

(Model.)

R. E. VAN ZANT.
LOCK.

No. 442,559.

Patented Dec. 9, 1890.

Fig. 1.

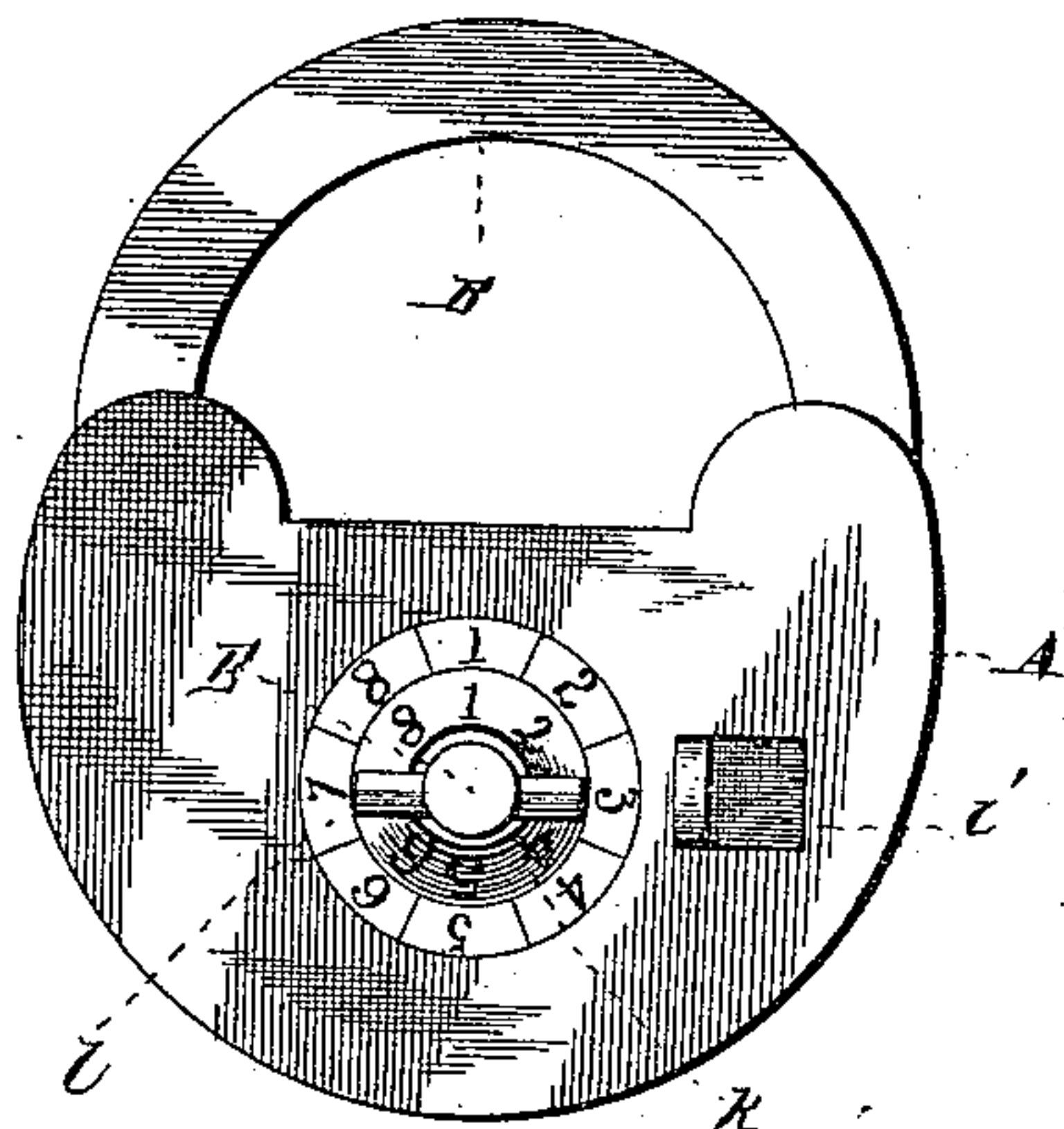


Fig. 2.

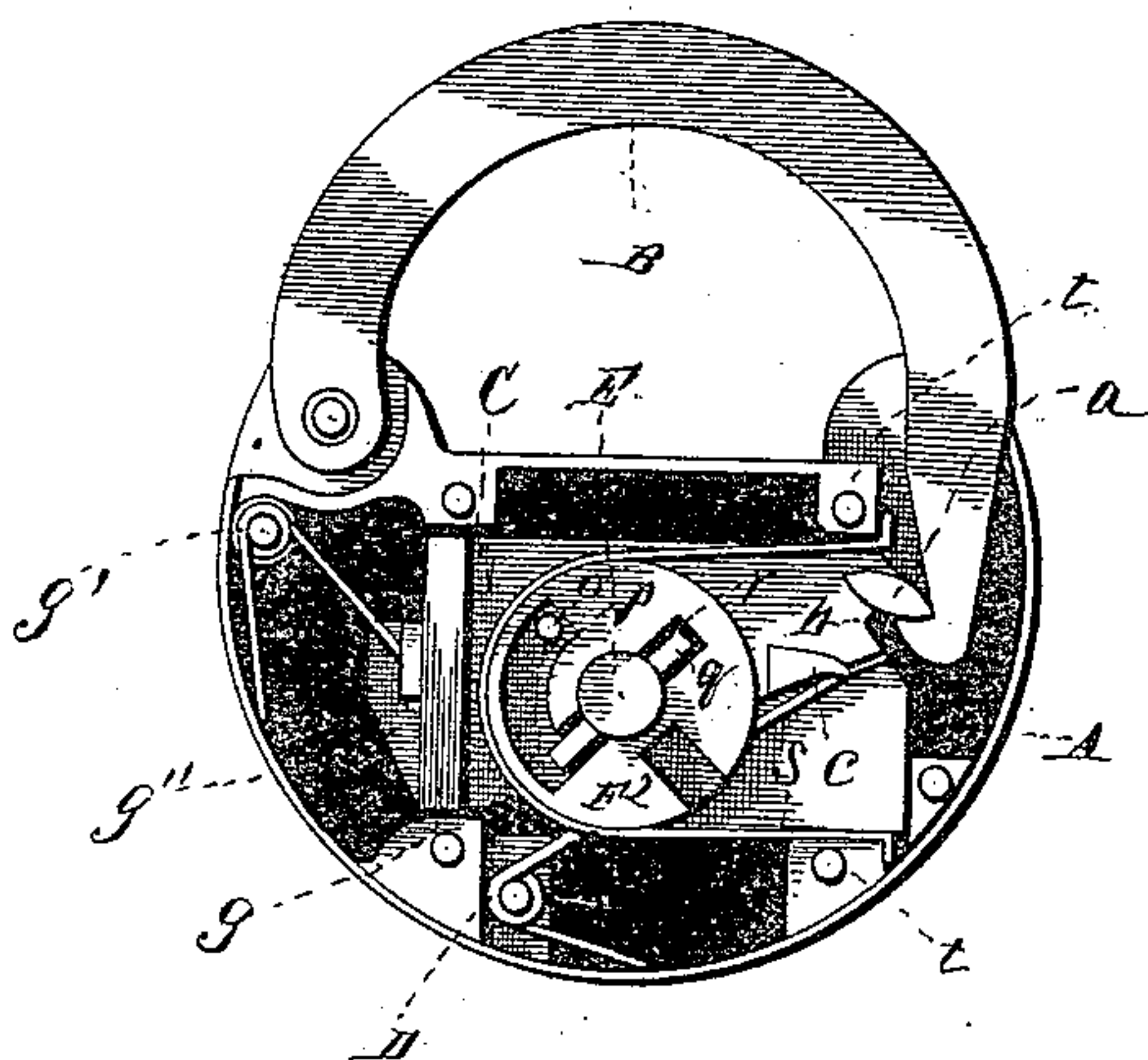


Fig. 4.

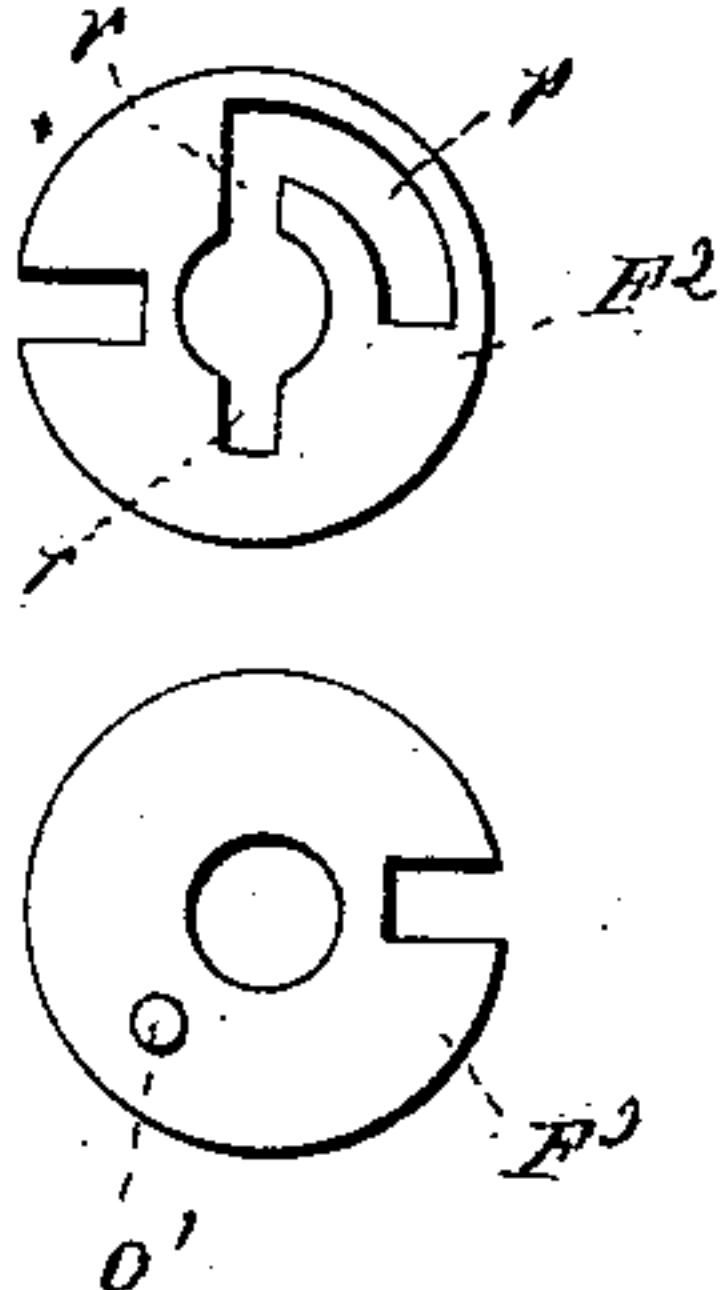


Fig. 3.

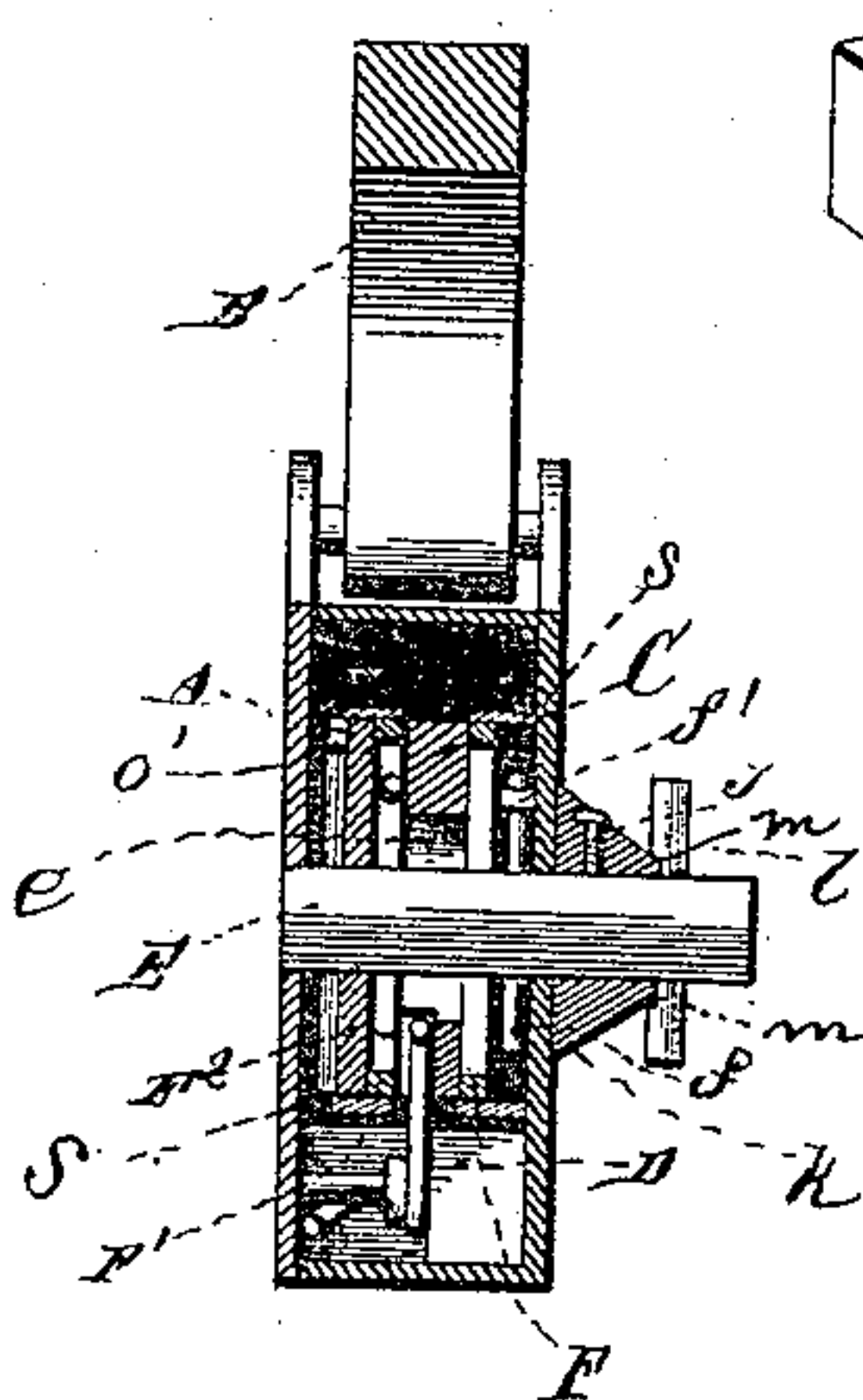
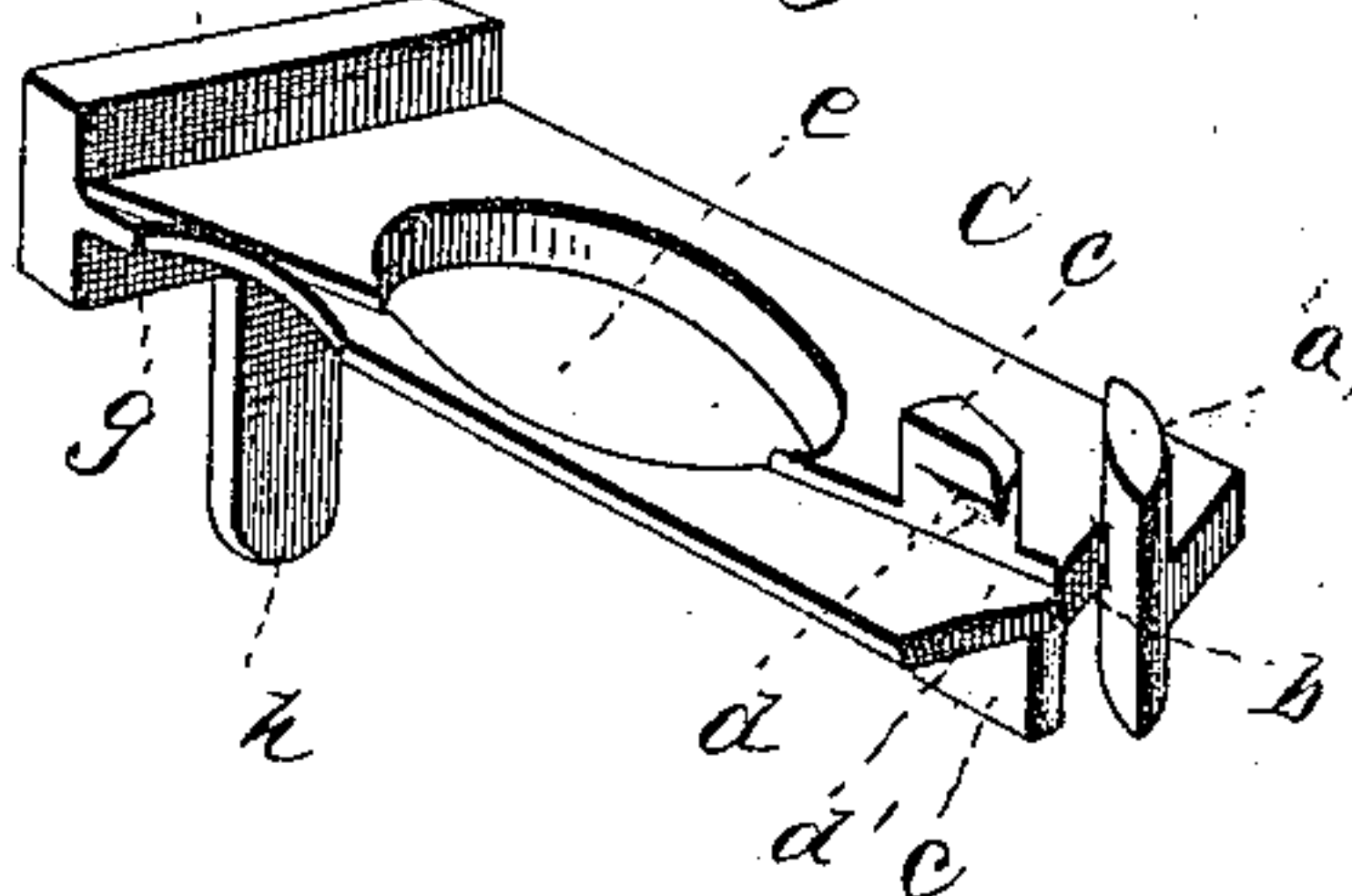


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

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LOCK.

SPECIFICATION forming part of Letters Patent No. 442,559, dated December 9, 1890.

Application filed August 25, 1890. Serial No. 362,938. (Model.)

To all whom it may concern:

Be it known that I, RALPH E. VAN ZANT, a citizen of the United States, and a resident of Noblesville, in the county of Hamilton and State of Indiana, have invented certain new and useful Improvements in Locks; and I do 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a front view. Fig. 2 is a view of the interior of the lock with back plate removed. Fig. 3 is a vertical section. Figs. 4 and 5 are detail views.

This invention relates to certain improvements in locks; and it consists in the novel construction and combination of parts hereinafter disclosed.

In the drawings, A refers to the case, and B to the shackle, connected to the case in the usual way.

C is a slide arranged in the case A and having the catch-lug *a* projecting from its upper right-hand corner upon both sides, giving the catch-lug a broad surface for engagement with the shackle. The forward edge of the slide C is inclined inward, as at *b*, just beneath the catch-lug *a*, permitting the shackle to engage the latter well inward and thereunder and have a firm solid grip thereon.

The slide C is provided upon its sides at the forward end with nearly-opposite studs *c c*, one of said studs having a shoulder *d* adapted to form a bearing for one arm of the spring D, pressing against and normally holding the slide with the catch-lug in position for engaging with the shackle and also pressing against said shackle, the other arm of said spring resting against the case A. To conduce to this end, also, the slide C, below said shoulder *d*, is reduced or thinned, producing an inclined shoulder *d'*.

The slide C has an elongated approximately circular opening *e* to permit it to have a sliding movement, through which passes the spindle or stem E, bearing in the outer or front plate of the lock-case A and carrying a cross-pin *f* inside of said plate, preventing the withdrawal or displacement of said stem or spin-

dle in addition to engaging a stud or post *f'* on one of the tumblers for actuating the same. The slide C has also vertical transverse lateral extensions *g g* at its rear end, providing it thereat with a cross-section of sufficient width to snugly fit the case A, and thus properly retain the slide in position and guide it in its movement. The forward end of one of the extensions *g g* affords a bearing for the inner end of a second spring *g'* for acting upon the slide C.

Preferably extending about midway from one of the extensions *g* is a thumb or finger piece *h*, projecting through a slot *i* in the front or outer plate of the case A, and said extension is itself extended or elongated, as *g''*, so as to cover the unoccupied part of the slot *i*.

The spindle-stem E has connected to it, so as to be movable, preferably by a screw *j* on the outside of the case A, a hub or rose *k*, provided with a circularly-arranged series of numerals, letters, or characters, opposite each of which the base of said hub or rose is notched, and upon the outside of the front plate of the case A and encircling said hub and spindle is also a similarly-arranged series of numerals, letters, or characters.

Through the outer end of the spindle or stem E is inserted a cross-pin *l* for convenience in turning or manipulating the latter, said pin being cut away upon its inner side to form shoulders *m* thereon to engage the outer or smaller end of the rose or hub *k*, thus preventing its accidental displacement. As above intimated, the spindle or stem E has also inserted through it, on the inside of the case A, a cross-pin *f*, and upon it, between the front plate of said case and the slide C, is a slotted tumbler F, having a stud or post engaged by said cross-pin. Also, on the stem or spindle E, on the opposite side of the slide C, are two other slotted tumblers F², the tumbler F' having a stud *o'* engaging an arcuate slot *p* in the tumbler F², while through the spindle or stem is inserted a second cross-pin *q*, let into slots *r*, intersecting the bore of the tumbler F² and its slot *p*, to prevent the accidental displacement of said pin.

s s are two circular band-springs, one encompassing the tumbler F and the other en-

compassing the tumblers $F' F^2$, the ends of said spring being bent and sprung into engagement with post t , cast upon the case A, and thus held by the recoil action of the springs.

The changing of the combination can be readily effected after the withdrawal of the screw j , permitting the shifting of the rose or collar with its numerals or characters and the tumblers with relation to the numerals or characters on the front plate of the lock-case.

This lock, it is obvious, is equally applicable by the proper adaptation of the case to doors, drawers, desks, or wherever a strong and secure lock is required.

In order to open the lock, turn the spindle or stem to the right until the numeral or character 2 on the rose or collar arrives opposite the numeral 3 on the dial or case A. Again turn the spindle to the right, making a complete rotation, thus effecting a repetition of the same registration. Now turn the spindle to the left until the numeral 5 on the rose registers with the figure $2\frac{1}{2}$ on the dial. Then turn said spindle to the right until the numeral 7 comes opposite the figures $5\frac{1}{2}$ on the dial. By now pressing outward upon the thumb-piece of the slide C the latter will be so acted upon as to withdraw or disengage the catch-lug from the shackle, the released end thereof instantly springing out of the case under the action of the spring.

Having described the invention, what I claim, and desire to secure by Letters Patent, is—

1. The lock having the slide provided with the catch-lug projecting from both sides and having a broad surface for engagement with the shackle and the lateral studs, said slide being carried by a stem or spindle, in combination with the locking mechanism and means for engagement with the catch-lug, substantially as set forth.

2. The lock having the slide provided with the catch-lug at its right-hand upper-corner edge projecting from both sides and having

a broad surface for engagement with the shackle, the forward edge of said slide being inclined inward just beneath said catch-lug and lateral studs, said slide being carried by the spindle or stem carrying the tumblers, in combination with the slotted tumblers, the spindle or stem carrying the latter, and the means thereon for actuating said tumblers and the shackle, substantially as set forth.

3. The lock having the slide provided with the catch-lug at its right-hand upper-corner edge and lateral studs, and the elongated approximately circular opening, in combination with the shackle, the springs acting upon said slide on the opposite sides, and the stem or spindle carrying the slotted tumblers, and means for effecting the registration of the slots of said tumblers with said lateral studs, substantially as set forth.

4. The lock having the slide provided with the catch-lugs and the lateral studs and the springs acting upon said slide, in combination with the shackle, the spindle or stem carrying the rose or collar, said rose or collar having characters or numerals thereon, and the slotted tumblers, two having studs engaged by studs on said spindle and one having an arcuate slot engaged by a stud on a second tumbler, an additional slot receiving a cross-pin on said spindle or stem, and the lock-case having numerals or characters thereon, substantially as set forth.

5. The lock having the slide provided with the catch-lug, the lateral stud, the vertical transverse end extensions, and the finger or thumb piece projecting through a slot on the front plate of the lock-case, and the extension for covering the unoccupied part of the slot, in combination with the locking mechanism, substantially as set forth.

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

RALPH E. VAN ZANT.

Witnesses:

F. B. PFAFF,
D. F. MOSS.