(No Model.)

L. L. KELLOGG.

PERMUTATION PADLOCK.

No. 548,757. Patented Oct. 29, 1895.

Fig. 1.

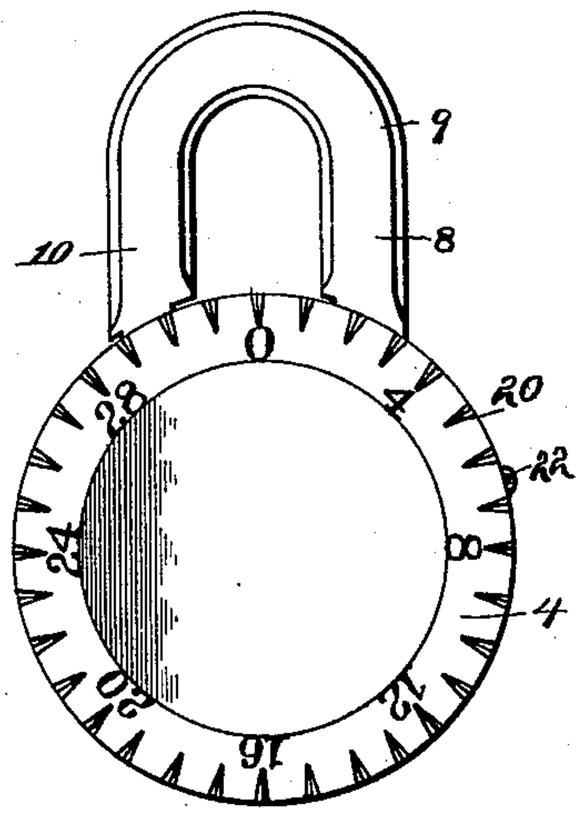


Fig. 2.

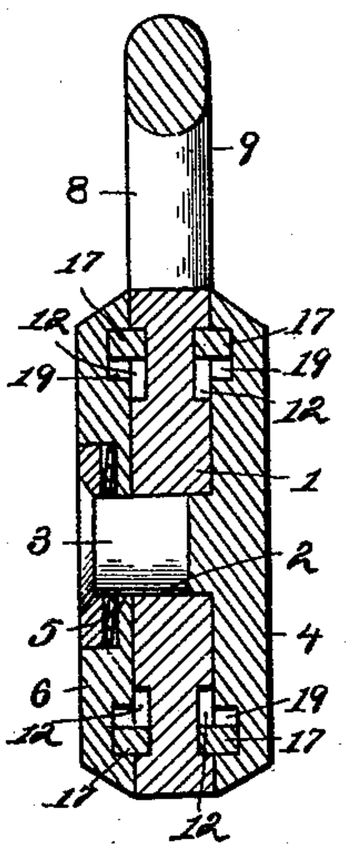


Fig. 3.

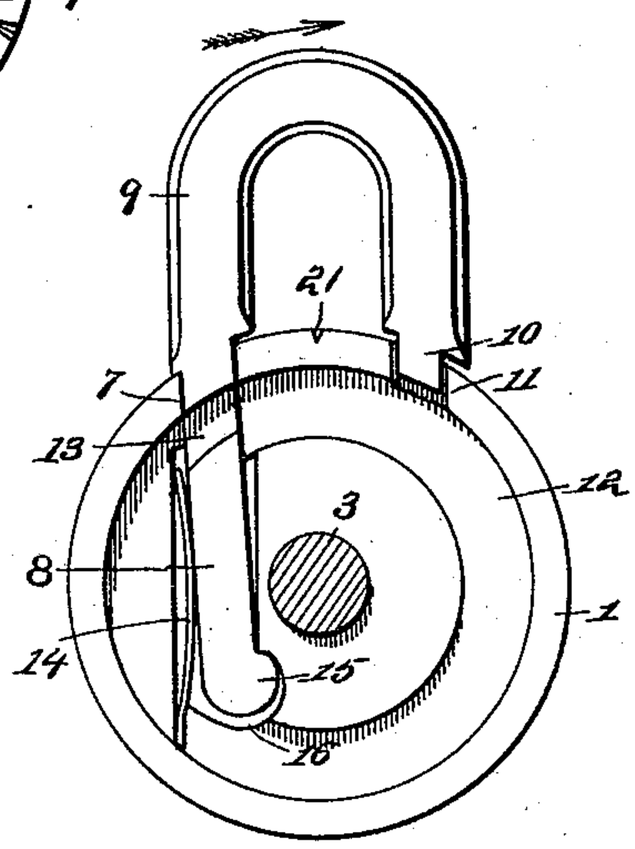


Fig. 4.

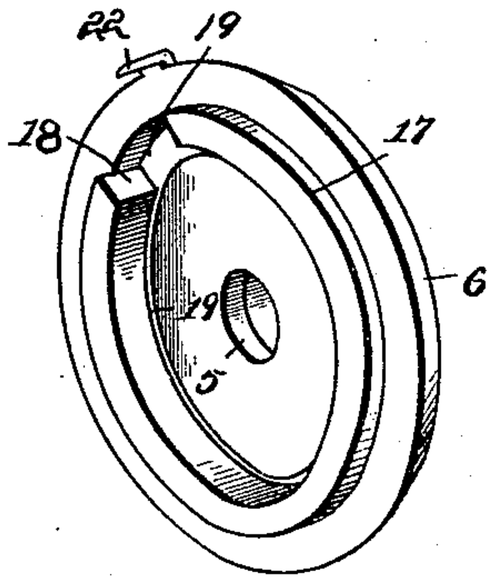
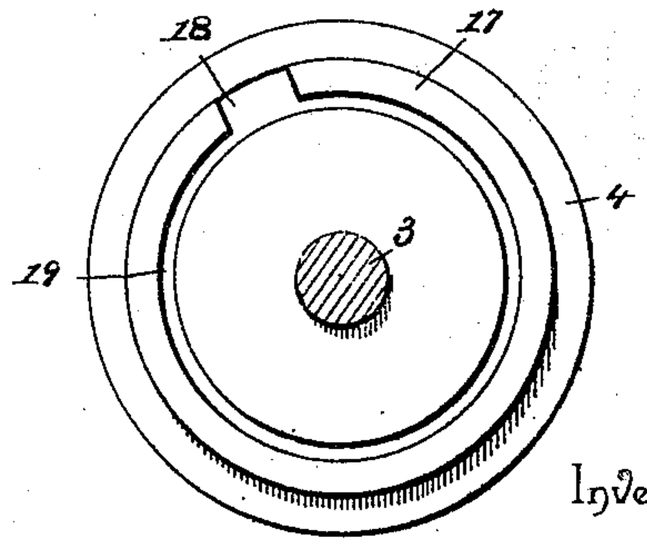


Fig. 5.



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UNITED STATES PATENT OFFICE.

LUKE L. KELLOGG, OF LEON, NEW YORK.

PERMUTATION-PADLOCK.

SPECIFICATION forming part of Letters Patent No. 548,757, dated October 29, 1895.

Application filed August 10, 1895. Serial No. 558,894. (No model.)

To all whom it may concern:

Be it known that I, LUKE L. KELLOGG, a citizen of the United States, residing at Leon, in the county of Cattaraugus and State of New York, have invented a new and useful Combination-Lock, of which the following is a specification.

My invention relates to locks, and particularly to a combination-padlock, and the object in view is to provide a simple, inexpensive, and efficient lock capable of being set for a large number of combinations and consisting of the minimum number of parts, whereby the liability of disarrangement is reduced to the minimum.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a front view of a lock constructed in accordance with my invention. Fig. 2 is a vertical central section of the same. Fig. 3 is a view of the lock with the rear plate omitted. Fig. 4 is a detail view in perspective of the rear plate or dial detached, showing the inner side thereof. Fig. 5 is a view of the inner face of the front dial.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The body portion of the lock consists of a disk 1, provided with a central opening 2, through which extends a spindle 3, carried by a front dial 4, said spindle extending through a corresponding opening 5 in the rear dial 6. The disk or body portion of the lock is provided with a slot 7, in which is fitted the long leg 8 of the shackle 9, the short leg 10 of the same being adapted to engage a notch 11 in the periphery of the disk.

The disk is provided in its opposite faces with annular channels or grooves 12, and the long leg of the shackle is provided in its opposite sides with notches 13, adapted to register with said channels when the shackle is in its normal or locked position. The width of the slot in the disk is greater than that of the long leg of the shackle, and arranged in the slot to bear against the shackle is a plate-spring 14, said spring holding an enlargement or knob 15 at the extremity of the long leg of the shackle in engagement with a notch or enlargement 16 at the inner extremity of the slot. In order to draw the shackle out or disengage the short leg thereof from the notch in the periphery of the disk, it is necessary to press the exposed or looped portion of the shackle in the direction indicated by the arrow in Fig. 3, thereby disengaging the knob or enlargement at the extremity of the long leg from said notch or enlargement at the inner end of the slot, said pressure being against the tension of the spring which bears against the shackle. The function of this spring is to hold the knob or enlargement of the shackle in engagement with the notch at the inner end of the slot to prevent accidental movement of the shackle, even when the combination is set to release the shackle.

The front and rear dials, which are independently rotatable, are provided in their inner faces with locking-webs 17, which project inwardly beyond said inner surfaces of the dials and operate in the annular channels in the opposite surfaces of the disk. These webs are cut away at one point to form spaces or openings 18, which may, by the rotary adjustment of the dials, be arranged in alignment with the slot in the disk to release the shackle; but when said spaces or openings are out of alignment with the slot the webs engage the notches in the opposite sides of the long leg of the shackle, and thus secure the latter in its locked position. In the construction illustrated in the drawings said webs are detachable from the dials and consist of split or broken rings fitted in seats 19 in the inner faces of the dials and adapted to be removed from said seats and arranged in different positions to bring the spaces or openings therein opposite different points of the peripheries of the dials and thereby change the combination. The front dial is provided with suitable characters to indicate different positions and a series of notches 20, corresponding with the markings and adapted to be arranged in alignment with an index-notch 21 upon the periphery of the disk, as shown in Figs. 1 and 2. The rear dial is also provided with a pointer 22, adapted to traverse the periphery of the disk, whereby it may be arranged opposite either of the graduations or characters on the front dial.

Thus it will be seen that the combination

may be changed by altering the positions of the rings which are seated on the inner surfaces of the dials to vary the positions of the spaces or openings in the projecting webs formed by said rings, and that after the dials have been arranged in accordance with the combination for which the lock is set the shackle cannot be withdrawn except by lateral movement of the outer looped end thereof against the tension of the holding-spring to release the enlargement at the inner end of the long leg from the notch in which it is seated. This construction provides against the accidental discovery of the combination by trying the various combinations formed by the dials.

The construction of the rings and the manner of seating them upon the inner surfaces of the dials are such that when it is desired to change the combination the shackle may be released and drawn out to arrange the notches in the sides thereof out of alignment with the channels in the sides of the disk, after which the dials may be turned forcibly by the use of a tool of suitable construction to arrange the openings or spaces of the rings opposite the desired points on the peripheries of the dials. In this way the combination may be altered as desired without opening or disassembling the members of the lock.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a lock, the combination of a disk, a shackle having its legs fitted in openings formed in the disk and provided in the sides of its long leg with notches to register with channels in the surfaces of the disk when the shackle is in its normal or locked position, and independently rotatable dials arranged upon opposite sides of the plane of the disk and provided with inwardly-extending webs adapted to engage the notches in the shackle and having spaces or openings to release the same, substantially as specified.

2. In a lock, the combination of a disk provided with a slot, a shackle having its long leg fitted in said slot and provided at its extremity with an enlargement to engage a notch at the inner end of the slot, a spring for holding the shackle in position to cause the engagement of its enlargement with said notch, and dials mounted upon opposite sides of the plane of the disk and provided with webs to engage notches in opposite sides of the shackle, said webs being cut away to release the shackle, substantially as specified.

3. In a lock, the combination of a disk having a slot, a shackle having its long leg arranged in said slot and provided with side notches, dials mounted upon opposite sides of the plane of the disk, and webs carried by the dials and mounted for rotary adjustment thereon, said webs being adapted to engage the notches in the opposite sides of the shackle and having spaces or openings to release the same, substantially as specified.

4. In a lock, the combination of a disk, a shackle having its long leg mounted in a slot in the disk and provided with side notches, dials mounted for rotary adjustment upon opposite sides of the plane of the disk and provided in their inner surfaces with annular seats, and broken or split rings fitted in said seats and projecting beyond the inner surfaces of the dials to engage the notches in the shackle, the spaces or openings between the extremities of said rings being adapted to be arranged opposite the long leg of the shackle to release the same, substantially as specified.

5. In a lock, the combination of a disk, a shackle having its long leg mounted in a slot in the disk and provided with side notches, a front dial provided with a spindle mounted in a central opening in the disk, a rear dial mounted upon the rear projecting end of said spindle and capable of rotation independently of the front dial, the front dial being provided with combination characters and notches corresponding therewith and adapted to be arranged in alignment with an index on the periphery of the disk, a pointer carried by the rear dial and extending forwardly over the periphery of the disk to indicate characters upon the front dial, and webs carried by the front and rear dials to engage the notches in the long leg of the shackle, said webs being cut away to form openings or spaces to release the same, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LUKE L. KELLOGG.

Witnesses:
M. A. KEYES,
MARTIN SHEPARD.