(No Model.)

S. E. SWENSON.

LOCK.

No. 574,179. Patented Dec. 29, 1896.

Fig. 1.

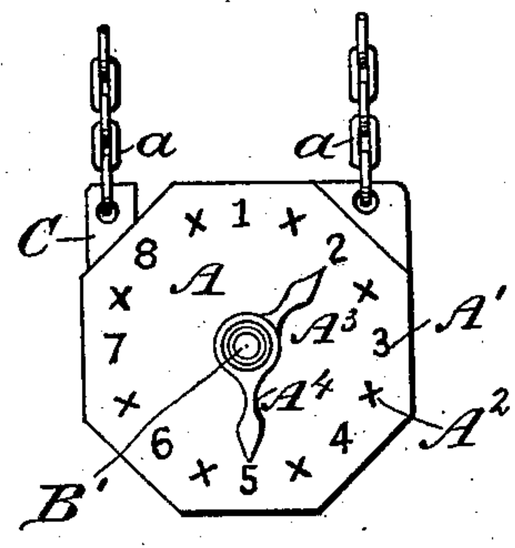


Fig. 3.

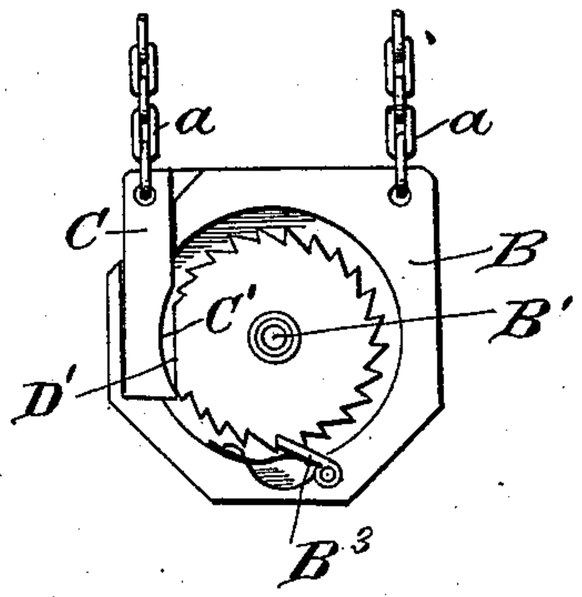


Fig. 2.

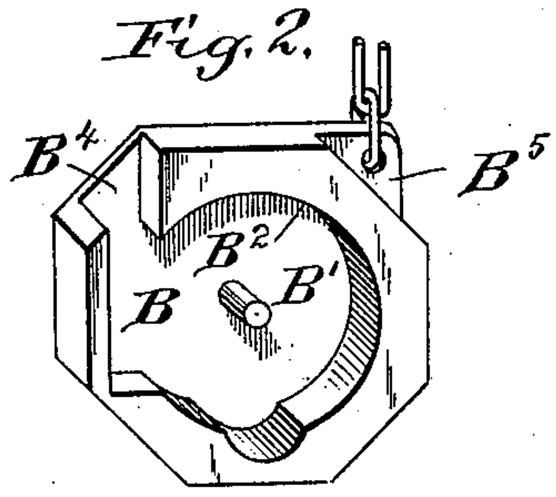
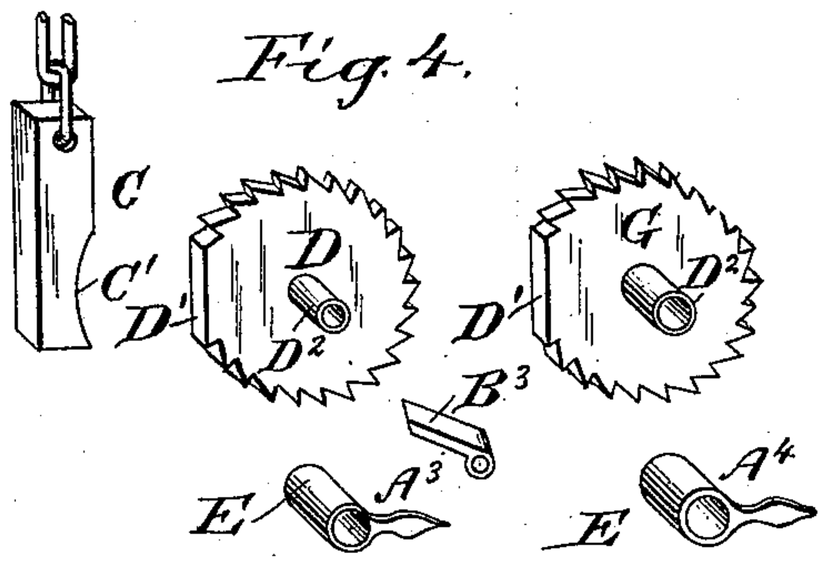


Fig. 4.



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LOCK.

SPECIFICATION forming part of Letters Patent No. 574,179, dated December 29, 1896.

Application filed April 29, 1896. Serial No. 589,506. (No model.)

To all whom it may concern:

Be it known that I, SWEN ELIAS SWENSON, a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Improvement in Locks, of which the following is a full and true description.

My invention relates particularly to such locks as are adapted to be operated without the use of a key.

The object of my invention is to provide a simple and effective lock having a series of locking combinations which can readily be operated by the sense of feeling as well as by the sight.

I effect my object by the means illustrated in the accompanying drawings, in which like letters refer to like parts in each, the same being fully explained in the specification.

Figure 1 is a front view of the lock, showing the dial-plate with indicators in position. Fig. 2 is a view of the inside of the back plate, showing the center post and recesses for the ratchet-wheels and spring-pawl. Fig. 3 is a view of the back plate with one of the ratchet-wheels in position. Fig. 4 shows a detail of the several working parts.

In the drawings, A represents the dial-plate of my lock. This dial-plate is fixed and does not move in any direction. I have shown it as octagon in shape. The particular shape, however, is unimportant, as other shapes would answer my purpose as well. The identification by the sense of feeling of the different parts of the periphery being important, a shape other than a circular one is desirable.

Upon the dial-plate A is located a series of markings A′ and A^2. In the drawings these are shown as numbers and crosses disposed in a circular manner near the outer boundary of the dial-plate. These numbers and markings are preferably raised upon the dial-plate A, so that they may be readily felt. In the center of the dial-plate is a hole through which the post B′ passes, and on this post B′ is arbored the ratchet-wheels D and G, to which are fixed the indicators A^3 and A^4, the one over the other, but loosely, that is to say, so that each may rotate over the dial-plate A independently. It will be seen that the indicators have each a quill E attached to one end, by which means they are arbored on the spindle B′.

The back plate B has an annular chamber in its center B^2, and in the center of this chamber is a fixed post B′, as above stated. A bolt-slot B^4 is also formed on one of its upper sides, while on the other side a lug B^5 with a hole bored through it is fixed. Attached to one side of the plate B is the spring-pawl B^3. The end of this pawl B extends into the annular chamber B^2 and when the lock is operated engages in the edges of the ratchet-wheels D and G.

Into the bolt-slot B^4 the bolt C operates. This bolt has a curved recess C′ on one side, the purpose of which will be seen in the paragraph on operation of the device. It has also upon one side a hole adapted to make by its means a chain connection.

The ratchet-plates D and G are ratchet-toothed on the greater portion of their outer boundary. The segment not toothed, D′, is alike in size and shape in both disks, as are also the teeth on the other portion. The pawl B^3 operates in the toothed edges of both wheels at the same time. The lock is adapted to operate only in one direction, that is to say, it can only be rotated in one direction, owing to the pawl B^3, as it is shown in the drawings, but it is evident that it can be made to operate in either direction. The ratchet-disks are centrally perforated and have collars D^2, to which the hands are fixed and by which means they are rotated.

The operation of this lock is as follows: When the parts of the locks are assembled, they are so assembled that if possible no two locks will open at the same combination. In the drawings the indicators are set at 2 and 5. Any deviation from this condition would prevent the lock from opening. Now the interior of this lock with the indicators properly placed would show the edges D′ D′ in alinement and forming with a portion of the walls of the annular chamber a bolt-chamber from which the bolt C could be withdrawn or replaced with no difficulty, but should the dials or one of them be moved even slightly one or more of the teeth would enter the space where the curved side of the bolt is seen and obstruct the passage of the bolt from the

chamber in which it is lodged. The bolt can only be placed in its chamber with the curved portion toward the center. As the numbers are raised on the dial and as the shape or conformation of the perimeter of the lock is more or less divergent from a smooth disk, when it is desired to secure anything by means of the lock, (as where it is used in place of the ordinary padlock,) the bolt C is passed through the bolt-slot B^4 and into the bolt chamber or space formed by alining the edges of the segmented portions D′ D′ of the ratchet-wheels D^2. The ratchet-wheels, or one of them, are now rotated, and the teeth on them entering the bolt-chamber locks the bolt securely, thus preventing the chain *a*, one end of which is attached to the bolt and the other to the lug B^5, from being withdrawn from any article through which it has been passed. As in many cases, especially when bicycles or other vehicles are secured at night, it would be too dark to see, this lock admits of the combination being found by the sense of feeling. Let us say the combination is "2" and "6." From a previous examination of the lock it is known that "2" is in contiguity with the fixed lug B^5. (It should be remarked that the indicators are of different sizes, so that the correct one may be selected in a moment.) Observation has also taught the one using the lock that "6" is on the sixth side of the octagon, (if the lock is of that shape,) and a touch of the finger reveals its actual location. The second indicator is thus put in proper position. This completes the alinement of the edges D′, and the bolt C may be easily withdrawn.

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

1. The combination in a lock of a dial-plate having a series of markings circumferentially arranged upon it, a back plate attached to said dial-plate having an annular chamber, a bolt arranged to operate in a bolt-slot formed in said chamber, a centrally-located post fixed in said chamber having two or more centrally-perforated ratchet-disks arbored upon it, said disks having correspondential segments removed from them, one or more pawls to engage the ratchet-teeth of said disks and a series of two or more indicators attached to and arranged to rotate said disks as herein shown and described.

2. The herein-described lock consisting of a centrally-perforated fixed dial-plate having an indicating edge and a series of raised indicating-marks upon its surface, a back plate having a central fixed post, an annular chamber a fixed spring-pawl and a lock-bolt chamber, in combination with a series of partially-toothed centrally-perforated disks, each disk having a uniform portion removed, said disks provided with collars arranged to sleeve over the said fixed post and over each other, a bolt having a curved recess on one side adapted to be lodged in said bolt-chamber, and indicators provided with collars, adapting them to be fixed to the said disk-collars, and to operate or rotate the same, as herein shown and described.

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Witnesses:
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