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G. FUDIKAR.
CYLINDER LOCK.

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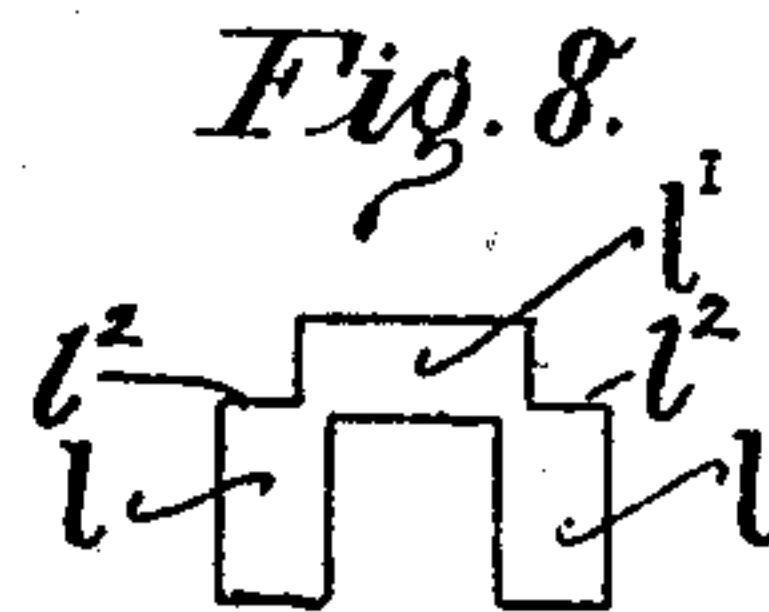
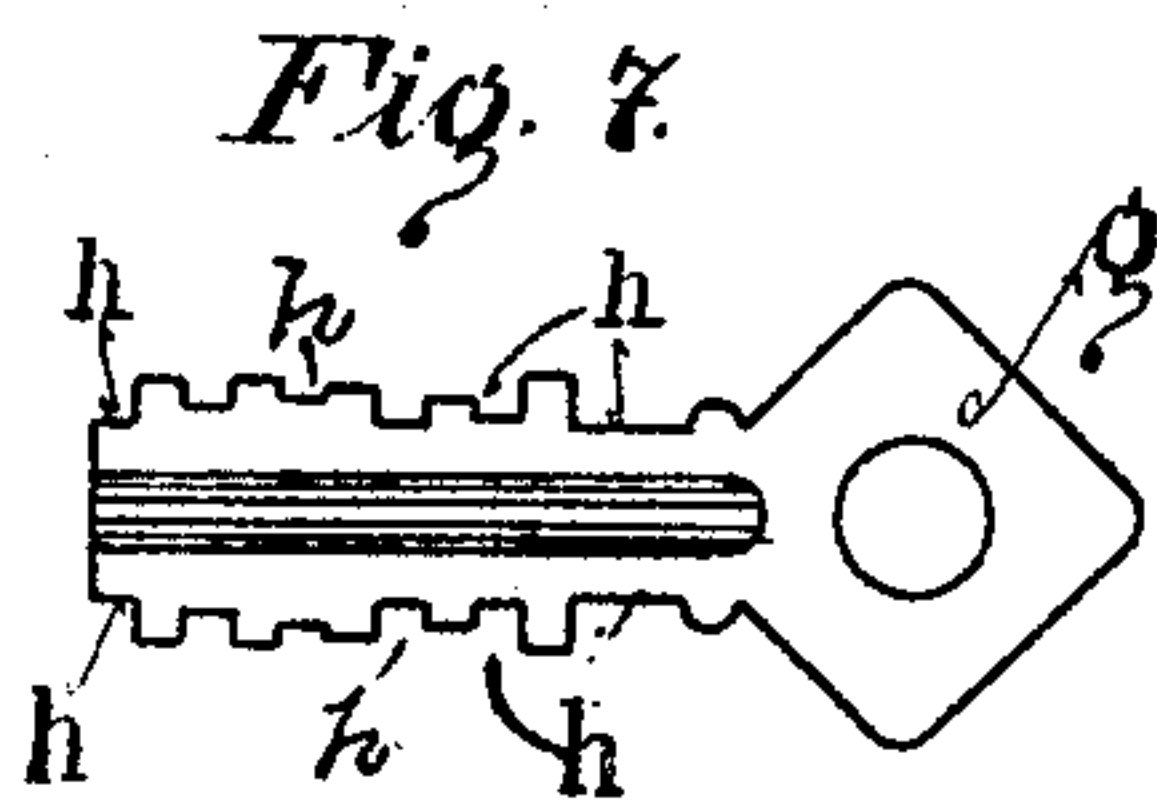
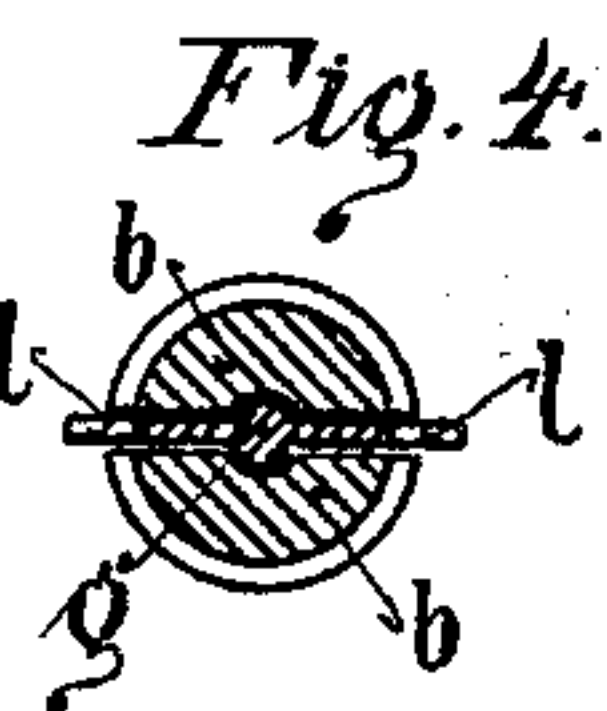
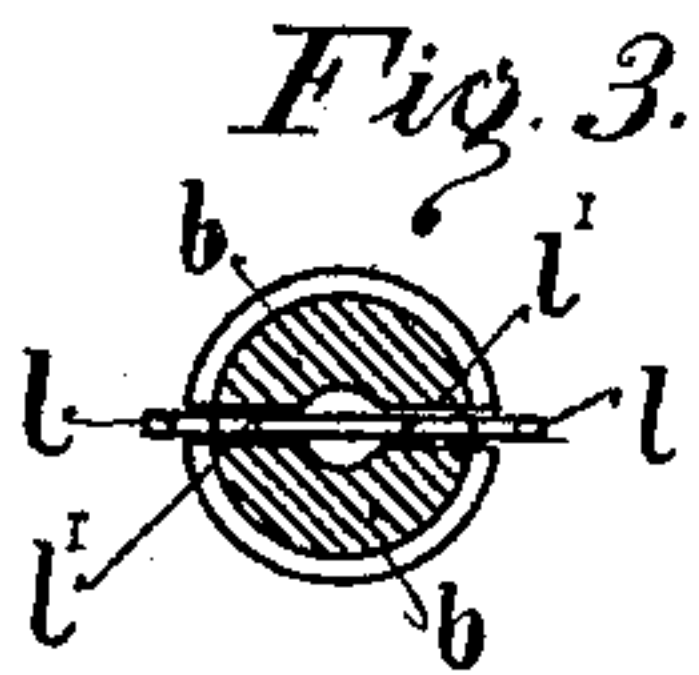
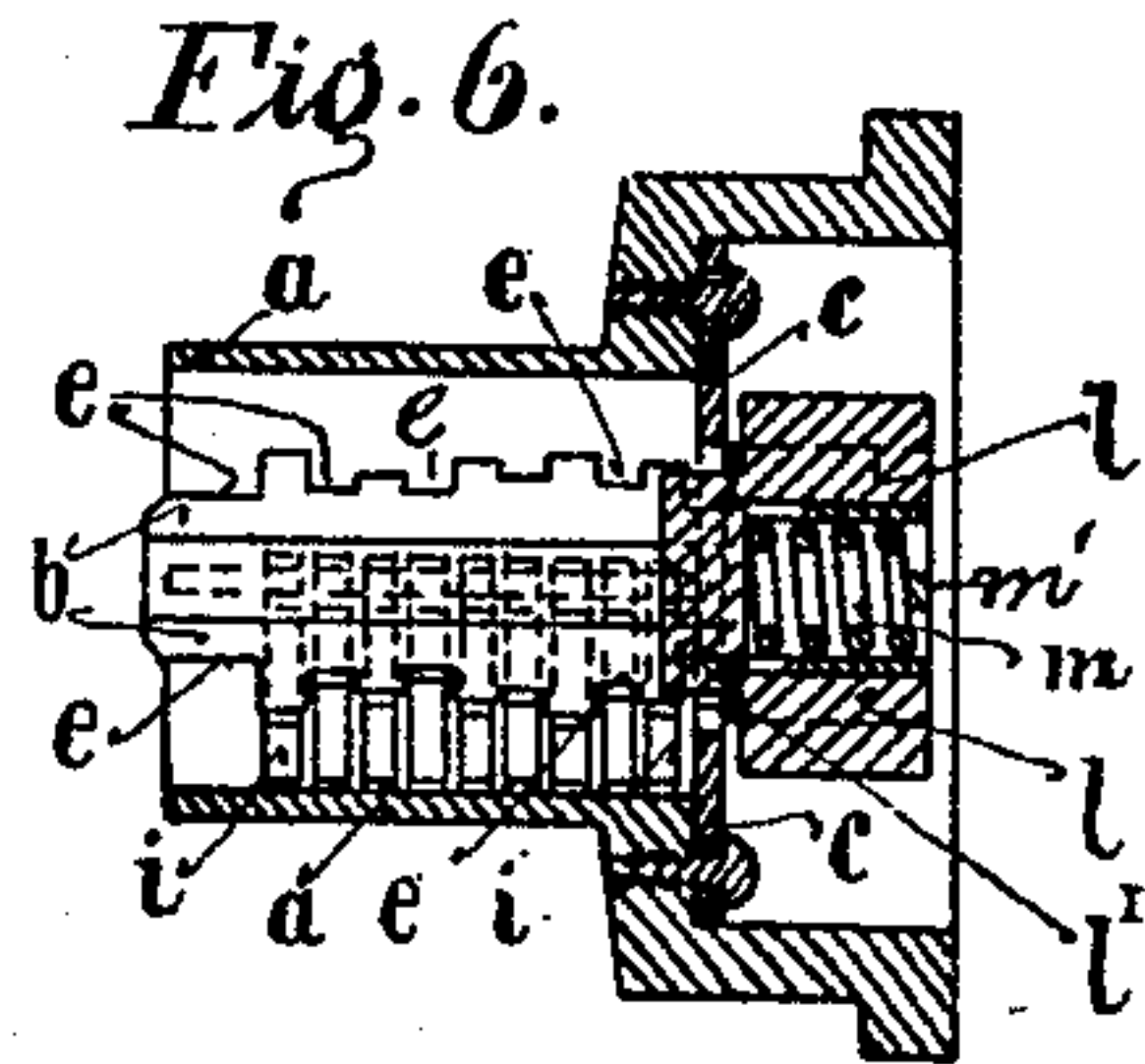
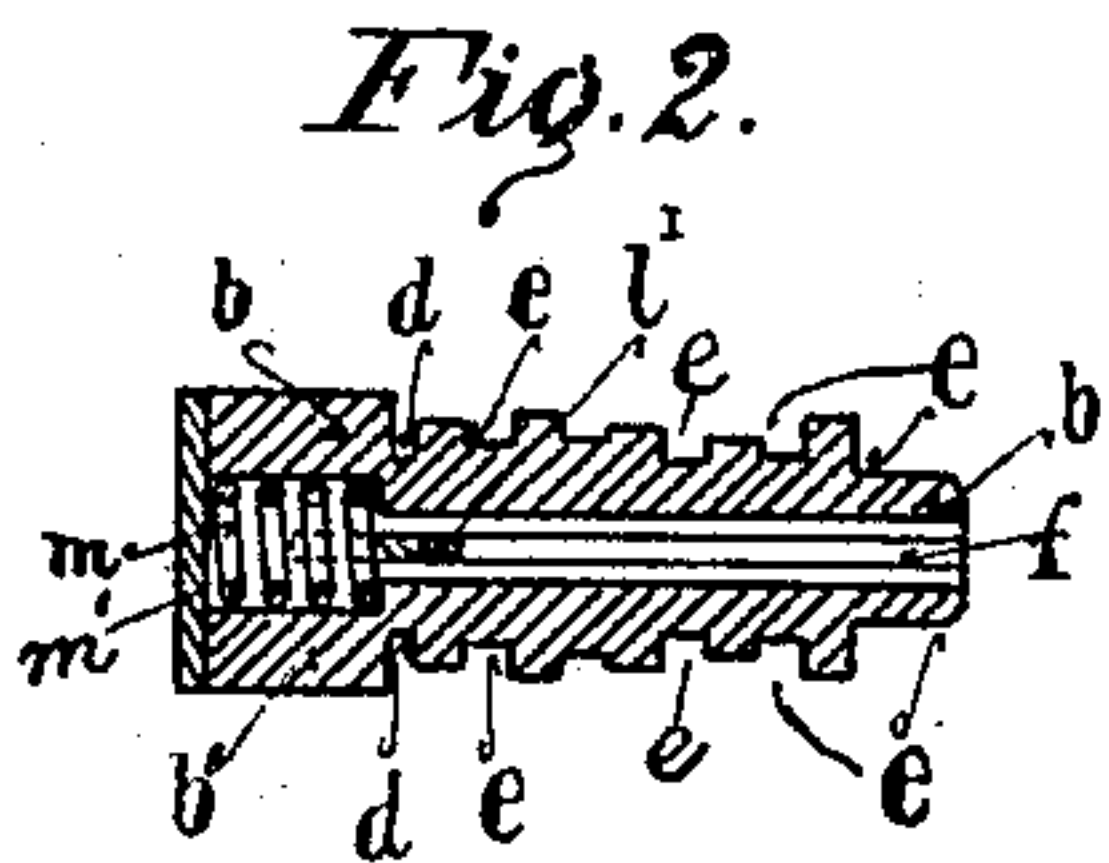
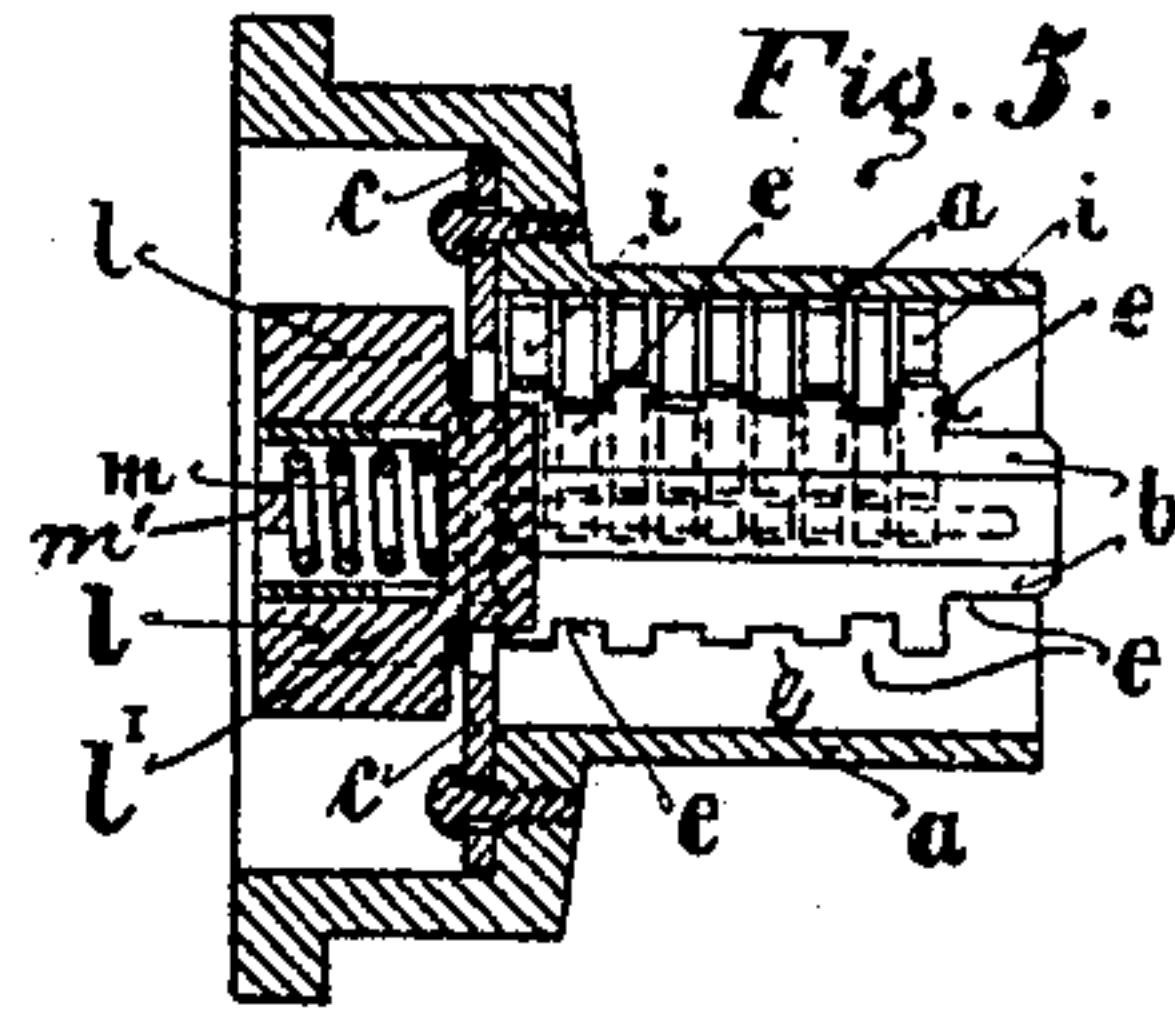
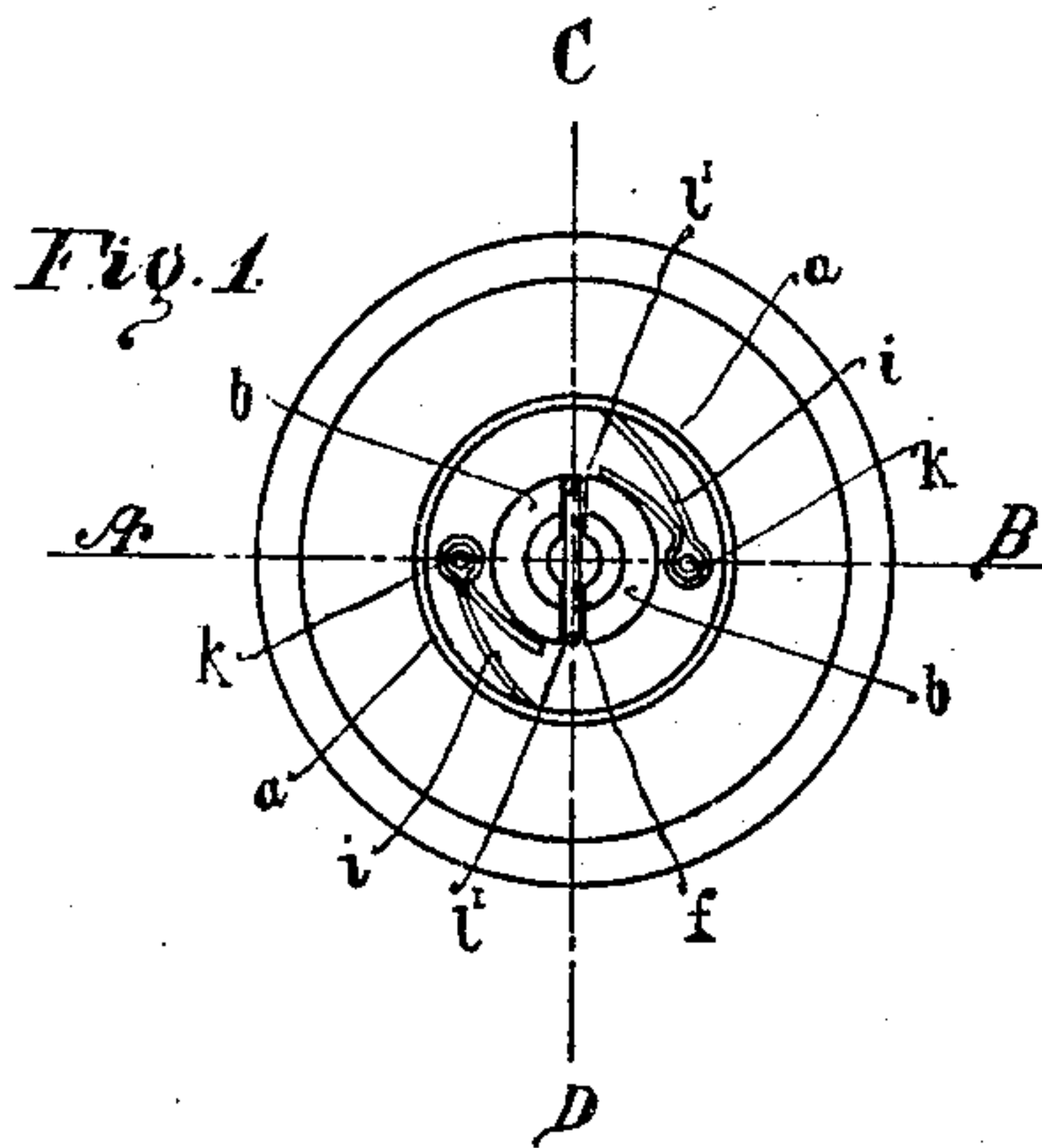
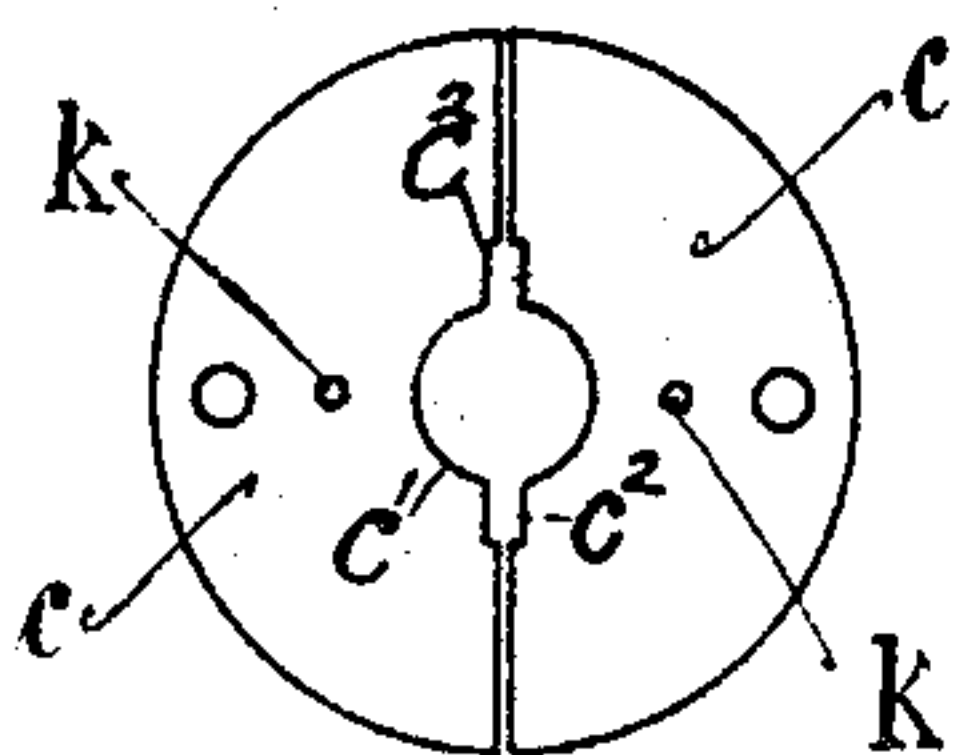


Fig. 8.



Witnesses:

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CYLINDER-LOCK.

No. 795,601.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GUSTAV FUDIKAR, a citizen of Prussia, Germany, residing at Velbert, in the Province of Rhenish Prussia, Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Cylinder-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 using a rotary slotted cylinder or body and a flat key fitting the slot of the same.

The said invention consists in the combination and construction of parts hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a front elevation of a lock embodying my invention, the covering-plate having been removed. Fig. 2 represents a longitudinal detail section of the rotatable cylinder on the line A B of Fig. 1. Figs. 3 and 4 represent transverse sections of the rotatable cylinder or body, respectively without and with the key. Figs. 5 and 6 in reversed positions with respect to each other represent longitudinal sections through the line C D of Fig. 1, the cylinder being in diametrically opposite positions in these two figures. Fig. 7 represents the key in detail side elevation. Fig. 8 represents a detail front elevation of the part *l*, hereinafter described; and Fig. 9 represents a similar view of the semicircular plates *c*.

The rotatable cylinder barrel or body *b* is mounted in the central bearing *c'*, formed by two semicircular centrally-recessed sections *c* of a bearing-plate, which sections are fastened by screws to the casing *a* of the lock, the said barrel being circumferentially grooved at *d* to receive their inner edges, and thus prevented from moving endwise. The said opening is provided with opposite radial offsets *c''*. The said barrel or body has also a number of other circular grooves *e* in its exterior with alternating annular ribs and is further provided with a longitudinal central slot *f*, open at the outer end to receive the key *g*, having bits *h*, which coincide with the said grooves *e*, this key being equal in width to the diameter of the said body.

Two rows of spring tongues or tumblers *i* are loosely arranged on two fixed bars *k* to act on the said cylinder, being respectively in front of and behind the slot *f*, with relation to the direction of rotation of said cylinder

when the said cylinder is in normal position. The said bars are attached at one end to the bearing-plate sections *c* on opposite sides of the central opening *c'* and extend at right angles to said plates. The tongues of each row are individually presented diametrically opposite the corresponding tongues of the other row, and their number is such that two oppositely-presented tongues rest on each groove *e* and on each intervening raised annular part of said cylinder. The rear end of said barrel or body is recessed to receive a spring *m*, bearing at its rear end against a cross-bar *m'*, fast in the said barrel, and at its forward end against a cross-bar *l'* of a locking-plate *l*. The latter is of approximately U shape, with its ends extended rearward and cut away at the front to present shoulders *l''*, which are normally in contact with the rear face of the bearing-plate *c*, the said legs extending out from each side of the rear end of the barrel *b*, while the cross-bar *l'*, movable back and forth in the slot *f*, is held by spring *m* with its ends in the offsets *c''*, so that the said plate *l* then engages both the fixed bearing-plate and the barrel, thereby locking the latter against turning. It is therefore necessary to move the said locking-piece *l* back out of this normal engaging position against the resistance of the said spring before the barrel can be turned to actuate any mechanism. This is effected by pushing in the key *g*; but the key will still be ineffective unless the bits thereof exactly correspond to the number, size, and arrangement of the grooves *e* and intervening parts, as otherwise there will necessarily be at some point an outward projection of the key engaging and locked by some one of the spring tongues or tumblers at the first attempt to turn said key.

The operation of the lock is simple, as usual in its kind, by thrusting the flat key into the slot and turning the said key and barrel. The barrel or body *b* may be conoidal instead of cylindrical in form. The spring tongues or tumblers may be arranged otherwise than diametrically opposite each other, although this arrangement (shown in Fig. 1) is preferred.

It would be very difficult to devise an efficient false key, for the similarity of outline between it and the barrel must be exact. Of course the key must also be of proper length to reach and move the sliding locking-piece *l* beyond the recesses *c''* of the sections *c* of the bearing-plate, which plate normally serves as a stop or locking device, preventing the rotation

of said piece *l* and that of said barrel and key also.

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

1. In a cylinder-lock, a barrel provided with a longitudinal slot and having different longitudinal parts of its surface of different diameters in combination with locking tumblers or tongues adapted to enter said slot, a key of outline corresponding to the inequalities of surface of said barrel and adapted to enter the said slot, a device adapted to be pushed back by the said key and turning with the said barrel and a fixed part normally locking the said device against such turning until the key shifts the same out of locking position substantially as set forth.

2. In a cylinder-lock, a rotary barrel or body, provided with a longitudinal central slot and a series of circumferential grooves, in combination with spring-pressed tongues or tumblers, adapted to rest in said grooves and on the intervals between them, a key adapted to slide in said slot and provided with bits which exactly correspond to said grooves and fill them, holding the tongues or tumblers out of said slot, for permitting the turning of said barrel and key, and a sliding part moved by the pressure of said key out of its engagement with a fixed part which also normally prevents the barrel and key from turning.

3. In a cylinder-lock, a rotary body, provided with a longitudinal central slot and a series of circumferential grooves, in combination with spring-pressed tongues or tumblers arranged in two opposing series and

adapted to bear on the said body, a key adapted to enter the said slot and hold the said tumblers out of said slot, and a spring-pressed independently-movable part, turning with said barrel, but normally locked against such turning, the pressure of the said key, freeing said part from its locked position substantially as set forth.

4. In a cylinder-lock, a rotary body having grooves in its exterior and a longitudinal central slot, in combination with tumblers for automatically engaging the said grooves, a spring-pressed movable piece guided in said slot, a fixed device adapted to normally engage the said movable piece and a key provided with bits adapted to fill each of said grooves and arranged to force the said movable piece back out of engagement substantially as set forth.

5. In a cylinder-lock, a rotary body provided with a groove *d*, a series of grooves *e* and a longitudinal slot *f*, in combination with a support having a bearing-opening *c'* which fits said groove *d*, and also provided with offsets *c''* of said opening, a sliding locking-piece *l*, moving in the slot of said body, a spring *m* set into a recess of said body and normally holding said locking-piece in said offsets to prevent the turning of said body and a key, adapted to completely enter the said slot, provided with bits corresponding to grooves *e* and adapted to force back the spring and locking-slide for disengagement substantially as set forth.

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Witnesses:

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