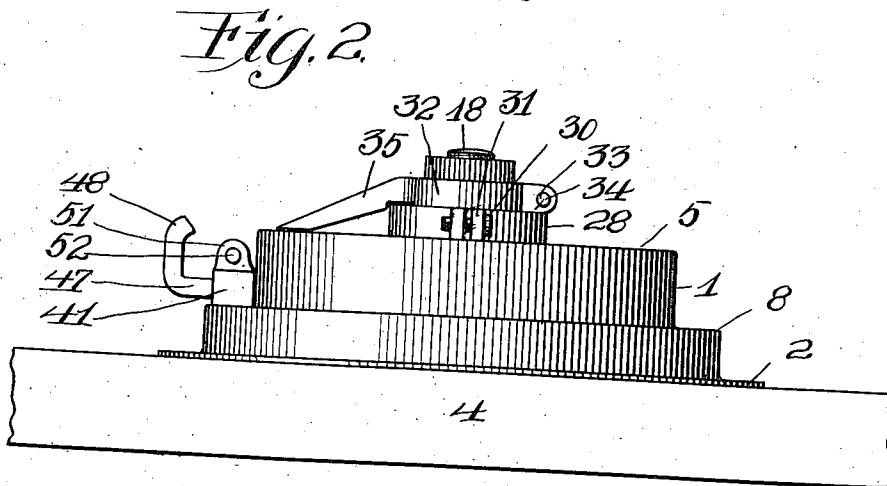
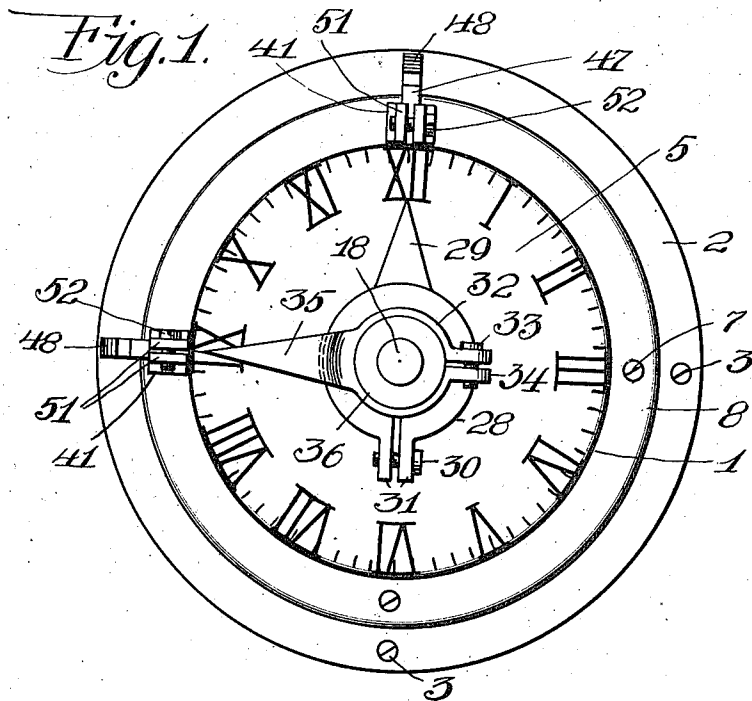


G. WUELSER.
 LOCK FOR SWITCHES.
 APPLICATION FILED JULY 26, 1916

975,918.

Patented Nov. 15, 1910.
 2 SHEETS-SHEET 1.



WITNESSES

Samuel Payne.
 R. K. Butler

by

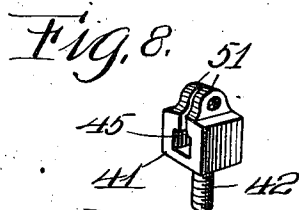
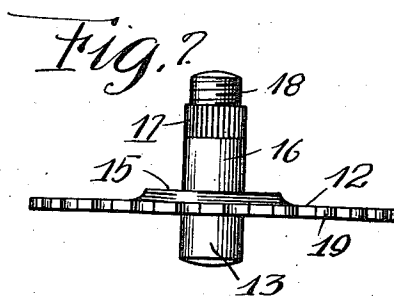
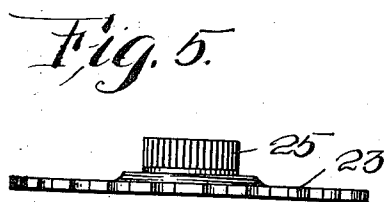
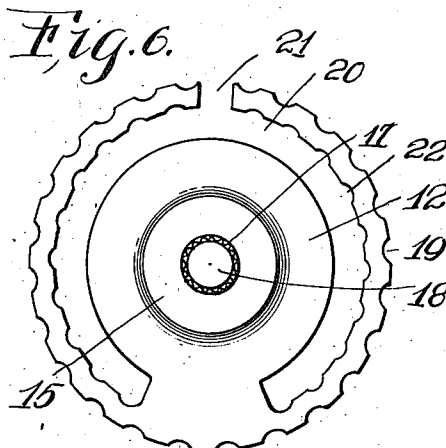
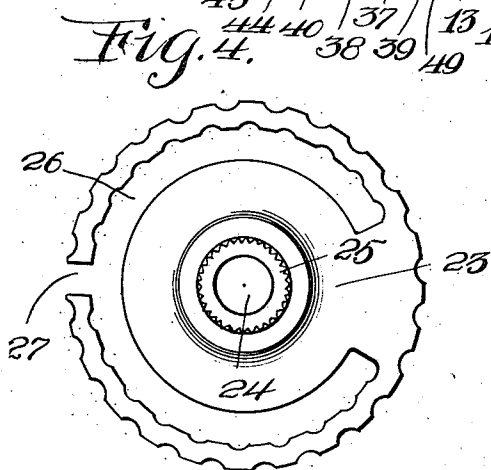
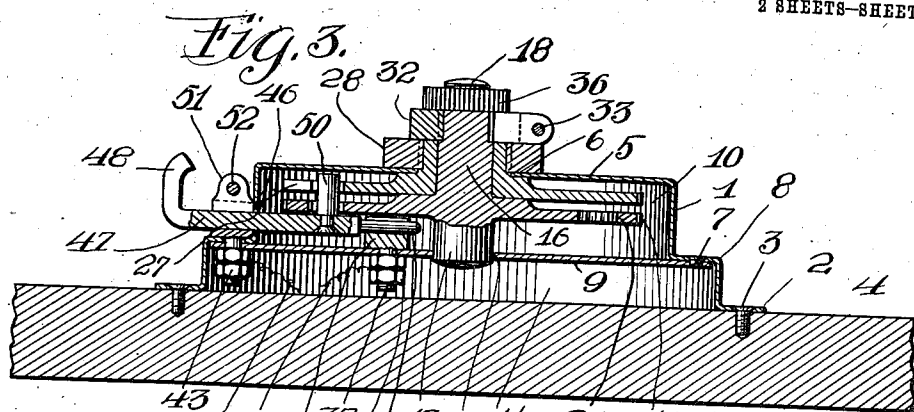
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 Attorneys.

975,918.

Patented Nov. 15, 1910.

2 SHEETS-SHEET 2.



WITNESSES
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UNITED STATES PATENT OFFICE.

GOTTLIEB WUELSER, OF NEW KENSINGTON, PENNSYLVANIA.

LOCK FOR SWITCHES.

975,918.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed July 26, 1910. Serial No. 573,859.

To all whom it may concern:

Be it known that I, GOTTLIEB WUELSER, a citizen of the United States of America, residing at New Kensington, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Locks for Switches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to locks for switches, and is an improvement in connection with the lock disclosed in my pending application filed June 18, 1910, Serial No. 567,624.

Besides having the same objects in view as disclosed in my prior application, the present invention aims to simplify the construction, provide parts that can be easily manufactured and assembled, and to provide a lock that is positive in its operation and free from injury by ordinary use.

Reference will now be had to the accompanying drawings, which illustrate the best form embodying my invention, the said invention being fully disclosed in the following description and claims.

In the drawings:—Figure 1 is a plan of the lock, Fig. 2 is a side elevation of the same, Fig. 3 is a cross sectional view of the lock, Fig. 4 is a plan of a detached upper locking member, Fig. 5 is a side elevation of the same, Fig. 6 is a plan of a detached lower locking member, Fig. 7 is a side elevation of the same, and Fig. 8 is a perspective view of a detached binding post adapted to form part of the lock.

A lock in accordance with this invention comprises a stepped cylindrical metallic casing 1 having the lower edges thereof provided with a peripheral flange 2, which is screwed or otherwise connected, as at 3 to a base plate 4. The casing 1 has the top 5 thereof provided with a central opening 6, and secured by screws or other fastening means 7 to the inner side of the annular shoulder 8 of said casing is a horizontal partition 9 dividing the casing 1 into compartments 10 and 11.

Revolubly mounted in the compartment 10 of the casing 1 is a lower locking member and an upper locking member, the latter being revolubly mounted upon the former. The lower locking member comprises a disk 12 having a central depending pin 13 extending into an opening 14 provided therefor in the partition 9. The upper surface of

the disk 12 has a central bearing surface 15 for the upper locking member and this central bearing surface is provided with a post 16 having the upper end thereof toothed or serrated, as at 17 and reduced and threaded, as at 18. The disk 12 has the periphery thereof scalloped or notched, as at 19 and is provided with a circumferentially arranged slot 20 having the ends thereof closed in proximity to each other, with the intermediate portion of said slot in communication with the outer edges of the disk by an open slot 21. The outer walls of the slot 20 are scalloped or notched, as at 22 similar to the periphery of the disk 12.

The upper locking member is similar to the lower locking member, with the exception that the disk 23 has a central vertical opening 24 providing clearance for the post 16 of the lower locking member, the disk 23 also having a central toothed or serrated collar 25 extending upwardly through the opening 6 of the casing 1. The disks 12 and 23 are of the same diameter and with these disks assembled in the compartment 10, the slots 20 and 21 of the disk 12 are normally in vertical alinement with the slots 26 and 27 of the disk 23.

Mounted upon the toothed or serrated collar 25 of the upper locking member is a split sleeve 28 having an indicator 29, said split sleeve being clamped upon the collar by a set screw 30 mounted in lugs 31, carried by the split ends of the sleeve.

Mounted upon the toothed or serrated portion 17 of the post 16 is a split sleeve 32, said sleeve being clamped thereon by a set screw 33 mounted in lugs 34, carried by the split ends of the sleeve. The sleeve 32 is provided with an angularly disposed indicator 35 of a greater length than the indicator 29 and adapted to swing over said indicator.

Screwed upon the reduced and threaded end of the post 16 is a knurled nut 36 which positively retains the sleeves 28, 32 and the locking members in an assembled position.

The top of the casing 1 is graduated similar to a clock, the indicator 29 corresponding to an hour hand and the indicator 35 corresponding to a minute hand.

Mounted in the partition 9 adjacent to the opening 14 thereof is the shank 37 of a bifurcated binding post 38, said binding post being retained upon the partition by nuts 39 screwed upon the lower end of the shank 37,

these nuts also retaining the ends of a wire or conductor 40 in engagement with the shank 37.

Mounted upon the annular shoulder 8 of the casing 1 is a bifurcated binding post 41 having the threaded shank 42 thereof extending through the shoulder 8 and the edge of the partition 9, said binding post being retained in position by nuts 43 screwed upon the shank 42, said nuts retaining a wire or conductor 44 in engagement with the shank. The bifurcation or opening 45 of the binding post 41 longitudinally aligns with an opening 46 formed in the casing 1 and with the binding post 38.

Movably mounted in the binding posts 38 and 41 is a switch arm or blade 47 having the outer end thereof provided with a handle 48. The arm 47 is rectangular in cross section and has the inner end thereof reduced and cylindrical, as at 49 to enter the binding post 38. The arm 47 adjacent to the reduced end thereof is provided with a vertical cylindrical pin 50 extending upwardly through the slots 20 and 26 of the locking disks 12 and 23 respectively. To insure a contact between the binding post 41 and the arm 47, the upper edges of the binding post 41 are provided with apertured lugs 51 adapted to be connected and drawn together by a set screw 52.

The pin 50 extending upwardly through the slots 20 and 26 is adapted to retain the switch arm 47 in engagement with the binding posts 38 and 41 and complete an electrical circuit. To shift the arm 47 to break the electrical circuit, it is necessary that the locking members be shifted whereby the slots 21 and 27 of the disks 12 and 23 respectively will vertically align and provide clearance for an outward movement of the pin 50, the outward movement of said pin being limited by the casing 1, which prevents the switch arm 47 from becoming accidentally disengaged from the casing, but allows the reduced cylindrical end of the arm to be moved out of engagement with the binding post 38. To shift the locking disks 12 and 23 to release the pin 50, it is necessary that the operator of the lock be familiar with the combination, otherwise considerable difficulty will be experienced and time consumed in arriving at the proper combination to release the pin 50.

After the arm 47 has been shifted outwardly and the circuit broken, the locking disks 12 and 23 can be shifted to prevent the arm 47 from being restored to its normal position, consequently a machine equipped with the lock could not be started except by the authorized operator. By providing the outer edges of the disks 12 and 23 and the outer sides of the slots 20 and 26 with notches, a person tampering with the lock or attempting to open the

same will be deceived and misled, believing that the lock contains tumblers on account of the noise produced by the pin 50 riding over the scalloped or notched edges of the locking disks.

The lock has been designed whereby one or more switch arms or blades 47 can be used in connection with the lock, as shown in Fig. 1 of the drawings, one set of the combinations releasing one of the arms and another set of combinations another arm. It is thus that the lock can be used for controlling the opening and closing of one or more circuits.

The switch arm 47 can be made of malleable metal, whereby the end 48 can be bent upwardly after the arm has been placed in the casing 1, or the pin 50 can be attached to the arm after said arm has been inserted in the opening 46 and prior to connecting the partition 9 to the casing. Suitable insulation can be used where necessary for maintaining separate and distinct circuits in connection with the switch lock.

From the foregoing it is apparent that I have devised a novel lock for switches embodying superimposed locking disks for retaining a contact arm in an adjusted position, the arm being arranged whereby it will normally contact with an outer binding post and can be easily shifted into engagement with an inner binding post, thus completing the circuit between the posts.

What I claim is:—

1. In a lock for switches, a base plate, a casing carried by said plate, a horizontal partition mounted in said casing and dividing said casing into an upper and lower compartment, slotted locking disks rotatably mounted in the upper compartment of said casing, binding posts connected to said partition with one of the binding posts exteriorly of said casing, a locking arm movably mounted in the upper compartment of said casing and normally in engagement with the outer binding post and adapted to engage the inner binding post, a pin carried by said arm and extending upwardly through said slotted disks, and means on top of said casing for rotating said disks to release the pin of said arm.

2. In a lock for switches, a plate, a casing mounted upon said plate, a partition arranged in said casing, a binding post carried by said partition, a binding post carried by the outer side of said casing, a switch arm normally in engagement with the outer binding post and adapted to extend into said casing and engage the inner binding post, and rotatable locking disks arranged within said casing and adapted to lock said arm in engagement with said binding post.

3. A lock for switches, comprising a casing, a switch arm extending into said cas-

ing, a pin carried by said arm within said casing and normally retaining said arm in said casing, locking disks revolubly mounted in said casing for engaging said pin and
5 fixing said arm relatively to said casing, and means arranged upon said casing for adjusting said disks to release said pin.

4. A lock for switches, comprising a casing, a binding post arranged exteriorly of
10 said casing, a binding post arranged within said casing, a switch arm normally held in engagement with the exterior binding post and adapted to extend into said casing and engage the interior binding post, a pin carried by said switch arm for normally retaining
15 said arm within said casing, slotted superimposed locking disks adapted to engage said pin and hold the arm thereof in en-

gagement with the interior binding post, and means arranged upon said casing for
20 rotating said disks, said means including sleeves and indicators carried thereby.

5. In a permutation lock for switches, the combination with a switch arm adapted to
25 complete a circuit, of a pin carried by said arm for limiting the movement thereof, superimposed locking disks adapted to engage said pin for locking said arm, and means for shifting said disks.

In testimony whereof I affix my signature 30
in the presence of two witnesses.

GOTTLIEB WUELSER.

Witnesses:

THEODOR ZUND,
KARL KOTTORS.