(No Model.)

R. KING.

PERMUTATION PADLOCK.

No. 582,650. Patented May 18, 1897.

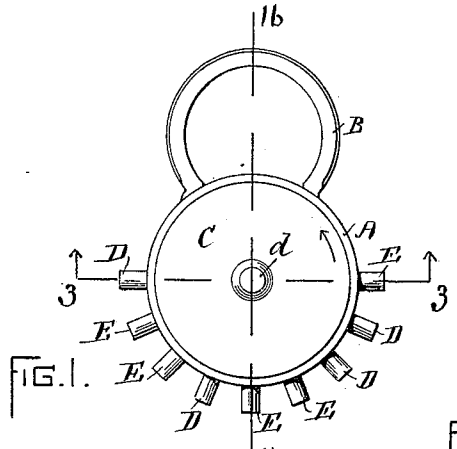

FIG. 1.

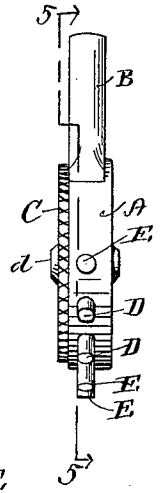

FIG. 2.

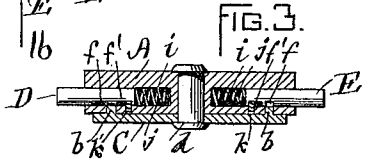

FIG. 3.

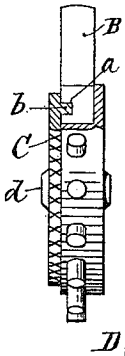

FIG. 14.

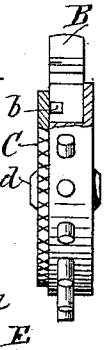

FIG. 15.

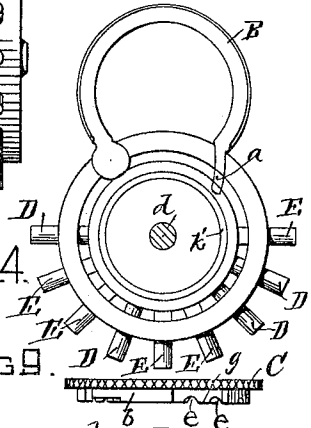

FIG. 4.

FIG. 9.

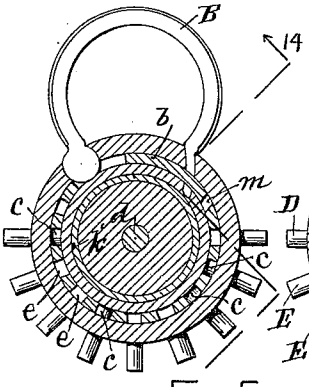

FIG. 5.

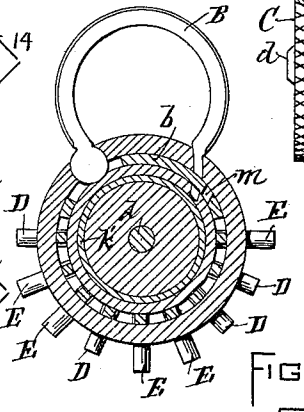

FIG. 6.

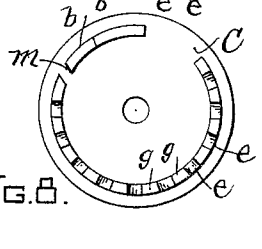

FIG. 8.

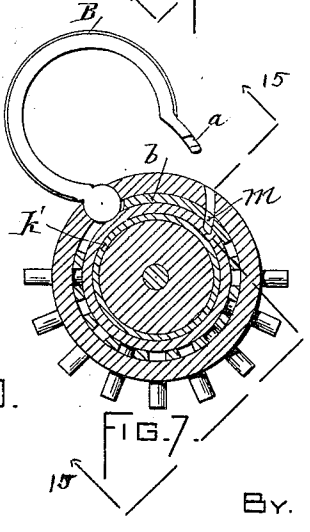

FIG. 7.

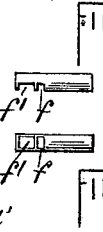

FIG. 12.

FIG. 13.

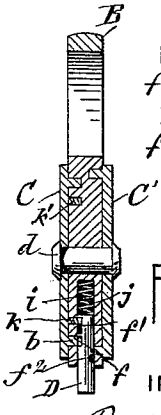

FIG. 16.

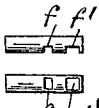

FIG. 11.

FIG. 10.

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BY S. Scholfield

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UNITED STATES PATENT OFFICE.

RUFUS KING, OF PLAINVILLE, MASSACHUSETTS.

PERMUTATION-PADLOCK.

SPECIFICATION forming part of Letters Patent No. 582,650, dated May 18, 1897.

Application filed June 1, 1896. Serial No. 593,696. (No model.)

To all whom it may concern:

Be it known that I, RUFUS KING, a citizen of the United States, residing at Plainville, in the county of Norfolk and State of Massachusetts, have invented an Improvement in Locks, of which the following is a specification.

My invention relates to a permutation-lock which is specially adapted for securing bicycles, but which may be employed for various other purposes; and it consists in the improved construction and arrangement of parts, as hereinafter fully set forth.

In the accompanying drawings, Figure 1 represents the side view of a permutation-padlock embodying my improvement. Fig. 2 represents an edge view of the same. Fig. 3 represents a section taken in the line 3 3 of Fig. 1. Fig. 4 represents a side view as in Fig. 1 with the locking-plate removed. Fig. 5 represents a section taken in the line 5 5 of Fig. 2, showing the locking-plate in its engaging position. Fig. 6 represents the same when the locking-pins are pressed inward to allow the unlocking movement of the locking-plate. Fig. 7 represents a section as in Fig. 5, showing the lock opened. Fig. 8 represents a view of the inner side of the locking-plate. Fig. 9 represents a top edge view of the same. Figs. 10 and 11 represent different views of one of the locking-pins of the combination. Figs. 12 and 13 represent different views of one of the inoperative pins of the combination. Fig. 14 represents a section taken in the line 14 14 of Fig. 5. Fig. 15 represents a section taken in the line 15 15 of Fig. 7. Fig. 16 represents a section taken as in the line 16 16 of Fig. 1, showing a modification.

In the drawings, A represents the circular base-plate of the lock, and B the clasp, which is provided with the notch *a* for engagement with the flange *b* of the circular locking-disk C, the said disk being adapted for slight rotary movement upon its pivot *d*, which is located centrally of the plate A. The flange *b* of the locking-disk C is also provided with the semicircular notches *e e*, adapted to receive the cylindrical face *c* of the locking-pins D, the said locking-pins being provided with the notch *f*, adapted for the entrance of the intermediate high portions *g* of the flange *b* to allow the locking and unlocking movement of the disk C, the said disk being secured in its locking position by the entrance of the face *c* of the locking-pin therein. The locking-pins D are actuated outwardly by means of the springs *i*, arranged in the cylindrical chamber *j*, in which the locking-pin moves, and the said pins are limited in their outward and inward movement by means of the stop ring or flange *k*, which is secured concentrically in an annular groove *k'* to the back plate A, so as to hold all the pins of the combination, the said stop-ring entering the notch *f'* of the pin. The locking-pins D of the combination are shown in Fig. 6 as pressed inward to allow the proper unlocking movement of the disk C, the said disk being shown as partially moved to its unlocking position, the unlocking of the clasp B being effected when the notch *m* in the flange *b* coincides with the notch *a* in the end of the clasp.

The inoperative pins E of the combination are provided with a notch *f'*, which is so arranged relatively to the notch *f* that the said pins E do not serve to prevent the movement of the said disk C when in their outward position, as shown in the drawings, and the pins D and E are prevented from rotation by means of the flat surface at the bottom of the notch *f'*.

The unlocking or locking movement of the disk C can only be effected when all of the locking-pins D are pressed inward, as shown in Fig. 6, and as this operation can be readily performed in the dark by the owner of a bicycle the invention constitutes a valuable improvement in locks for bicycles.

The locking-pins D may be provided with a notch f^2 upon the side of the pin opposite that of the notch *f* and the notch *f'*, which receives the stop-ring *k*, as shown in Fig. 16, and in this case two separate sets of locking-pins D may be employed, one set being arranged for locking action upon the flanged disk C and the other for locking action upon a flanged disk C', arranged at the opposite side of the base-plate A, thus requiring the movement of both of the disks C and C' in order to unlock the clasp B.

I claim as my invention—

1. In a permutation-lock, the combination of the base-plate provided with radial perforations for holding the locking-pins, and

an annular groove for holding the stop-ring which serves to hold the locking-pins in position, and the clasp jointed to the base-plate, with the stop-ring, the spring-actuated locking-pins notched at their sides to receive the edge of the stop-ring and to receive the flange of the locking-disk, and the pivotally-held locking-disk arranged at the side of the base-plate and provided with the circular flange notched to receive the locking-pins, substantially as described.

2. In a permutation-lock, the combination of the base-plate provided with radial perforations for holding the locking-pins, and an annular groove for holding the stop-ring which serves to hold the locking-pins in position, and the clasp jointed to the base-plate, with the stop-ring, the spring-actuated locking-pins notched at their sides to receive the edge of the stop-ring, and at their opposite sides to receive the flanges of the opposite locking-disks, and the pivotally-held locking-disks arranged at opposite sides of the base-plate, and provided with circular flanges notched to receive the locking-pins, substantially as described.

RUFUS KING.

Witnesses:
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FRED B. BYRAM.