

No. 815,166.

PATENTED MAR. 13, 1906.

E. HERTENSTEIN.  
PERMUTATION LOCK.  
APPLICATION FILED JULY 3, 1905.

Fig. 1

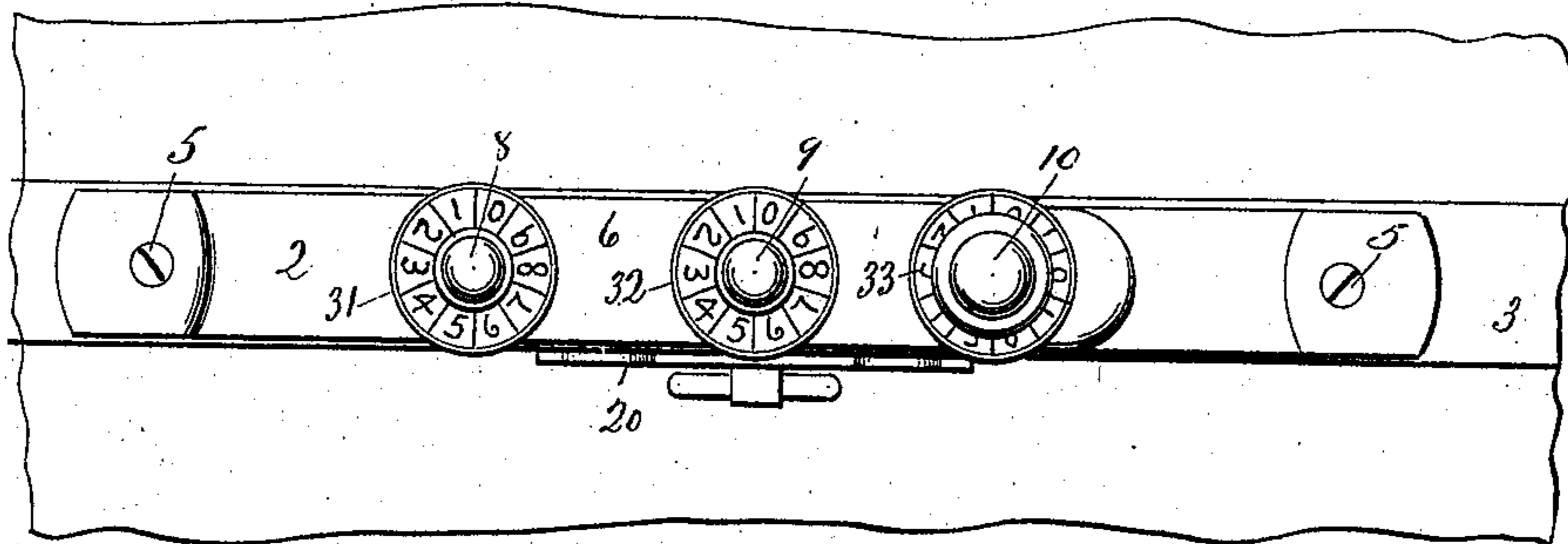


Fig. 2

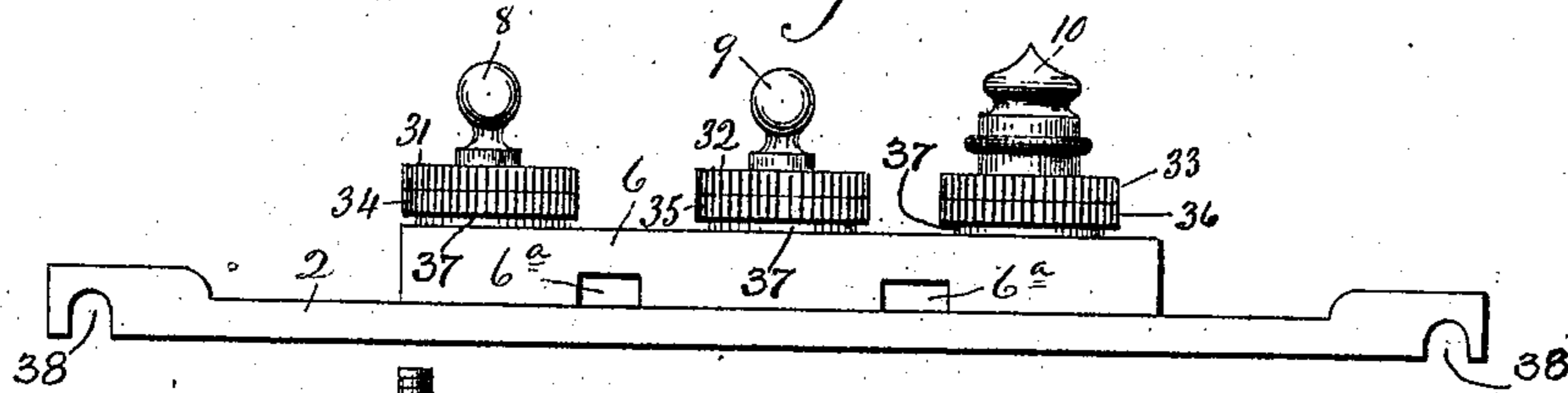


Fig. 7

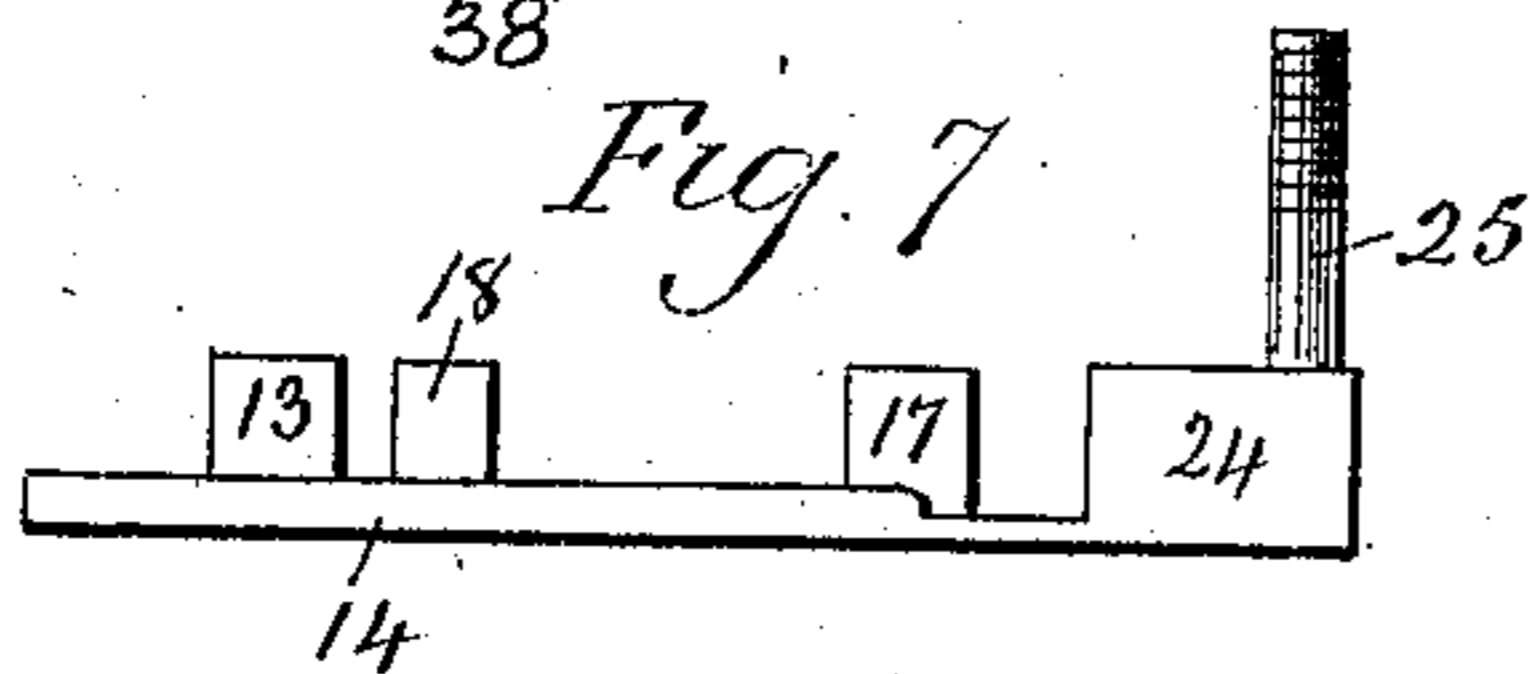


Fig. 3

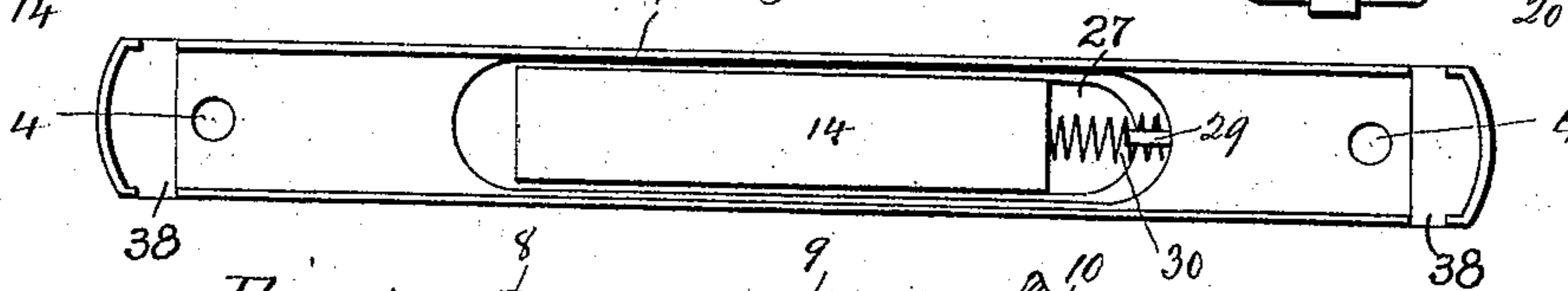


Fig. 8

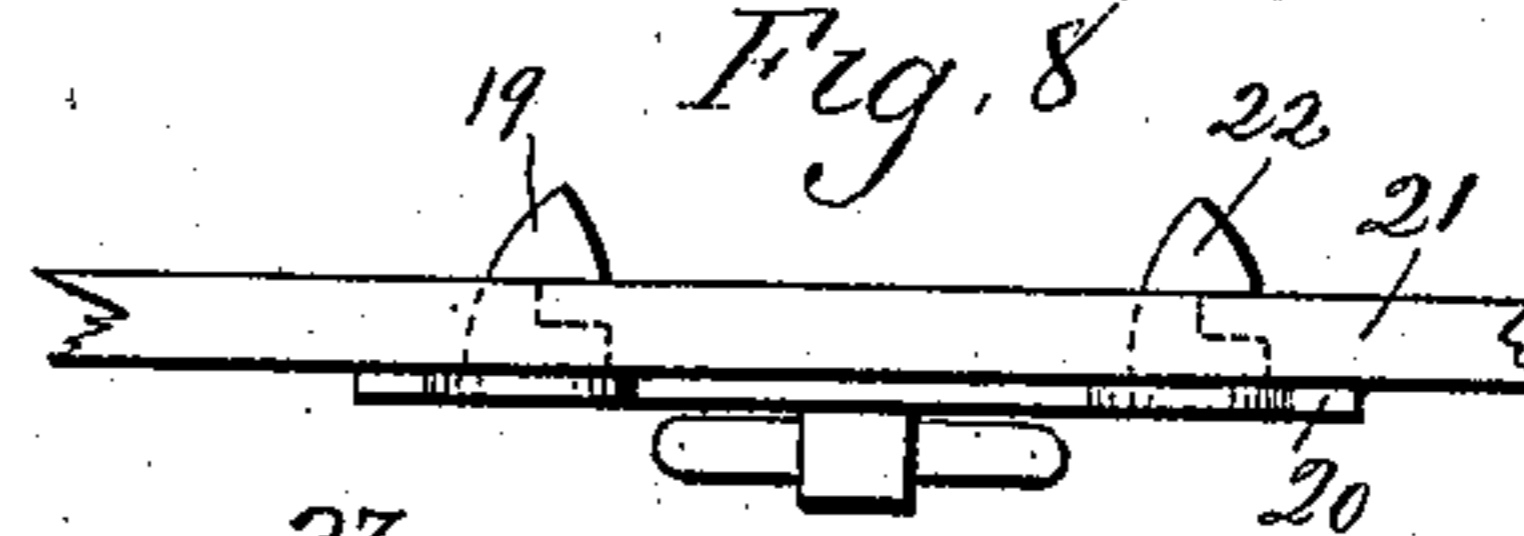


Fig. 4

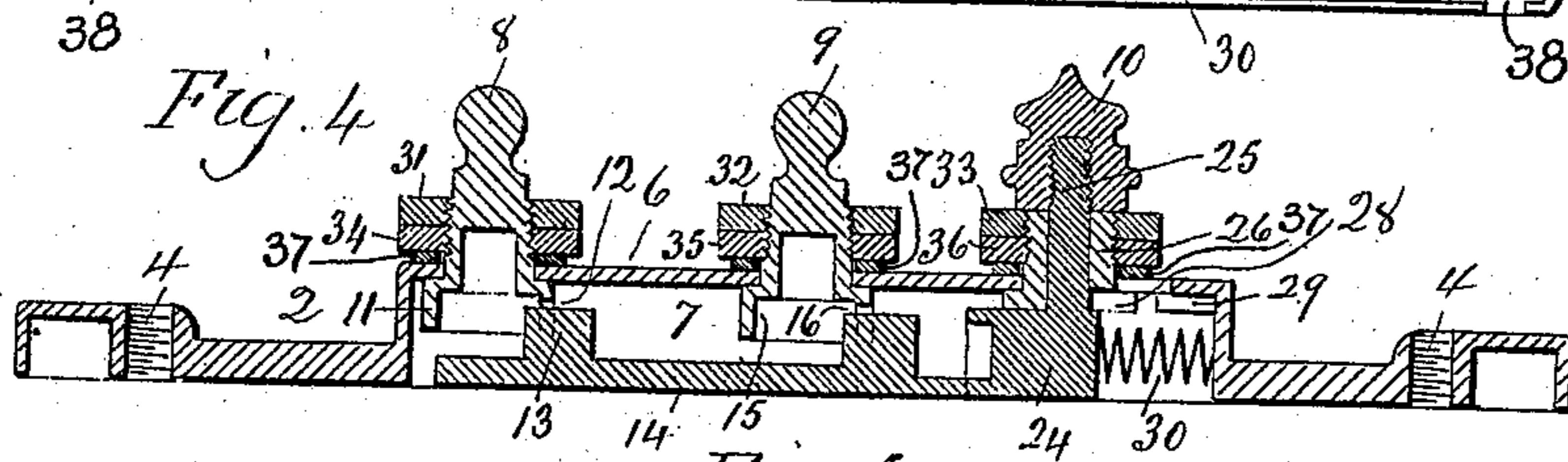


Fig. 5

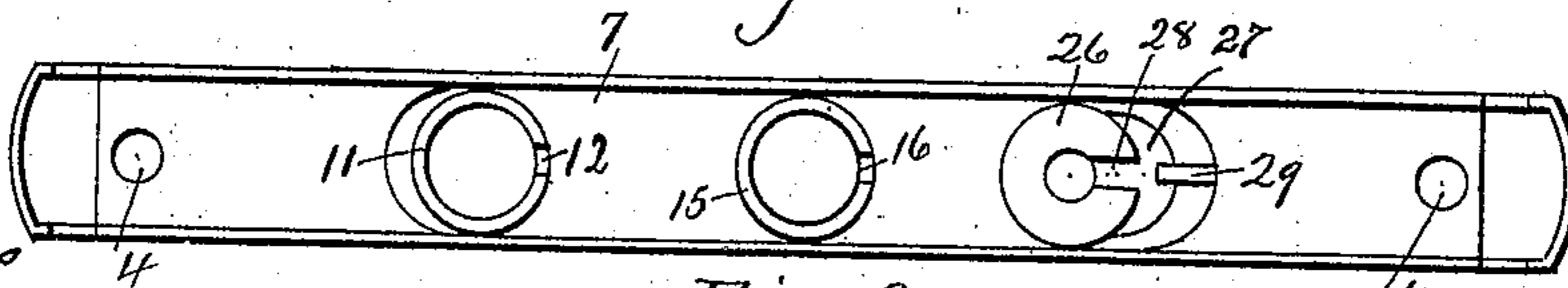
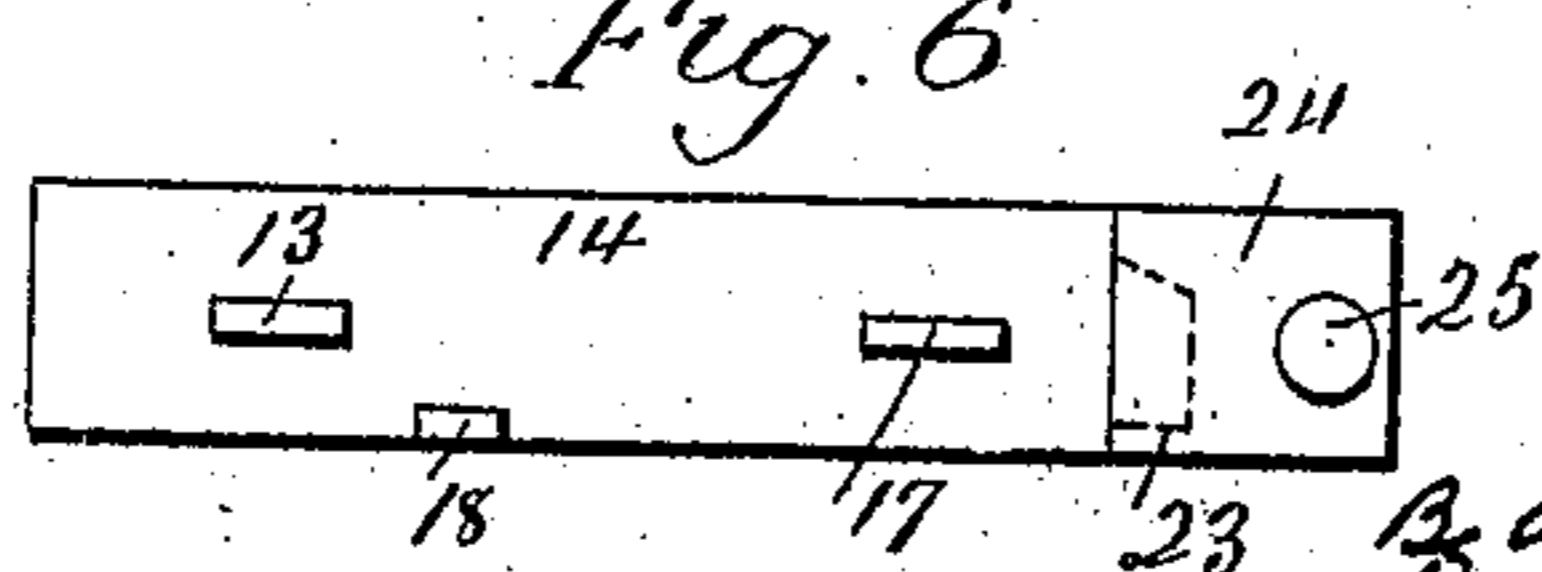


Fig. 6



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## PERMUTATION-LOCK.

No. 815,166.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed July 3, 1905. Serial No. 268,142.

*To all whom it may concern:*

Be it known that I, EMIL HERTENSTEIN, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Permutation-Locks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken plan view of a hand-bag provided with a permutation number-lock constructed in accordance with my invention; Fig. 2, a detached view, in side elevation, of the lock as removed from the bag; Fig. 3, a reverse plan view thereof; Fig. 4, a view thereof in vertical longitudinal section, showing the locking-plate in its drawn or open position; Fig. 5, a reverse plan view of the lock with the locking-plate removed; Fig. 6, a plan view of the locking-plate; Fig. 7, a view thereof in side elevation; Fig. 8, a broken plan view showing the keeper applied to the pivotal inner frame of the bag.

My invention relates to an improvement in permutation-locks of the class known as "number-locks," the object being to produce a simple, compact, and effective lock constructed with particular reference to application to hand-bags.

With these ends in view my invention consists in a permutation-lock having certain details of construction, as will be hereinafter described, and pointed out in the claims.

In carrying out my invention as herein shown I employ a long narrow-chambered lock-case 2, slightly narrower in width than the pivotal outer frame 3 of the bag and formed at its ends with screw-holes 4 for the reception of screws 5, by means of which it is secured to the said frame 3. Midway of its length it is formed with a long boss 6, forming a chamber 7, in which the locking mechanism proper is housed. On the top of this boss 6 I locate two rotary knobs 8 and 9 and a finger-button 10, the knobs 8 and 9 and their adjuncts corresponding each to the other. The knob 8 terminates at its lower end in a hollow hub 11, located within the left-hand end of the chamber 7 and containing a lateral slot 12, coacting with a locking-

lug 13, projecting upward into the hub 11 from the left-hand end of a sliding locking-plate 14, occupying the lower portion of the chamber 7 and parallel with the top of the boss 6. The lower end of the knob 9 terminates in a corresponding hollow hub 15, having a lateral slot 16, receiving a locking-lug 17, suitably located upon the said plate 14. A lug 18, located between the lugs 13 and 17 and formed upon the outer edge of the plate 14, coacts with a horizontally-arranged inwardly-projecting keeper-hook 19, located at the left-hand end of a keeper 20, secured to the inner pivotal frame 21 of the bag, the two frames 3 and 21 being made in the usual form and pivoted together and constituting, as it were, the two jaws of the mouth of the bag. At the right-hand end of the keeper 20 is a corresponding keeper-hook 22, which coacts with a web 23, formed by undercutting a block 24, located upon the upper face of the extreme right-hand end of the locking-plate 14. Openings 6<sup>a</sup> in the inner wall of the boss 6 are provided to admit the keeper-hooks 19 and 22 into the chamber 7 within the boss 6. The said block 24 carries a threaded post 25, which projects upwardly through a hub-like sleeve 26, mounted in the right-hand end of the top of the boss 6, which is formed with a slot 27 for the reception of the sleeve 26, which is free to rotate in the said slot as well as to be moved longitudinally therein and which is formed with a slot 28, corresponding to the slots 12 and 16 of the hubs 11 and 15 and coacting with a fixed locking-finger 29, located in the center of the extreme right-hand end of the chamber 7. The button 10 is mounted upon this part and provides for the sliding of the plate 14 in opening the lock. A spiral spring 30, interposed between the block 24 and the right-hand end wall of the boss 6, exerts a constant effort to move the plate 14 from right to left, and hence into its locked position. In the locked position of the plate 14 the lug 13 is located within the slotted hub 11, the lug 17 within the slotted hub 15, and the slotted sleeve 26 at the left-hand end of the slot 27. The hubs 11 and 15 are now free to be turned in either direction by their knobs 8 and 9, while the sleeve 26 is free to be turned in either direction by check-nuts 33 and 36 applied to its upper end. Although the knobs 8 and 9 are free to be turned in either

direction and independently of each other, when the lock is locked it is apparent that the lock can be unlocked only when the slots 12, 16, and 28 are brought into line to permit  
 5 the locking-plate 14 to be drawn from left to right, whereby the lug 13 is moved into the slot 12, the lug 17 into the slot 16, and the lug 29 into the slot 28. For the alinement of the slots 12, 16, and 18 the knobs 8 and 9  
 10 and the sleeve 26 are turned in accordance with a predetermined combination of numbers placed upon the upper faces of check-nuts 31, 32, and 33, respectively mounted upon the knobs 8 and 9 and upon the sleeve  
 15 26, the said knobs and sleeve being threaded for the purpose. These check-nuts coact with corresponding lower check-nuts 34, 35, and 36, also respectively mounted upon the threaded portions of the knobs 8 and 9 and  
 20 the sleeve 26. Washers 37, located below the lower check-nuts 34, 35, and 36, rest upon the top of the boss 6.

To set the lock, three numbers are chosen—say "3 2 2"—and the check-nuts shifted and  
 25 tightened, so that when the slots 12, 16, and 28 are in line the numbers "3 2 2" upon the upper check-nuts 31, 32, and 33 will be in line and facing from left to right. Now when it is desired to open the lock the knobs  
 30 8 and 9 and the sleeve 26 are turned in one direction or the other to bring the numbers "3 2 2" into line. This done, the button 10 is seized for drawing the locking-plate 14 from left to right, whereby the keeper-hooks  
 35 19 and 22 are freed from engagement by the lug 18 and web 23 of the plate 14. The bag may now be opened; but the knobs 8 and 9 and the sleeve 26 cannot be turned until the plate 14 has been moved from right to left, so  
 40 as to again unlock and free the hubs 11 and 15 and the sleeve 26. As shown, the ends of the lock-case 2 are formed with transverse grooves 38 for the reception of the rings (not shown) used for the attachment of the handle  
 45 of the bag.

By making the hubs 11 and 15 hollow for the reception of the lugs 13 and 17, respectively, I secure an economy of space not otherwise attainable and extremely impor-  
 50 tant in the construction of small locks for small bags.

It is apparent that in carrying out my invention some changes from the construction herein shown and described may be made.  
 55 Thus the number of knobs may be varied, and letters or other characters might replace numbers upon the upper check-nuts, so that instead of founding the combination upon a number it might be founded upon a name or  
 60 a word or upon the initials of the person own-

ing the bag. I would therefore have it understood that I do not limit myself thereto, but hold myself at liberty to make such changes therein as fairly fall within the spirit and scope of my invention. 65

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

1. In a permutation-lock, the combination with a lock-case, of one or more hollow slot-  
 70 ted hubs mounted therein, and a sliding locking-plate having locking-lugs normally confined within the said hollow slotted hubs which are rotated to bring their slots into registration with the said lugs. 75

2. In a permutation-lock, the combination with a lock-case, of one or more slotted hubs mounted therein, a locking-plate having one or more lugs normally located within the said  
 80 hubs which are rotated for bringing their slots into registration with the said lugs, and upper and lower check-nuts adjustable with respect to the said hubs for resetting the lock, the upper check-nut being provided with characters to guide the rotation of the hubs. 85

3. In a permutation-lock, the combination with the case thereof, of one or more slotted hubs mounted therein, a slotted rotary and longitudinally-movable sleeve mounted in  
 90 the said case, a sliding locking-plate having lugs coacting with the said slotted hubs and with a stem or post passing through the said sliding sleeve, and upper and lower check-nuts combined with the said hubs and with the said sleeve. 95

4. In a permutation-lock, the combination with a lock-case having a chambered boss, of one or more rotary knobs mounted therein and terminating at their lower ends in slotted  
 100 hubs, upper and lower check-nuts adjustably mounted upon the said knobs, a rotary and longitudinally-movable sleeve mounted in the said boss and formed with a slot, a sliding locking-plate located within the said boss and carrying lugs coacting with the said slotted  
 105 hubs, a post carried by the said plate and rising through the said sleeve, a finger-button applied to the upper end of the said post, a spring tending to move the plate into its locking position, the said plate also carrying means for  
 110 engagement by a keeper, and check-nuts applied to the said knobs and sleeve for setting the lock.

In testimony whereof I have signed this specification in the presence of two subscrib-  
 115 ing witnesses.

EMIL HERTENSTEIN.

Witnesses:

HENRY T. KING,  
 WILBUR F. DAVIS.