

LOCK.

913,459.

Patented Feb. 23, 1909.

Fig. 1,

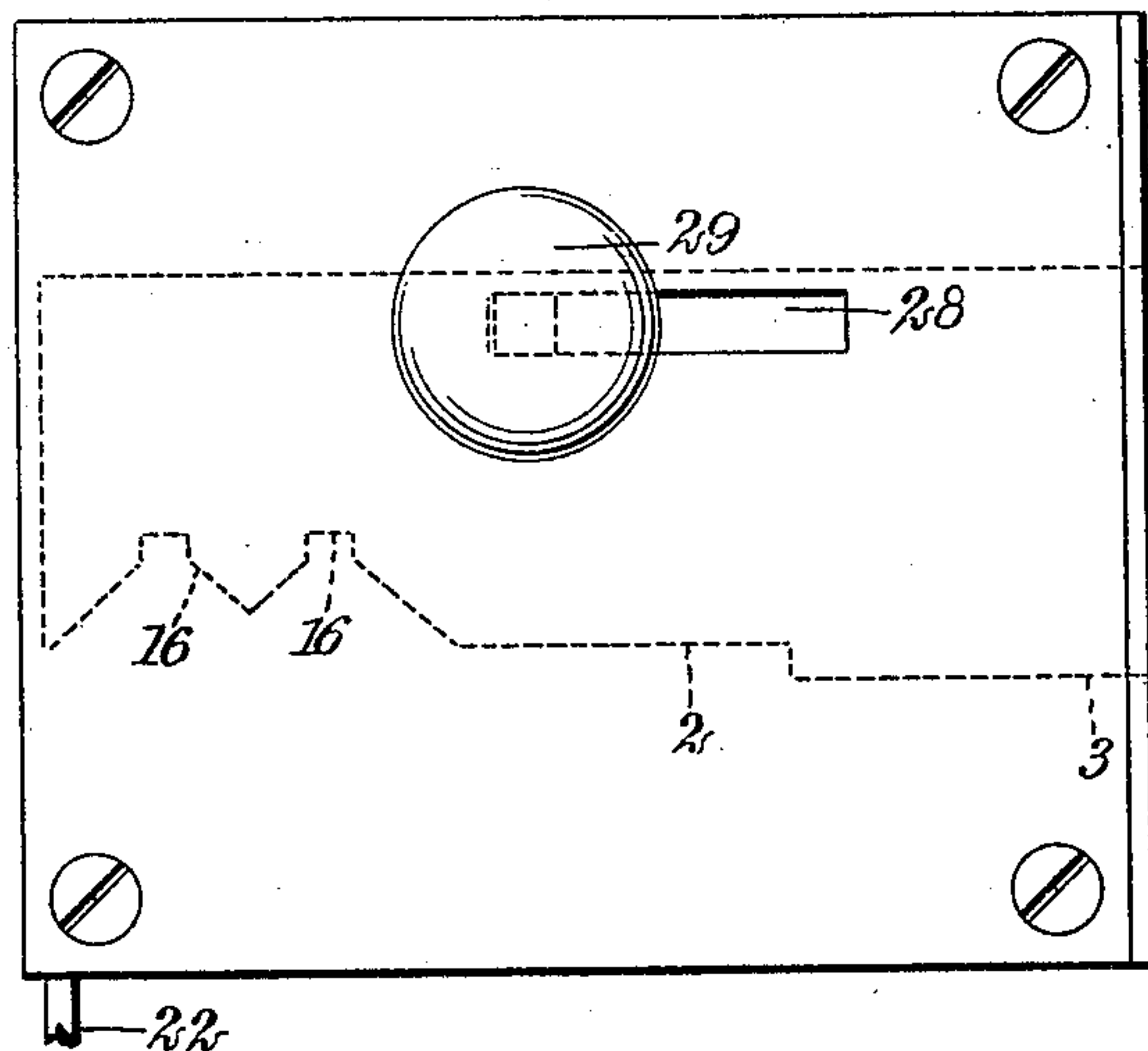


Fig. 2,

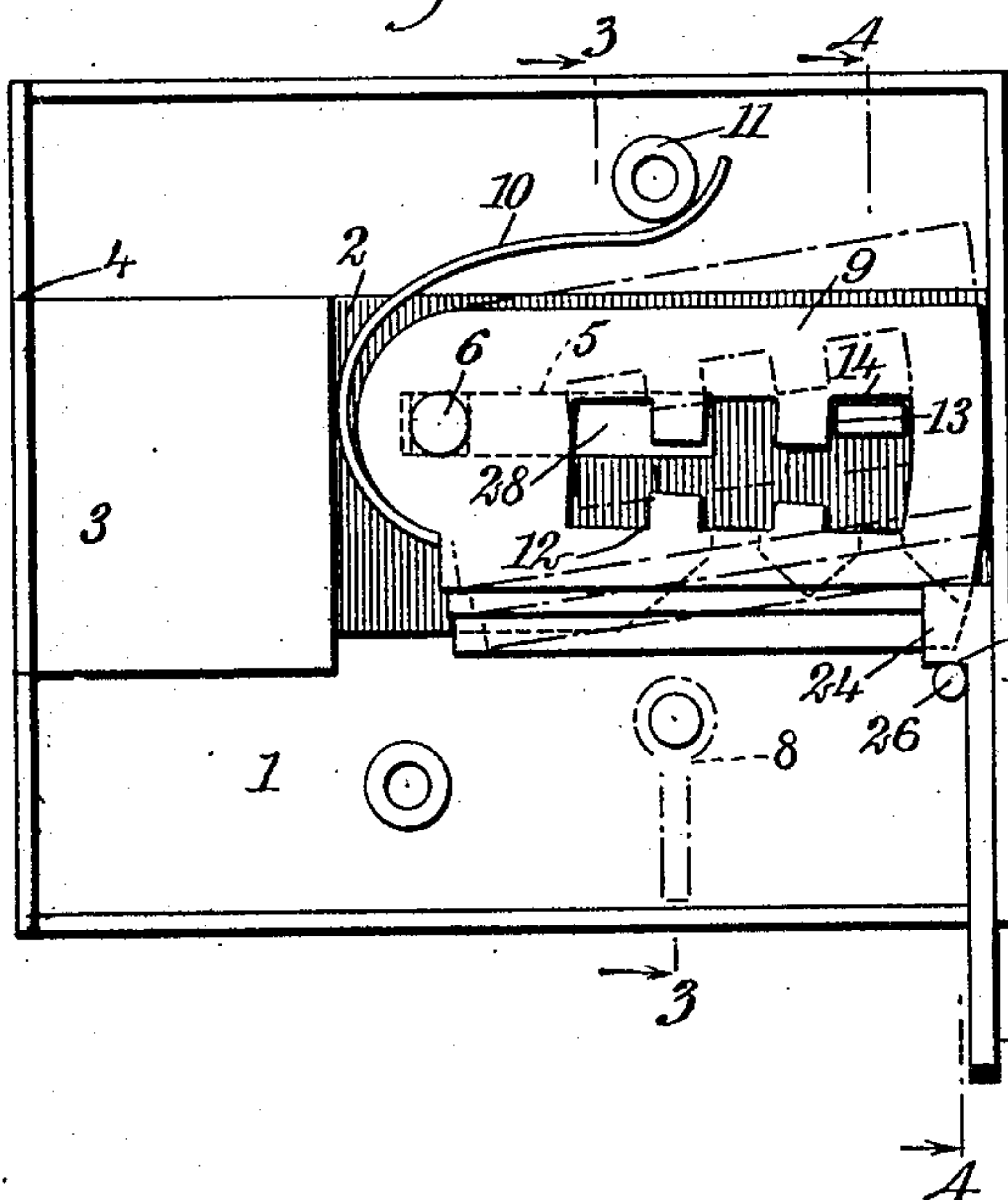


Fig 3.

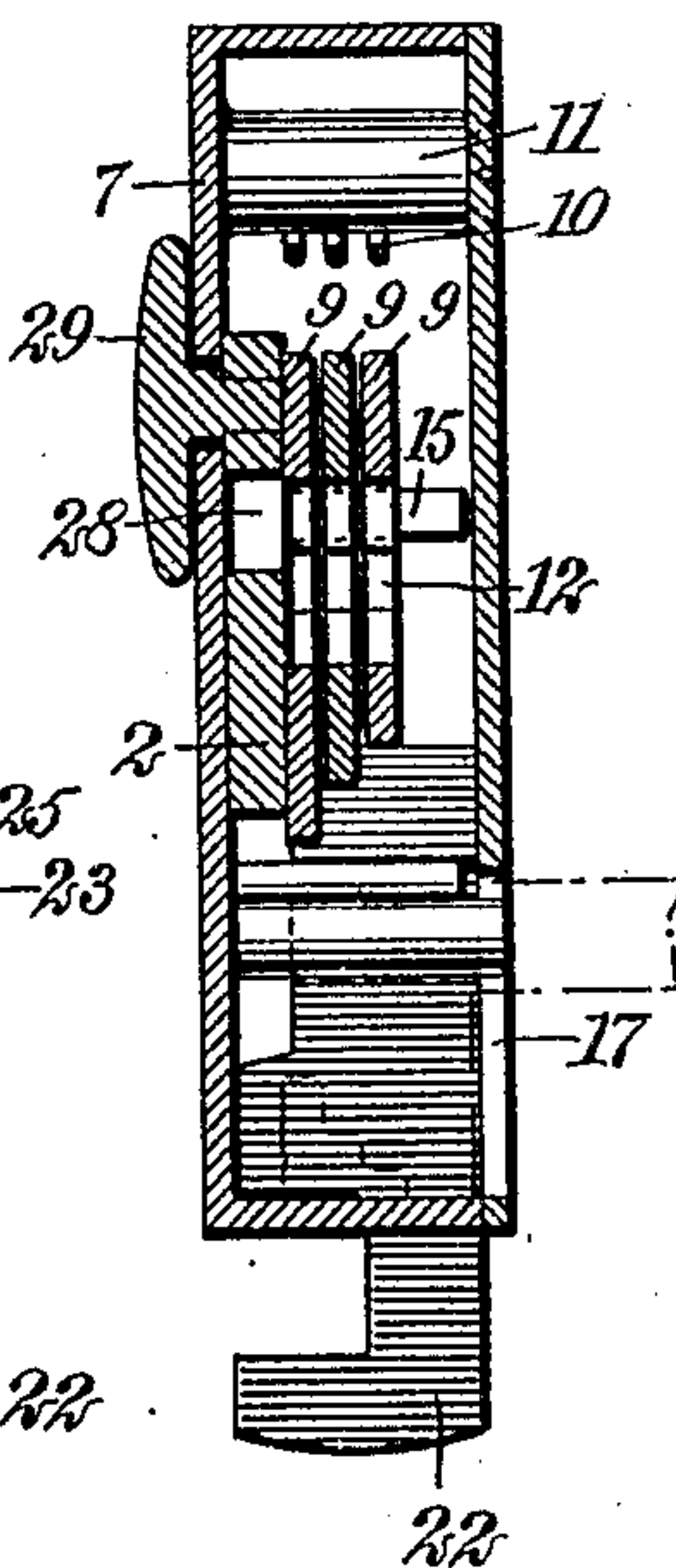


Fig. 4.

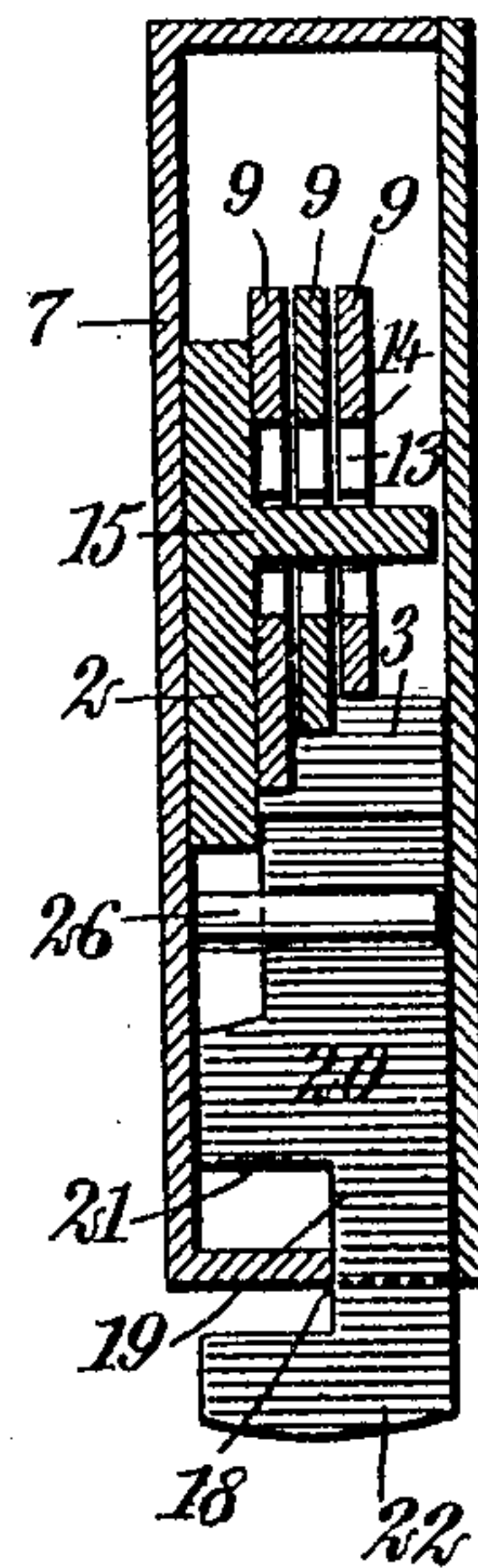
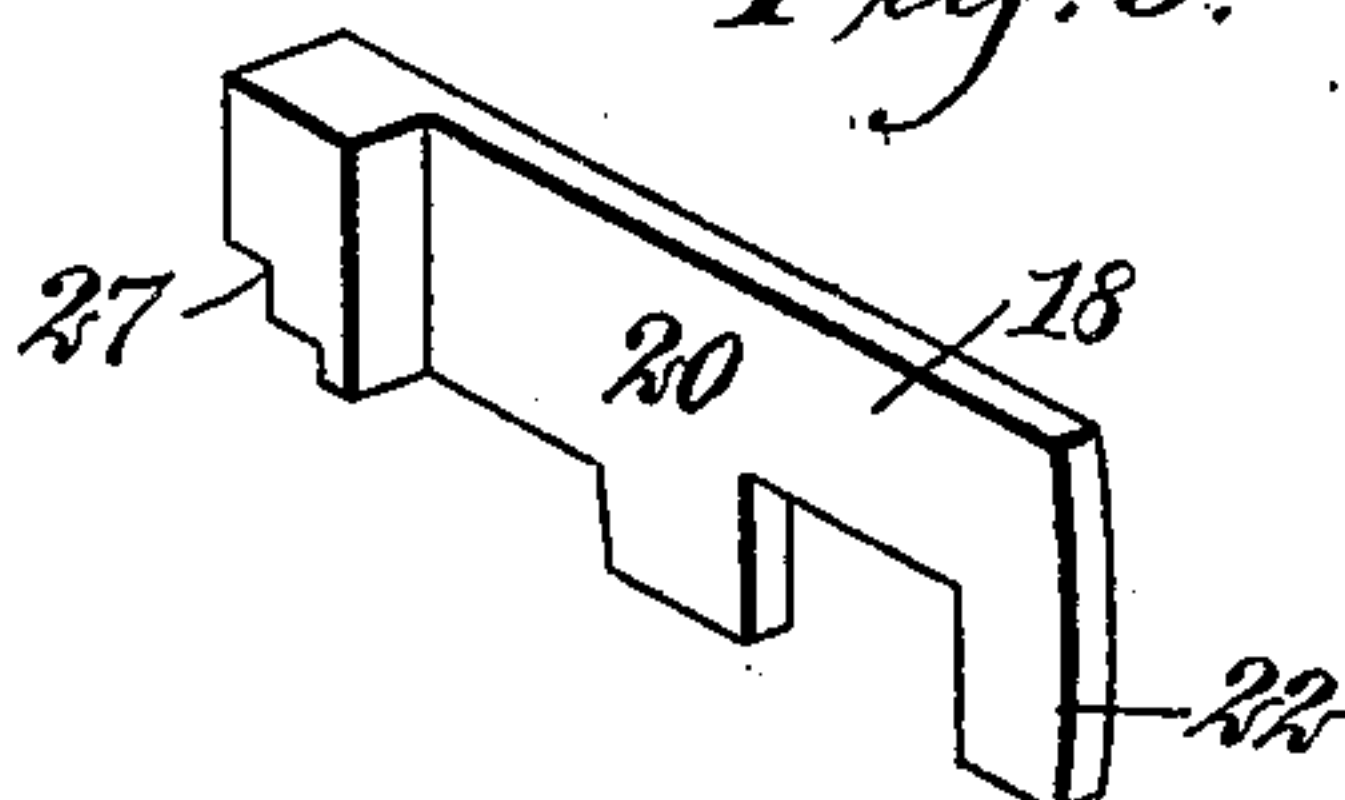


Fig. 5.



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VENZEL BILY, OF NEW YORK, N. Y.

LOCK.

No. 913,459.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed August 11, 1908. Serial No. 447,929.

To all whom it may concern:

Be it known that I, VENZEL BILY, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Lock, of which the following is a full, clear, and exact description.

The invention relates to locks such as used on doors. It relates especially to that type of lock in which the lock may be unlocked from the outer side of the door by means of a key, and which may be opened by means of a sliding knob or similar means on the inner side of the door.

In its construction the lock comprises certain tumblers which prevent the bolt's being advanced or withdrawn except by means of the key for the lock.

The object of this invention is to provide a very simple means for disengaging the tumblers so as to permit the bolt to slide when the door is to be unlocked or locked from the interior.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claim.

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

Figure 1 is a side elevation of the lock case viewed from the inner side of the door; Fig. 2 is a side elevation of the mechanism of the lock and the case, the cover plate of the case being represented as removed, this view shows the mechanism of the lock as viewed from the opposite side from that shown in Fig. 1; Fig. 3 is a vertical section through the lock taken on the line 3—3 of Fig. 2, showing the tumblers in the position which they have when they lock the bolt against movement; Fig. 4 is a section on the line 4—4 of Fig. 2, showing the tumblers raised so as to permit the bolt to be shot; and Fig. 5 is a perspective of a slide which is operated to release the bolt from the tumblers.

Referring more particularly to the parts, 1 represents the case of the lock which is of rectangular form, as shown. Near the middle of the case a bolt 2 is mounted to slide so that its head 3 will project itself from the case in the usual manner so as to engage the keeper

in a door jamb. The forward end of this head is guided in an opening 4 in the wall of the case, as will be readily understood. The body portion of the bolt is provided with a longitudinal slot 5, and this slot is received over a fixed stud or post 6 which projects through the interior of the case from the outer side wall 7 thereof. This stud operates as a guide for the bolt when the bolt is moved backward and forward by means of the key which may be inserted at 8 where the position of the keyhole is indicated in dotted outline. Upon this fixed post 6, a plurality of tumblers 9 are pivotally attached, and these consist of flat plates of substantially rectangular form, which lie against the side of the body of the bolt, as indicated. Their forward ends are provided with springs 10 which extend upwardly and thrust against the under side of a screw post 11 so that they tend to rotate the tumblers in a right-hand direction. The lower edges of the tumblers are not flush with each other but are arranged in progression, the innermost tumblers being arranged to project from within the outer ones. These tumblers are provided with longitudinally disposed openings 12 which are of substantially rectangular form, and the side edges of these openings are formed with inwardly projecting fingers 13. These fingers are disposed opposite to each other but do not completely bar the width of the opening 12. Between the fingers or teeth 13, notches 14 are formed, and these notches are adapted to be occupied by a spur 15 which is carried by the rear portion of the bolt and which projects laterally therefrom, passing outwardly through the openings 12. The rear portion of the bolt is formed with notches 16 on the under side thereof, the arrangement being such that if a key is inserted at the keyhole 17, as indicated in Fig. 3, and rotated in a proper direction, the bit of the key will raise the tumblers, as indicated by the dotted lines in Fig. 2. Its further rotation will advance the bolt or withdraw it. In order to permit the bolt to advance as described it is necessary to raise the tumblers until the space between the teeth or fingers 14 are brought opposite to the spur 15.

I provide means for raising the tumblers in a very simple manner. For this purpose I provide the lower edge of the case at the rear end thereof, with an opening or slot 18, and through this opening extends the shank 19 of a slide 20. This slide consists simply of

a plate which is cut away or formed with an enlarged notch 21 on the edge thereof, so as to form the shank 19. The lower end of the shank is extended laterally so as to form a wing 22 which is adapted to be grasped by the fingers when the slide is to be operated. The side face of the slide thrusts against the end wall 23 of the case. The upper end of the slide is formed into an enlarged head 24 in such a way that a shoulder 25 is formed. This shoulder normally rests against a fixed pin 26 which projects to the interior of the lock from the side wall 7 thereof, as shown. On the side of the head 24 which lies adjacent to the tumblers, notches 27 are provided which receive the edges of the tumblers, as shown most clearly in Figs. 3 and 4. In Fig. 2, the lock is shown with the bolt withdrawn and held against movement by the tumblers, but it will be evident that if the slide is forced upwardly the tumblers will be placed so that they will not prevent the movement of the bolt, that is, they will release the bolt and permit it to be advanced.

In order to advance the bolt from the inner side of the door without the use of the key, the inner wall 7 of the case is provided with a longitudinal slot 28, and at this slot there is attached a flat knob 29 which is exposed on the side of the case, as indicated. After the slide is pushed upwardly, as suggested, by means of the knob 29, the bolt may be advanced to its locking position.

The type of lock illustrated is one in which it requires two rotations of the key to give the bolt its complete movement. While I

have illustrated a lock of this type, the invention is also applicable to locks of similar construction in which the key is required to make only one turn. In either case the slide simply operates to move the free ends of the tumblers so as to place them in their proper position to permit the movement of the bolt. When the bolt is to be withdrawn, the slide is operated in the same way so as to move the tumblers into a position which will release the spur 15.

The pin 26 operates as a guide for the slide 20 as it moves up and down. It will be observed that the side of this pin lies against the face of the slide.

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

In a lock, in combination, a case, a bolt mounted to slide therein, a plurality of pivotally mounted tumblers normally locking said bolt against movement, a slide guided on said case and projecting therefrom, said slide having a head projecting inwardly engaging said tumblers, and a transverse guide pin passing through the interior of said case under said head and holding said slide against the wall of said case.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VENZEL BILY.

Witnesses:

JOSEF BENESCH,
VACLAV CLICKY.