

(Model.)

G. J. BEDFORD.
LOCK.

2 Sheets—Sheet 1.

No. 459,484.

Patented Sept. 15, 1891.

Fig. 1.

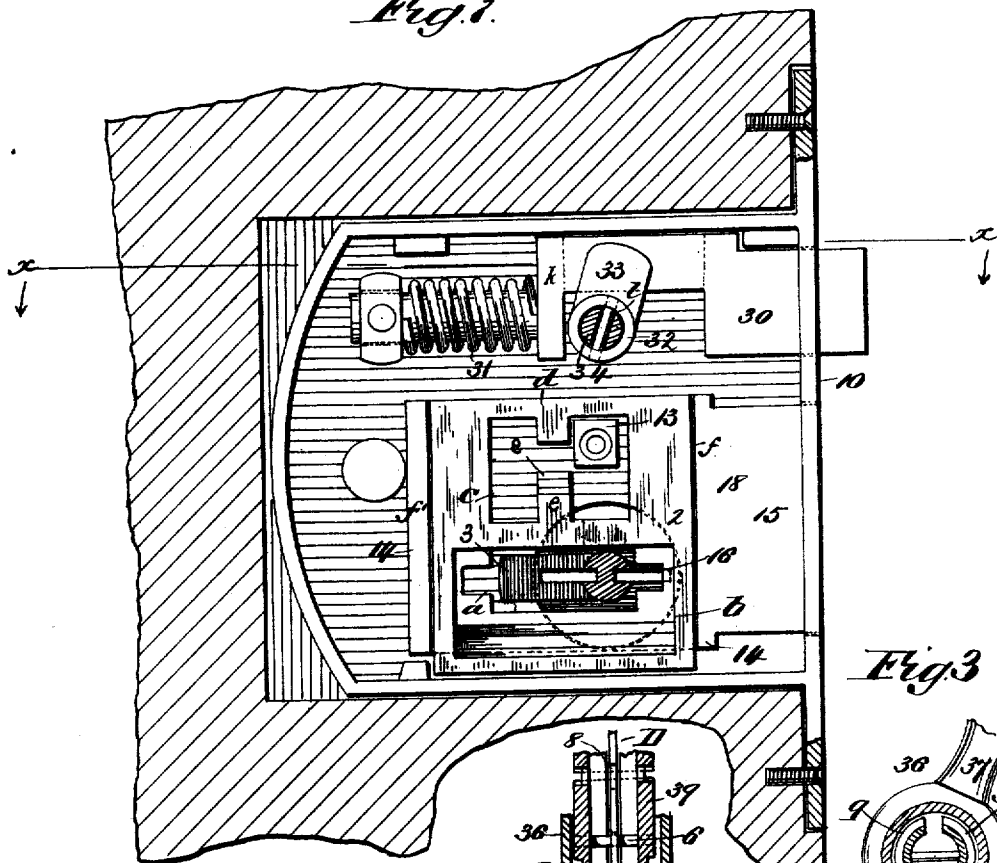


Fig. 3

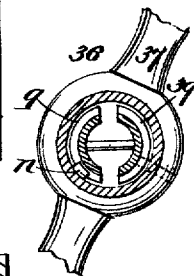
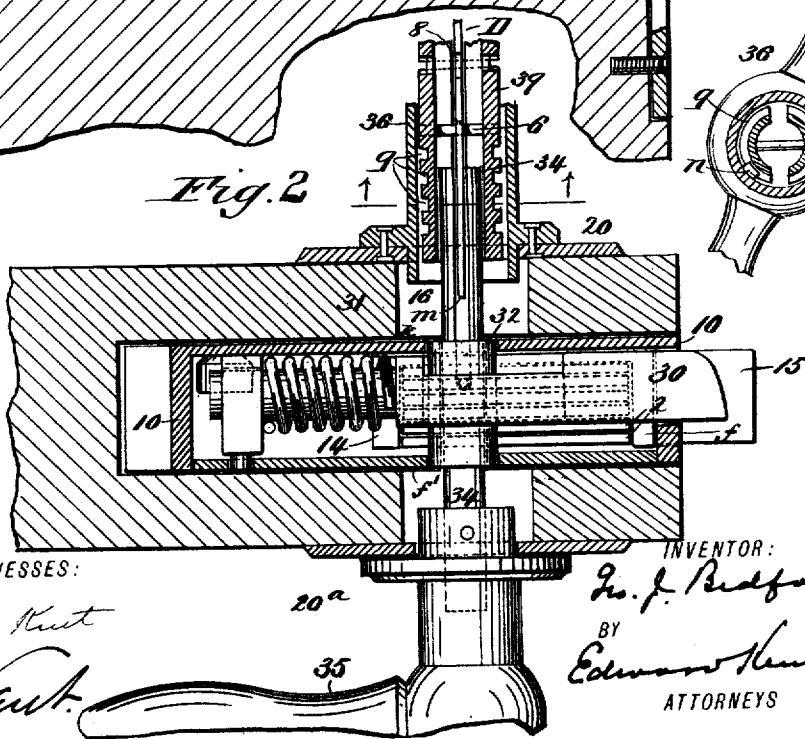


Fig. 2



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ATTORNEYS

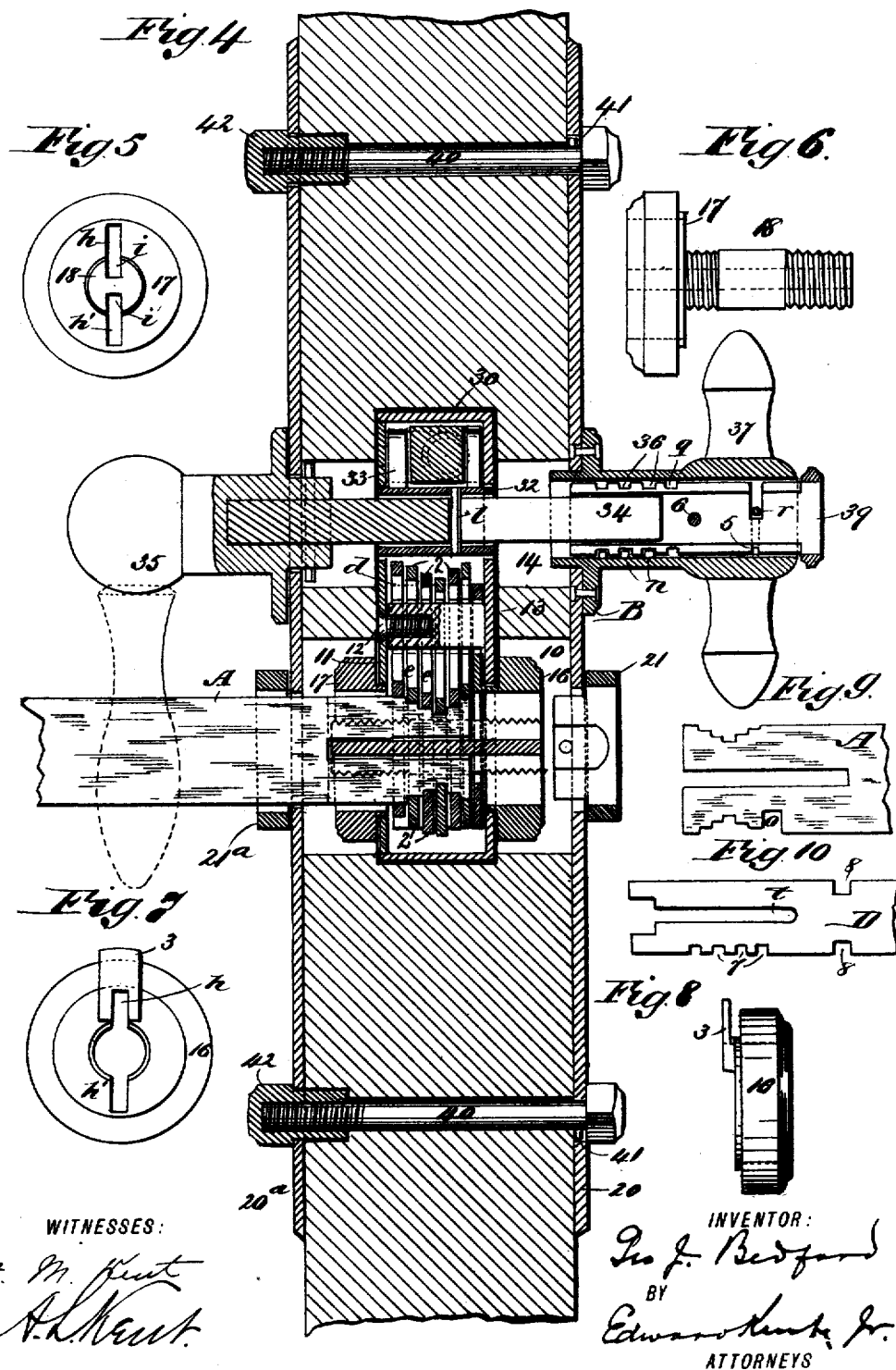
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UNITED STATES PATENT OFFICE.

GEORGE J. BEDFORD, OF ANAMOSA, IOWA, ASSIGNOR TO AMELIA R. LOCKWOOD, OF EAST ORANGE, NEW JERSEY.

LOCK.

SPECIFICATION forming part of Letters Patent No. 459,484, dated September 15, 1891.

Application filed August 27, 1890. Serial No. 363,167. (Model.)

To all whom it may concern:

Be it known that I, GEORGE J. BEDFORD, a citizen of the United States, residing at Anamosa, in the county of Jones and State of Iowa, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to locks, the object of the invention being to provide a lock especially adapted for use as a door-lock and one that will be practically burglar-proof.

In carrying out my present invention I have employed many of the features disclosed in my prior patent of the United States, No. 348,715, which was granted to me on the 7th day of September, A. D. 1886; but, as will hereinafter appear, the original construction has been materially changed in some particulars to meet the requirements of a lock designed for use in connection with a door.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar reference figures and letters indicate corresponding parts in all the views.

Figure 1 is a side view of the lock, the face-plate being removed and parts being shown in section. Fig. 2 is a sectional view on line *xx* of Fig. 1. Fig. 3 is a cross-sectional detail view on line *yy* of Fig. 2. Fig. 4 is a vertical cross-sectional view on line *zz* of Figs. 1 and 2. Fig. 5 is a face view of one of the main escutcheons. Fig. 6 is a side view of the escutcheon shown in Fig. 5, together with the channeled spindle by which the two escutcheons are connected. Fig. 7 is a view of the inner side of the toe-carrying escutcheon. Fig. 8 is a side view of the escutcheon shown in Fig. 7. Fig. 9 is a side view of one end of the key, and Fig. 10 is a side view of the latch-key.

In the drawings above referred to, 10 represents the lock-case, and 11 the side or facing plate, such plate being held to place by a screw 12, that engages a post 13. Within the lock-case I arrange a tumbler-case 14, that is formed with an opening *a*, through which the

post 13 passes, and within this case I place any desired number of tumblers 2, said tumblers being guided by the front and rear walls *f f'* of the case 14. The tumblers are each formed with openings *b* and *c*, the openings *b* varying in width to correspond with the words of the key A, while the openings *c* are entered by projections *d* and *e*. The space between the projections *d* and *e* of each tumbler is the same and is sufficient to permit the tumblers to move forward or back past the post 13; but the projections themselves vary in length, the projection *e* being longest and the projection *d* shortest in the tumbler in which the opening *b* is narrowest, and conversely.

The tumbler-case is formed or provided with a bolt 15, and is placed within the case 10 so that the post 13 will pass through the opening *a* of the case and the tumbler-openings *c*. After the tumblers have been adjusted to position within their case they are held from displacement by the facing-plate or cover 11.

In connection with the parts above described I employ escutcheons 16 and 17, and the escutcheon 16 I form or provide with a toe or projection 3, which rests closely against the inner face of the lock-case within the opening *a* of the tumbler-case. The escutcheons are connected by a post or spindle 18, that is formed with threaded ends to engage corresponding sockets in the escutcheons and with channels *i i'*, adapted to receive the members of the bifurcated key, these channels *i i'* registering with openings *h h'*, that are formed in the escutcheons.

From the above description it will be seen that if the key be inserted and turned, as represented in Fig. 4, the key-wards will bear upon the tumblers and move them to positions such that the spaces between their projections *d* and *e* will register with the post 13, and then any continued movement of the key will bring the toe 3 against the tumbler-case, and such case will be moved bodily forward or back, in accordance with the original position of the parts and the direction in which the key is turned. After the tumbler-case, and with it the bolt, has been moved in the

desired direction the key is withdrawn, and then the tumblers will fall to positions such that their projections *d* will engage the post 13, and the tumbler-case and bolt will then be locked to place until the spaces between the tumbler projections are again brought into register with the post 13.

The key employed to operate the lock from the side B, which as the lock is shown is the outside of the door, is formed with a notch *o* of proper form to receive the edge of the tumbler-case; but the key for the other side of the lock does not require this notch, and the wards are reversed in the two keys, as will be seen by inspecting Figs. 3 and 9. In practice I prefer to provide a key with two operating ends; but it will of course be understood that two distinct keys could be employed.

The lock above described is a mortise-lock and is applied in the usual manner, except that the escutcheons 16 and 17 are adjusted to position after the lock has been placed within the mortise prepared for its reception. To the side faces of the door I secure plates 20 and 20^a, such plates being provided with auxiliary escutcheons 21 and 21^a, that are held to turn upon the plates and formed with slots to receive the key.

Within the case 10 I arrange a latch 30, that is normally held projected by a spring 31, and in connection with the latch I arrange a sleeve 32, formed with an arm or arms 33, said arm or arms bearing upon a shoulder or shoulders *k*, formed on the latch-shank. The sleeve 32 is provided with a pin *l*, that is arranged to enter a slot *m*, formed in the latch-spindle 34. The inner end of the spindle 34 carries a handle 35, and if this handle be turned in a proper direction the latch will be moved inward against the tension of its spring.

To the plate 20, which is the plate on the outside of the door, I rigidly connect a hollow post 36, formed or provided with a handle 37. A number of projections *n n* extend inward from the inner peripheral face of the post 36, and these projections register with grooves *q q*, formed in the peripheral face of a sleeve 39, that is held from displacement by a pin *r*, carried by the post 36, and arranged to ride in a groove *s*, formed in the sleeve. The slotted end of the spindle 34 enters the sleeve 39, as shown best in Fig. 4.

The key D, employed in connection with the latch, is slotted at *t* to fit over a pin 6,

carried by the sleeve 39, and in one edge of the key I form notches 7, adapted to receive the post projections *n n*, other notches 8 being provided to receive the post-pin *r*. To throw the latch, the key is applied as shown in Fig. 2, the inner end of the key entering the spindle-slot. Then if the key be turned the latch will be moved inward, as will be readily understood.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a lock-case and a post carried thereby, of a bolt-carrying tumbler-case through which the post passes, tumblers arranged within the case and formed with openings that are entered by projections and through which the post passes, escutcheons, one of which is adapted to engage the tumbler-case, and a spindle which extends through the tumbler-case and connects the escutcheons, substantially as described.

2. The combination, with a lock-case, of a bolt-carrying tumbler-case, tumblers arranged therein, escutcheons, one of which carries a toe arranged to engage the tumbler-case, and a spindle which passes through the tumbler-case and by which the escutcheons are connected, substantially as described.

3. The combination, with a lock-case of the character described, of a tumbler-case, a bolt carried thereby, tumblers arranged therein, escutcheons, one of which carries a toe adapted to engage the tumbler-case, and a channeled spindle which passes through the tumbler-case and by which the escutcheons are connected, substantially as described.

4. The combination, with a latch formed with a shoulder *k*, of a pin-carrying sleeve having an arm which engages said shoulder, and a slotted spindle that enters the sleeve and engages its pin, substantially as described.

5. The combination, with a latch formed with a shoulder *k*, of a pin-carrying sleeve having an arm which engages said shoulder, a slotted spindle that enters the sleeve and engages its pin, a hollow post formed with projections *n n*, and a sleeve 39, formed with grooves *q q*, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE J. BEDFORD.

Witnesses:

D. G. MCKAY,
ALICE M. MERRILL.