler.

2. In a keyless lock in combination, a plurality of dials mounted one above the other adapted to move in unison, means for changing the relation of these dials with respect to one another, a plurality of tumblers mounted on the same axis with the dials, connections between one of said dials and one of said tumblers, an indicator coöperating with the second dial and connected with the second tumbler, and means for changing the combination of either of said dials independently of the other.

3. In combination in a keyless lock, a bushing frictionally held in position in the frame, dials mounted on the outer end of said bushing, one of said dials being secured to said bushing, the other being loosely mounted thereon and connections between said dials to cause them to move together; a tumbler mounted on the inner end of said bushing and adapted to be moved by one of said dials, a knob carrying an indicator which coöperates with the second dial, a stem on said knob projecting through said bushing and a second tumbler secured to said stem, substantially as described.

4. In combination in a keyless lock a bushing mounted in the frame, dials mounted on the outer end of said bushing, one of said dials being secured thereto and the other being loose thereon, connections between said dials and means for changing the relative position of said dials with respect to each other; a notched tumbler mounted on the inner end of said bushing and keyed thereon, a knob carrying an indicator coöperating with the second dial, a stem on said knob extending through said bushing, a second notched tumbler mounted on said stem and means for connecting said tumbler with said stem and for changing the position of said tumbler with respect to said indicator, substantially as described.

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