J. HOSCHEK.

PERMUTATION LOCK.

APPLICATION FILED SEPT. 2, 1914.

1,143,398.

Patented June 15, 1915.

3 SHEETS—SHEET 1.

Fig. 1.

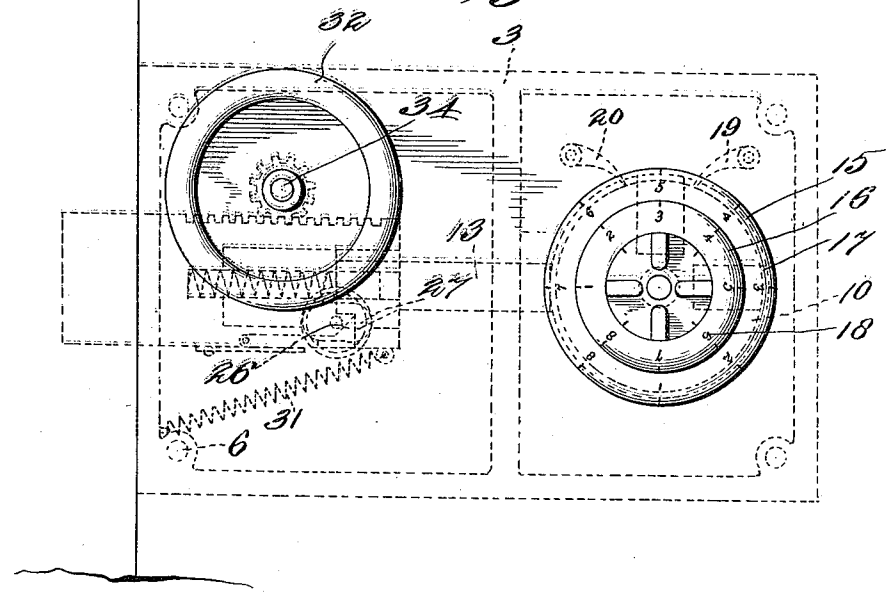
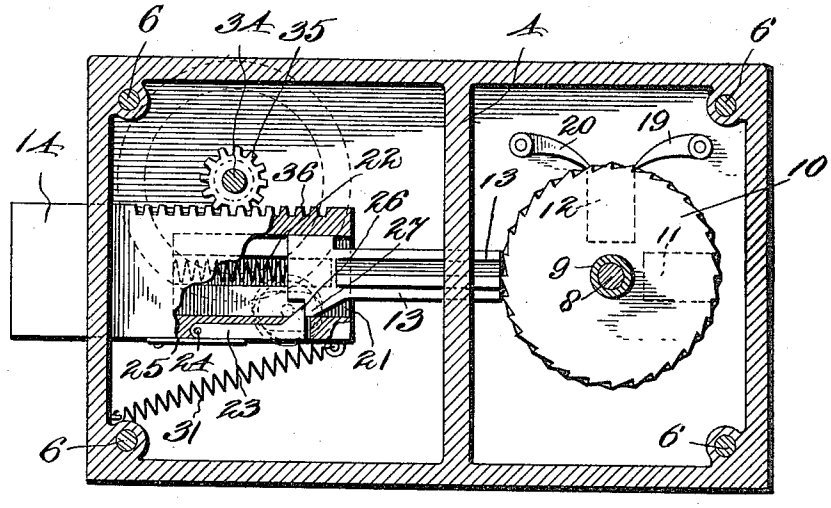


Fig. 2.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 3.

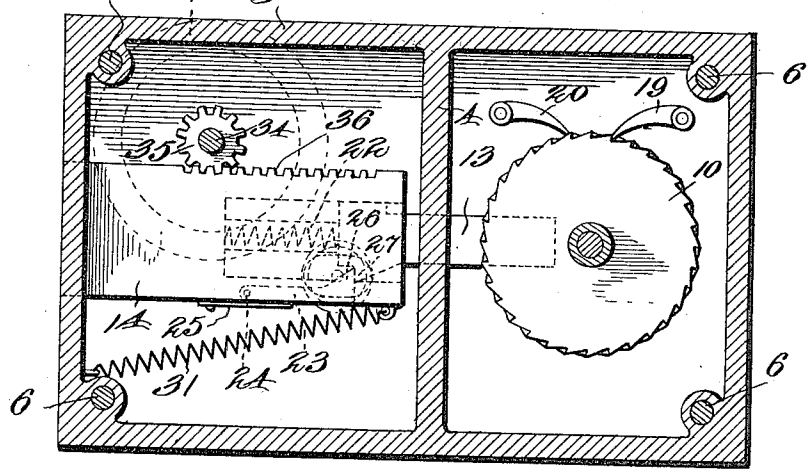
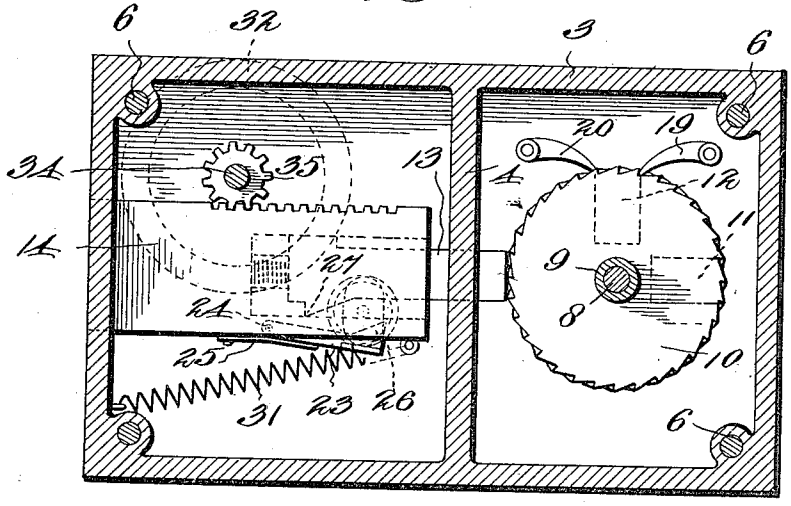


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5

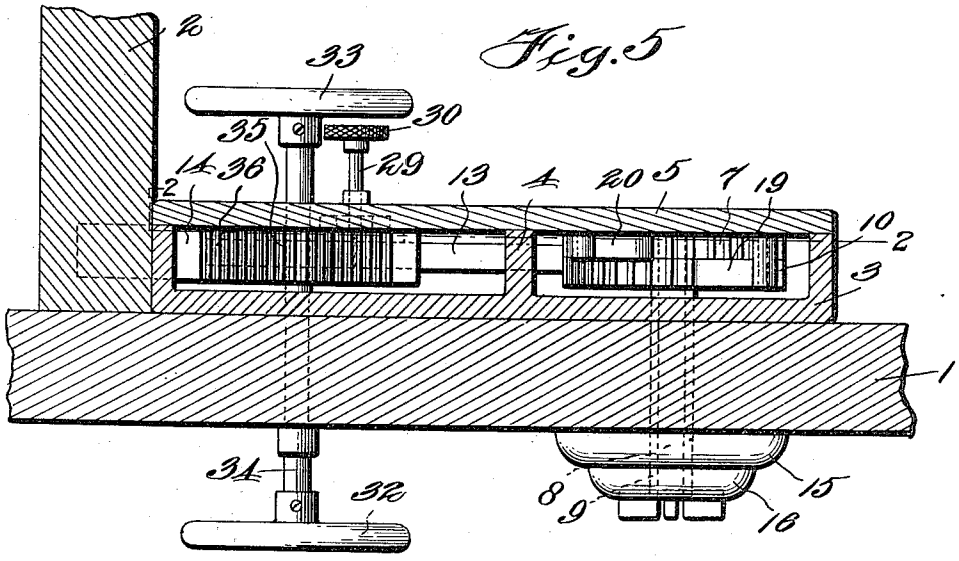


Fig. 6.

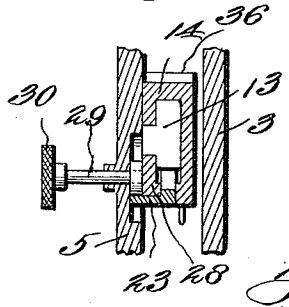


Fig. 7.

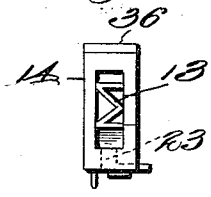


Fig. 8.

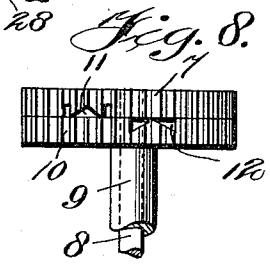
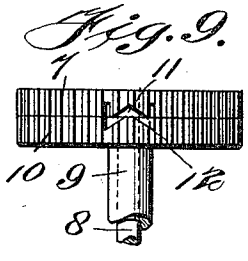


Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN HOSCHEK, OF NEW YORK, N. Y.

PERMUTATION-LOCK.

1,143,398. Specification of Letters Patent. Patented June 15, 1915.

Application filed September 2, 1914. Serial No. 859,882.

To all whom it may concern:

Be it known that I, JOHN HOSCHEK, a subject of the Emperor of Austria-Hungary, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Permutation-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 and more particularly to that class of permutation lock designed for locking doors, in which a sliding locking bolt is employed having a recess and a shank slidably mounted in said recess and adapted to engage registering grooves of permutation disks and means for sliding the locking bolt over said shank so that the door can be unlocked without using the permutation device.

The foregoing and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which:

Figure 1 is a view looking at the outside of the lock or door, the parts of the lock being shown in dotted lines upon the inside of the door. Fig. 2 is a vertical section taken on the line 2—2 of Fig. 5, showing the parts in place, a portion of the bolt being broken away to illustrate the interior arrangement or construction, the bolt being shown extended. Fig. 3 is a similar view of the lock and showing the bolt retracted, Fig. 4 is a similar view of the lock showing the dog for operation by a cam to be actuated from the inside of the door for permitting the bolt to be operated by the inner knob, said bolt being shown in retracted position, Fig. 5 is a horizontal sectional view through a lock casing and showing the parts in their proper positions, Fig. 6 is a detail section showing the cam and means for operating the same for disengaging the dog from a shoulder of the bolt, Fig. 7 is a detail view of the bolt looking at its inner end, Fig. 8 is a top plan view of the two ratchet wheels in one position, Fig. 9 is a top plan view of the two ratchet wheels arranged in position to admit the shank of the bolt so that it may be retracted for unlocking the door.

Referring to the drawings the numeral 1 designates a door and 2 is the door jamb. The lock is secured upon the inner side of the door and comprises a casing 3 having a partition 4 therein and a cover 5. The casing and cover may be secured in the door by bolts 6 which also serve to hold the cover upon the casing.

A ratchet wheel 7 is provided with a spindle 8 which projects through a tubular member 9 connected to a similar ratchet wheel 10, and the spindle 8 and tubular member 9 is extended through the lock casing and through the door as shown more clearly in Fig. 5. Extending from the periphery of the ratchet wheel 7 is a groove 11. There is a similar groove 12 extending from the periphery of the ratchet wheel 10. When these two grooves are brought into coincidence as shown in Fig. 9, the shank 13 of the locking bolt 14 may be moved into said recesses to retract the bolt and unlock the door.

Upon the outside of the door and fitted to the tubular member 9 is a disk 15, and fitted to the spindle 8 on the outside and adjacent to the disk 15 is a smaller disk 16, said disks being provided with indicating numbers 17 on the larger disk and 18 on the smaller disk as shown more clearly in Fig. 1. The disks 7 and 10 can only be turned in opposite directions by the disks 15 and 16, and to prevent said ratchet wheels from rotation in but one direction suitable pawls 19 and 20 are pivoted within the casing, said pawls engaging the ratchet wheels.

The locking bolt 14 is provided with a recess 21 to receive the inner end of the shank 13 and said shank is held in its outermost position by means of the spring 22 and by means of a dog 23 pivoted at 24 in a recess in the bolt 14. A spring 25 holds the dog in its uppermost position. The toe 26 of the dog engages a shoulder 27 on the shank 13. The dog 23 may be thrown out of engagement with the shank 13 by means of a cam 28 connected to a spindle 29 extending through the cover 5 of the lock casing on the inside of the door and provided with a milled head 30. A spiral spring 31 is connected at one end to the bolt 14 and the opposite end inside the casing 3, said spring exerting a slight influence to extend the bolt.

The outer knob 32 and the inner knob 33 are connected to the knob spindle 34 and the latter is provided with a pinion 35 which engages teeth 36 on the upper edge of locking bolt 14.

The operation of the lock may be briefly described as follows:—When the disks 15 and 16 are operated by a person who understands the combination, the grooves 11 and 12 are brought into coincidence by rotating the disk 15 in one direction and the disk 16 in the other direction until the ratchet wheels are properly disposed one to the other to make the grooves coincide. Then by turning the outer knob 32, the shank 13 of the bolt will extend into said recesses and retract the bolt in the lock permitting the door to open.

From the inner side of the lock the milled head 30 may be operated to actuate the cam 28 whereby the dog 23 is released from the shoulder 27 of the shank 13, so that the bolt may be withdrawn by turning the inner knob 33 against the tension of the spring 22.

From the foregoing it will be obvious that a lock made in accordance with this invention may be set at various combinations and can be operated without the use of a key, while the lock can be readily operated upon the inside by turning the milled head 30.

Various changes may be made in the details of construction without departing from the spirit and scope of the invention as defined in the claim.

What is claimed is:—

A permutation lock comprising a casing, a lock bolt mounted in said casing and provided with a recess, a shank mounted to slide in said recess and adapted to fit into grooves of a set of permutation ratchet wheels, a spring for holding said shank in an extended position, said shank provided with a shoulder, a dog secured to said bolt to engage said shoulder, a cam for lifting the dog out of engagement with said shoulder, means for operating the cam, a knob spindle, ratchet teeth on the bolt, a pinion on the knob spindle to engage said bolt, whereby the bolt can be slid over the shank when the dog is lifted from engagement with the shoulder.

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

JOHN HOSCHEK.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."