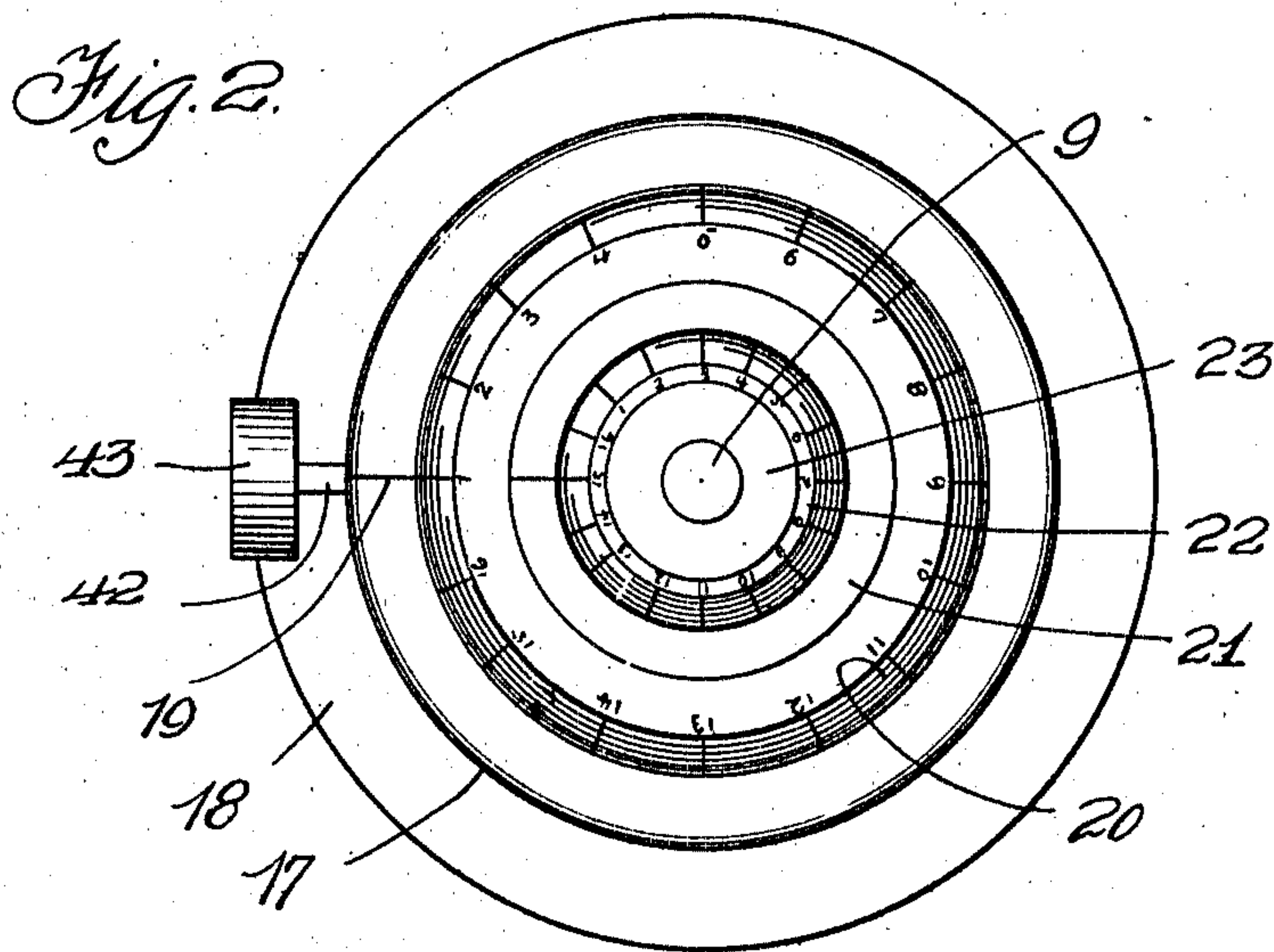
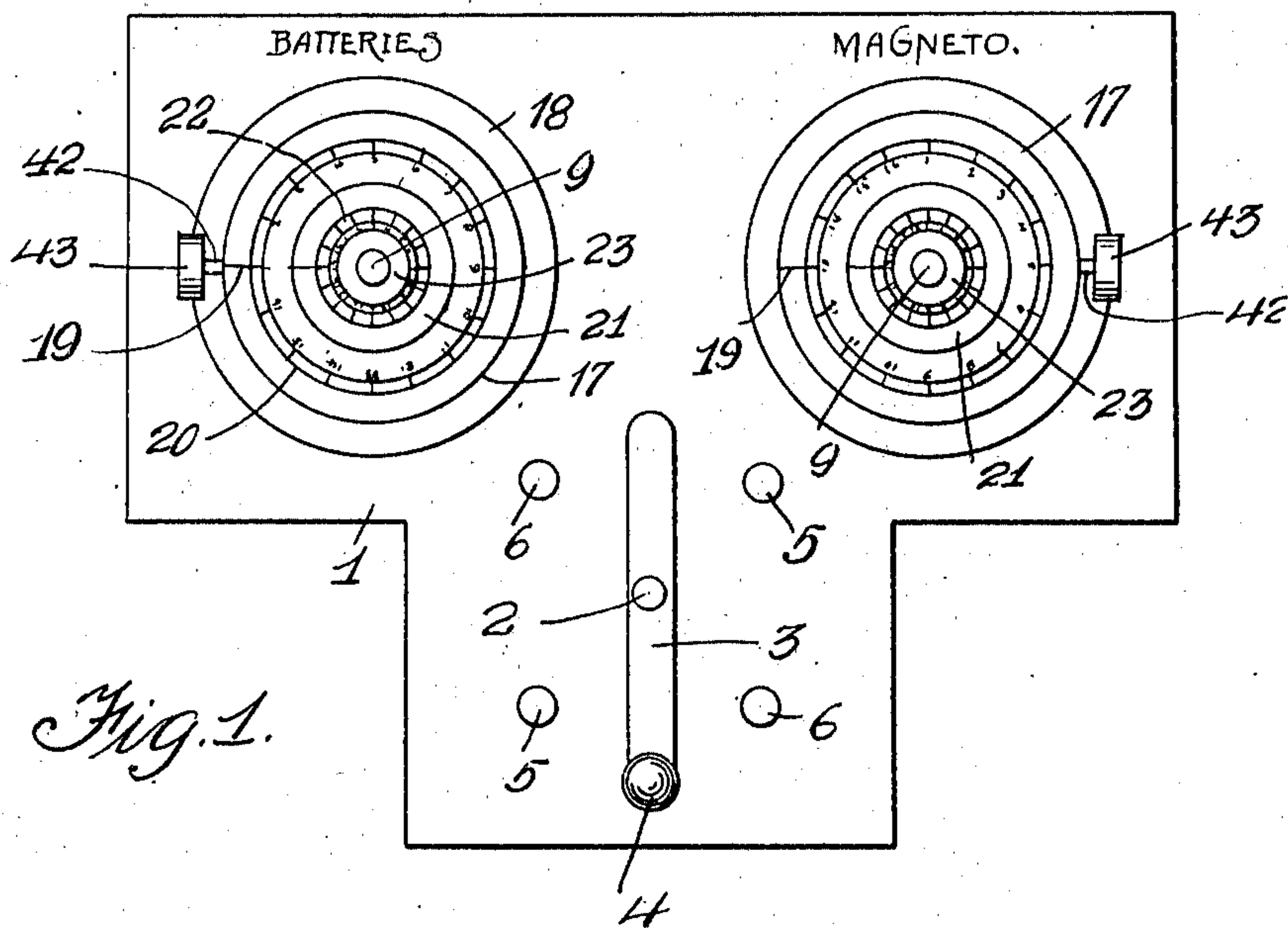


G. WUELSER.  
 LOCK FOR SWITCHES.  
 APPLICATION FILED JUNE 18, 1910.

986,887.

Patented Mar. 14, 1911.

2 SHEETS—SHEET 1.



WITNESSES

Samuel Payne  
 A. S. Butler

INVENTOR

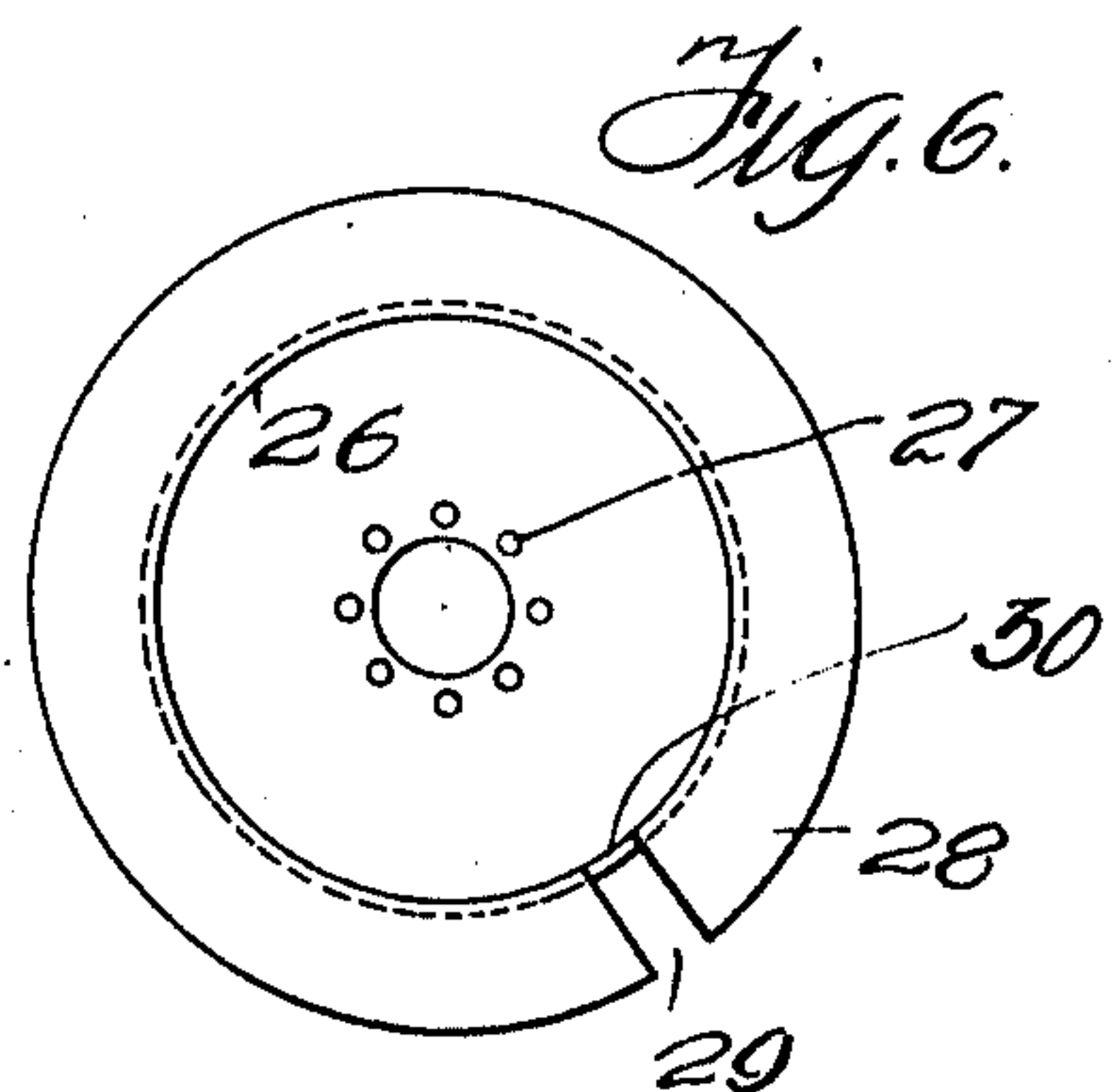
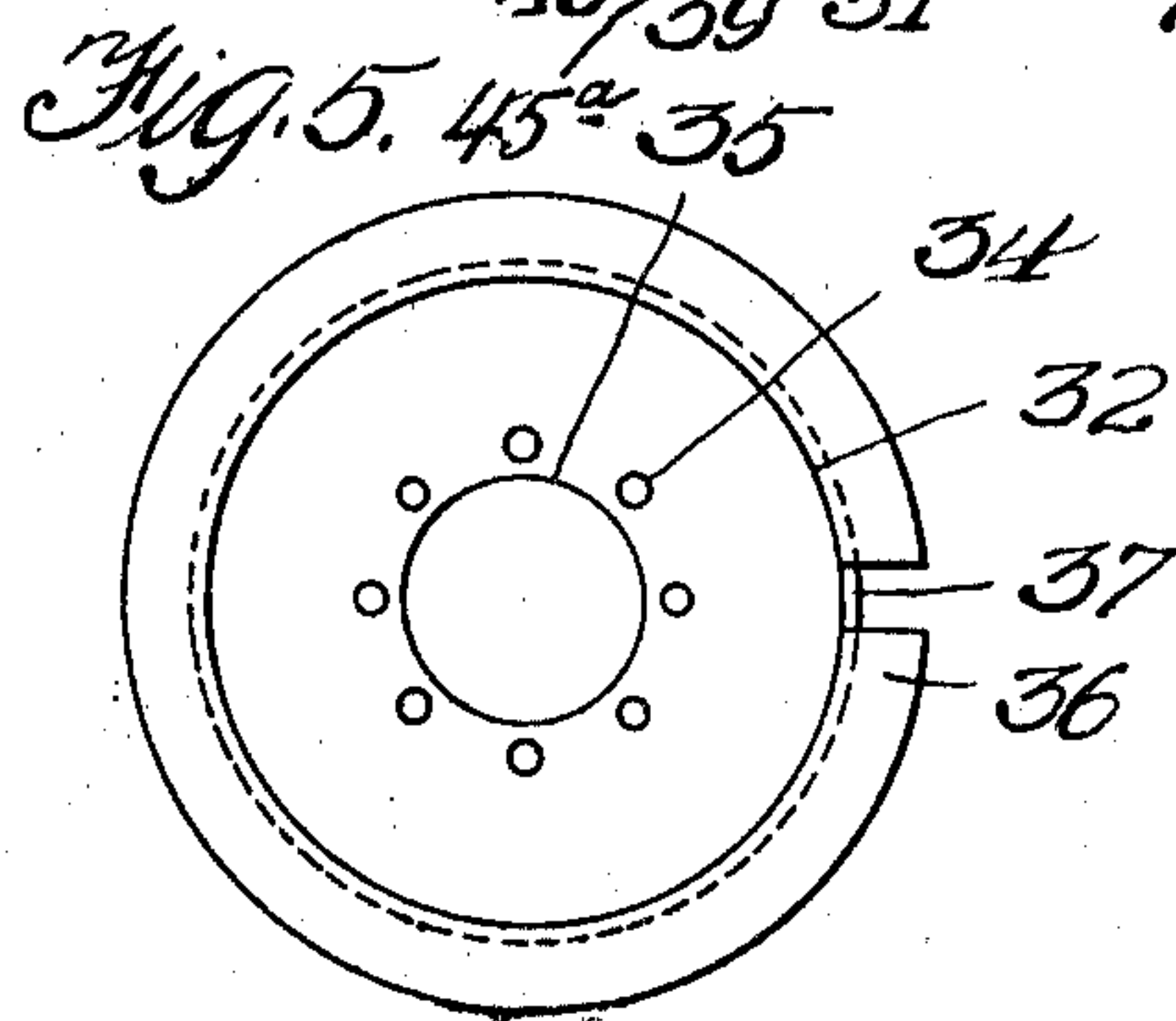
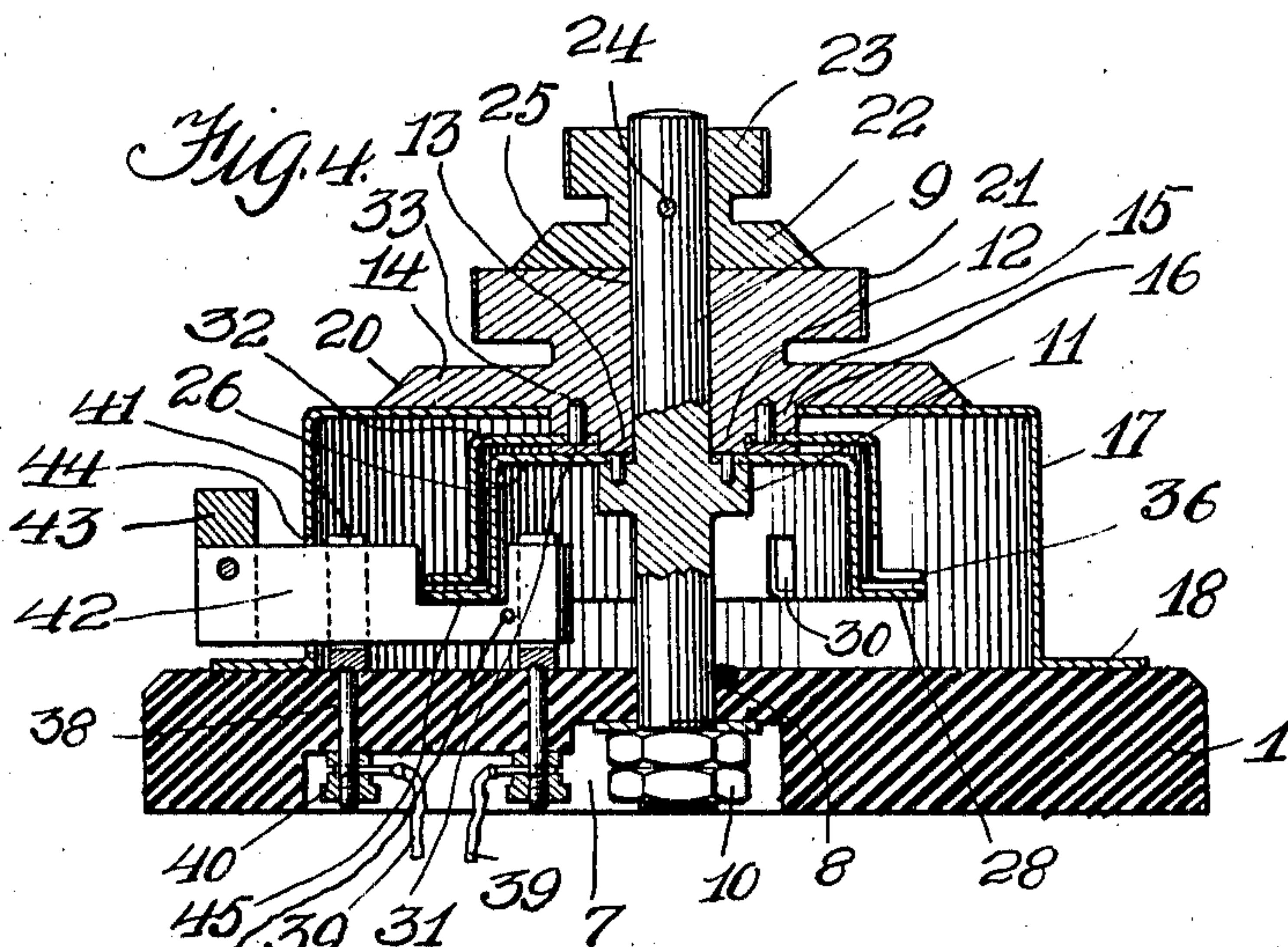
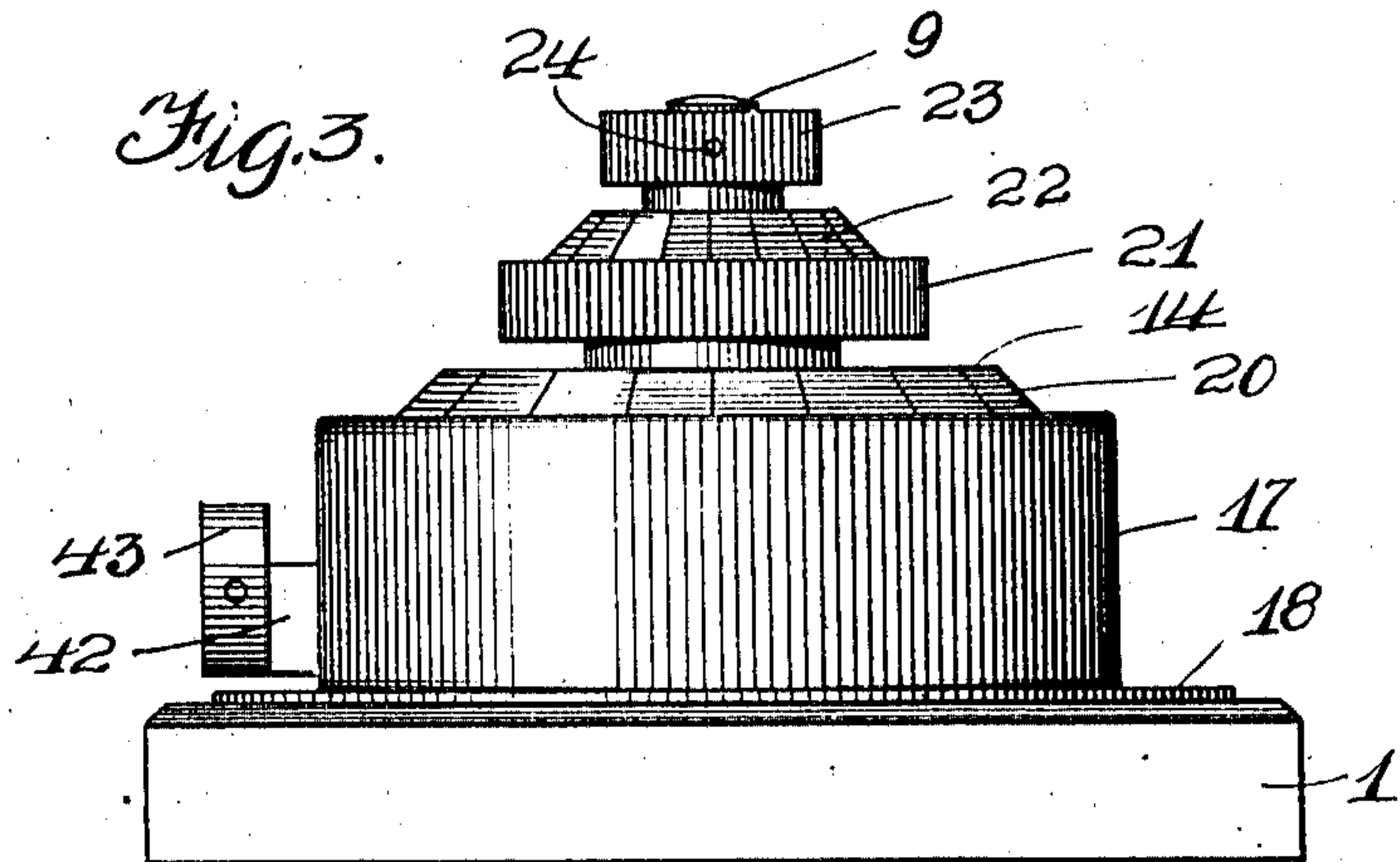
G. Wuelser  
 A. C. Everett & Co.  
 Attorneys.

986,887.

G. WUELSER.  
 LOCK FOR SWITCHES.  
 APPLICATION FILED JUNE 18, 1910.

Patented Mar. 14, 1911.

2 SHEETS—SHEET 2.



WITNESSES

*Samuel Payne*  
*W. H. Butler*

INVENTOR

*G. Wuelser*  
*Attorney*



# UNITED STATES PATENT OFFICE.

GOTTLIEB WUELSER, OF NEW KENSINGTON, PENNSYLVANIA.

## LOCK FOR SWITCHES.

986,887.

Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed June 18, 1910. Serial No. 567,624.

*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 a lock for switches, and more particularly to that type of switch used in connection with automobiles and other vehicles for controlling the electrical circuit between the batteries, magnetos and ignition devices.

The primary object of my invention is to provide positive and reliable means, as will be hereinafter set forth, for preventing an unauthorized person from tampering with or operating the switches of an automobile, thus preventing the machine from being accidentally started or stolen.

Another object of this invention is to provide a switch with a permutation lock that cannot be unlocked or opened except by persons familiar with the combination of the lock.

A further object of this invention is to provide a switch lock that consists of comparatively few parts, easily and quickly assembled, inexpensive to manufacture, efficient and of such construction that it is impossible to manipulate the same without being familiar with the lock and impossible to injure or foul the same by an unauthorized person attempting to open the lock.

The above and such other objects as may hereinafter appear are attained by a mechanical construction that will be specifically described and then claimed, and reference will now be had to the drawings forming a part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof can be varied or changed, as to the size, shape and manner of assemblage without departing from the spirit and scope of the invention.

In the drawings:—Figure 1 is a plan of a switch board in accordance with this invention, Fig. 2 is an enlarged plan of one of the switch locks, Fig. 3 is a side elevation of the same, Fig. 4 is a vertical cross sectional view of the switch lock, Fig. 5 is a bottom

plan of a detached outer locking member, and Fig. 6 is a similar view of a detached inner locking member.

In the accompanying drawings the reference numeral 1 denotes a switch board or plate adapted to be carried by an automobile in proximity to the driver's or operator's seat of the machine, whereby the circuits between the batteries, magnetos and ignition devices can be easily controlled. Upon the lower end of the board of plate 1 is pivotally mounted, as at 2 a switch arm 3 having a suitable button or handle 4 to permit of the arm being easily moved. The arm 3 is adapted to engage oppositely disposed contacts 5 and 6, the former controlling the circuit through the magneto and the latter the circuit through the batteries, or vice versa.

Upon the upper part of the board or plate 1 are located the locks for controlling the operation of the switch for the batteries and magnetos, and as these locks are identical in construction, I deem it only necessary to describe in detail the construction of one of these locks.

The lock is located adjacent to each end of the board or plate 1 and the board or plate 1 has the under side thereof cut away to provide a recess 7 having at one end thereof a vertical opening 8. Revolvably mounted in the opening 8 is a bolt 9 and screwed upon the lower end of said bolt are nuts 10, these nuts being housed within the recess 7. The bolt intermediate the ends thereof is provided with an annular shoulder or collar 11 and mounted in said collar are vertical oppositely disposed pins 12 and revolvably mounted upon the bolt 9 is a disk 14 having depending annular shoulders 15 and 13, the former being of a larger diameter than the latter. The shoulder 15 is revolvably mounted in the central opening 16 of a cylindrical casing 17 mounted upon the board or plate 1. The lower edges of the casing 17 are provided with a peripheral flange 18 whereby the casing 17 can be easily secured to the board or plate 1, while the top of the casing is of a sufficient diameter to accommodate the disk 14. The top of the casing 17 is provided with a suitable graduation or mark 19 and the peripheral edges of the disk 14 are beveled and graduated, as at 20 whereby the disk can be shifted in order that one of the graduations thereof



registers with the graduation 19 of the casing 17. Formed integral with the disk 14 is a circular knurled knob 21 and revolvably mounted upon said knob is another beveled and graduated disk 22 having an integral knurled knob 23, said knob and disk being secured to the upper end of the bolt 9 by a pin or key 24, and clearance is provided for the bolt 9 within the disk 14 and the knob 21 by a vertical opening 25 formed in said disk and knob.

The vertical pins 12 of the collar 11 are employed for retaining an inverted cup-shaped locking member 26 between the collar 11 and the shoulder 13, said pins extending through oppositely disposed vertical openings 27 provided therefor in the top of said locking member, it being preferable to circumferentially arrange a plurality of the openings 27, whereby the combination of the lock in connection with this particular member can be changed. The lower depending edges of the locking member 26, which will be hereinafter referred to as the inner locking member, are provided with a peripheral flange 28 and this flange is cut away, as at 29 and the wall of said locking member slotted, as at 30 at such a point that the slot will communicate with the cut away portion 29 of the flange 28, this slot in connection with the cut away portion 29 providing clearance for a plug or key, as will presently appear.

Surrounding the annular shoulder 13 upon the inner locking member 26 is a fibrous washer 31 and interposed between said washer and the annular shoulder 15 is an outer inverted cup-shaped locking member 32, said member being held in engagement with the shoulder 15 by oppositely disposed vertical pins 33 mounted in said shoulder, the pins extending through oppositely disposed openings of a series of circumferentially arranged openings 34 formed in the top of the outer locking member 32, these openings 34 being arranged circumferentially of a central opening 35 formed in the top of the outer locking member to provide clearance for the annular shoulder 13. The lower edges of the outer locking member 32 are provided with a peripheral flange 36 and this flange together with the wall of the outer locking member is cut away and slotted, as at 37, similar to the inner locking member.

In the board or plate 1 are mounted binding posts 38, the lower ends of said posts terminating in the recess 7 in order that wires 39 can be attached to said post by nuts 40 or other fastening means. The upper ends of the posts 38 are provided with resilient bifurcated contact arms 41, somewhat similar to the arms of a knife switch. Adapted to engage in the bifurcated arms 41 is a blade or key 42 having the outer end

thereof provided with a circular head 43 serving functionally as a handle or knob. The blade or key 42 is adapted to extend through a slot 44 provided therefor in the wall of the casing 17 and said blade or key adjacent to the inner end thereof is provided with a transverse slot 45 adapted to provide clearance for the peripheral flanges 28 and 36 of the inner and outer locking members 26 and 32. By reference to Fig. 4 of the drawings it is apparent that the blade or key 42 cannot be removed from the casing 17 on account of the inner and outer locking members 26 and 32 extending into the slot 45 of the blade or key 42, consequently the blade or key will be retained therein and a circuit completed through the binding posts 38. The blade or key 42 is thus prevented from becoming accidentally disengaged from the switch, when in a locked position, and when in an unlocked position it is prevented from being entirely removed from the casing 17 by a transverse pin 45<sup>a</sup> located adjacent to the slot 45 and adapted to engage the outer switch arms 41 when the blade is moved outwardly. It is this pin that prevents the removal of the blade 42, consequently it is impossible for a person to observe the locking members through the medium of the slot 44. To remove the blade or key it is first necessary that the upper graduated disk 22, which is attached to the bolt 9 be rotated until the slot 30 and the cut away portion 29 of the inner locking member aligns with the end of the bolt or key 42, the blade or key can then be partially withdrawn, that is, it can be moved until the end thereof engages in the slot and cut away portions 30 and 29 of the inner locking member and contacts with the inner wall of the outer locking member. To shift this outer locking member it is necessary that the graduated disk 14 be rotated, which can be easily accomplished owing to the fact that the inner locking member is now held stationary by the inner end of the blade or key 42. The disk 14 and the outer locking member thereof is rotated upon the bolt 9 until the slot and cut away portion 37 thereof aligns with the slot and cut away portion of the inner locking member, at which time the blade or key 42 can be easily and quickly withdrawn from the inner binding post 38 until cross pin 45<sup>a</sup> stops at outer binding post, thus breaking the circuit between the binding posts 38. To prevent the blade or key 42 from falling back through cut away portions 37 and 29 of the locking members or flanges 28 and 36 it is only necessary to give one disk, either 14 or 21, or both, a slight turn. This operation removes the cut away portions of locking members 36 and 28 or both from alignment with switch blade 42 and prevents by all means a circuit between the binding



posts 38, until both cut away portions of said locking members are turned again in alinement with blade 42, which is only possible by a person familiar with the combination, letters or marks on the disks 14 and 21.

As the tumblers are dispensed with in connection with the lock, it is impossible to determine by a slight noise or sound when the inner and outlet locking members are in position to provide clearance for the blade or key 42. The locking members besides preventing accidental displacement of the blade or key 42 also prevent the insertion of the blade or key 42 unless that person is familiar with the combination of the lock. It is through the medium of the openings 27 and 34 of the locking members 26 and 32 respectively that the combination can be changed from time to time.

The switch lock is made of light and durable metal, while the switch board or plate 1 thereof is made of insulation, as marble, slate or a similar material.

Having now described my invention what I claim as new, is:—

1. In a lock for switches, a plate of insulation, switch arms carried thereby, a blade adapted to connect said arms, independently rotatable locking members adapted to retain said blade in engagement with said arms, and means for inclosing said locking members upon said plate of insulation.

2. In a lock for switches, a plate of insulation, switch arms carried thereby, a blade adapted to connect said arms, independently rotatable locking members adapted to retain said blade in engagement with said arms, means for inclosing said locking members upon said plate of insulation, and means for rotating said members whereby said blade can be released.

3. In a lock for switches, switch arms, a blade adapted to connect said arms, a casing inclosing said arms and having the wall thereof cut away to provide clearance for said blade, and independently rotatable locking members arranged in said casing

and adapted to retain said blade in said casing.

4. In a lock for switches, switch arms, a blade adapted to connect said arms, a casing inclosing said arms and having the wall thereof cut away to provide clearance for said blade, independently rotatable locking members arranged in said casing and adapted to retain said blade in said casing, and means located upon said casing for rotating said members.

5. In a lock for switches, switch arms, a blade adapted to connect said arms, a casing inclosing said arms and having the wall thereof cut away to provide clearance for said blade, independently rotatable locking members arranged in said casing and adapted to retain said blade in said casing, means located upon said casing for rotating said members, said means including a bolt, permutation disks at the upper end of said bolt, one of said disks being connected to one of said locking members and the other of said disks to the other of said locking members through the medium of said bolt.

6. In a lock for switches, a plate of insulation, a vertical rotatable bolt carried by said plate, switch arms located upon said plate, a blade adapted to engage in said switch arms, a casing mounted upon said plate and inclosing said switch arms, said casing being cut away to provide clearance for said blade and said bolt, an inner locking member adjustably connected to said bolt, a disk revolubly mounted upon said casing and surrounding the upper end of said bolt, an outer locking member adjustably connected to said disk and adapted to cooperate with the inner disk in retaining said blade in said switch arms, and a disk mounted upon the first mentioned disk and connected to said bolt.

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

GOTTLIEB WUELSER.

Witnesses:

WILLIAM R. BRUSH,  
DEXTER LINDSEY.