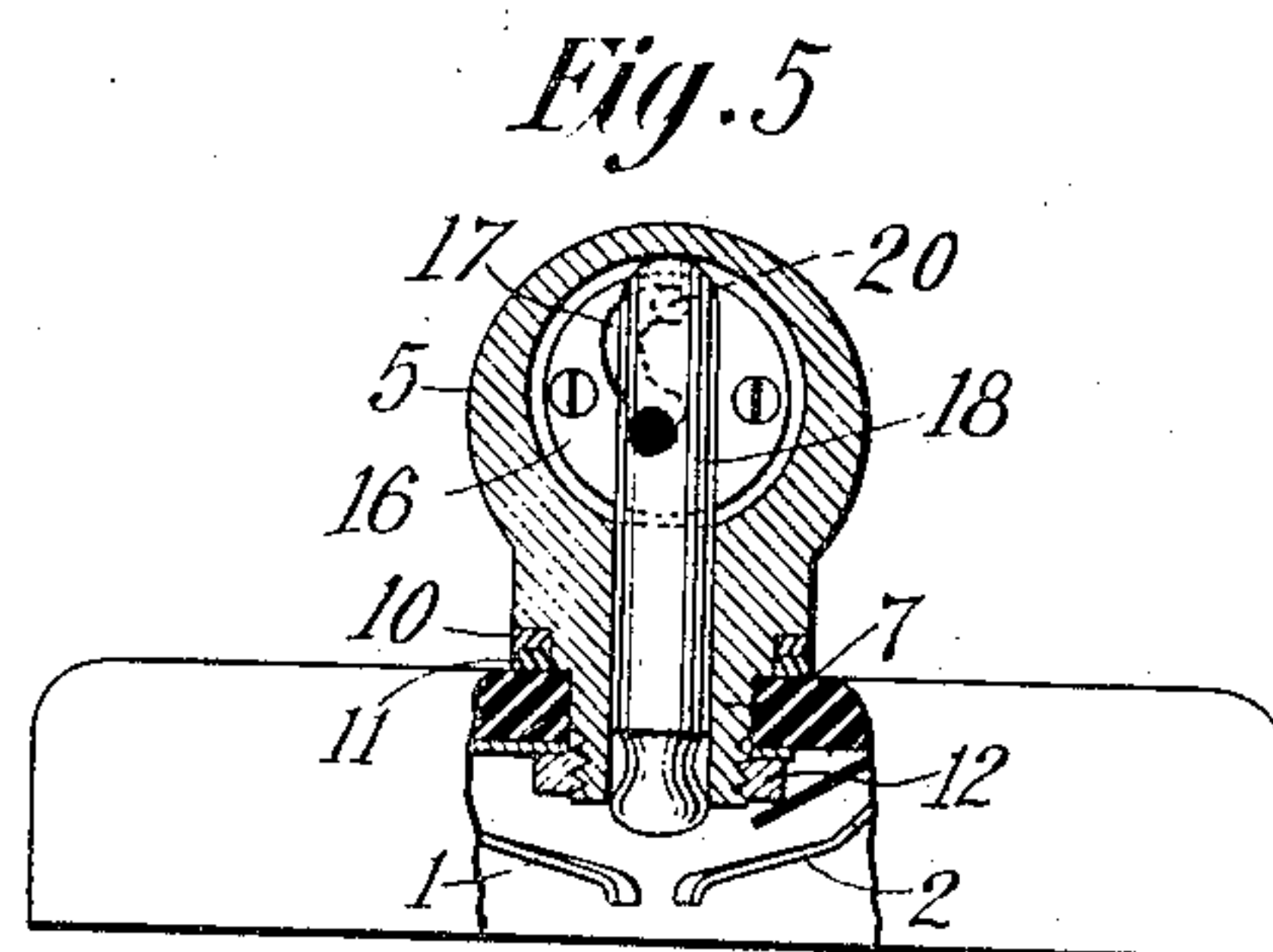
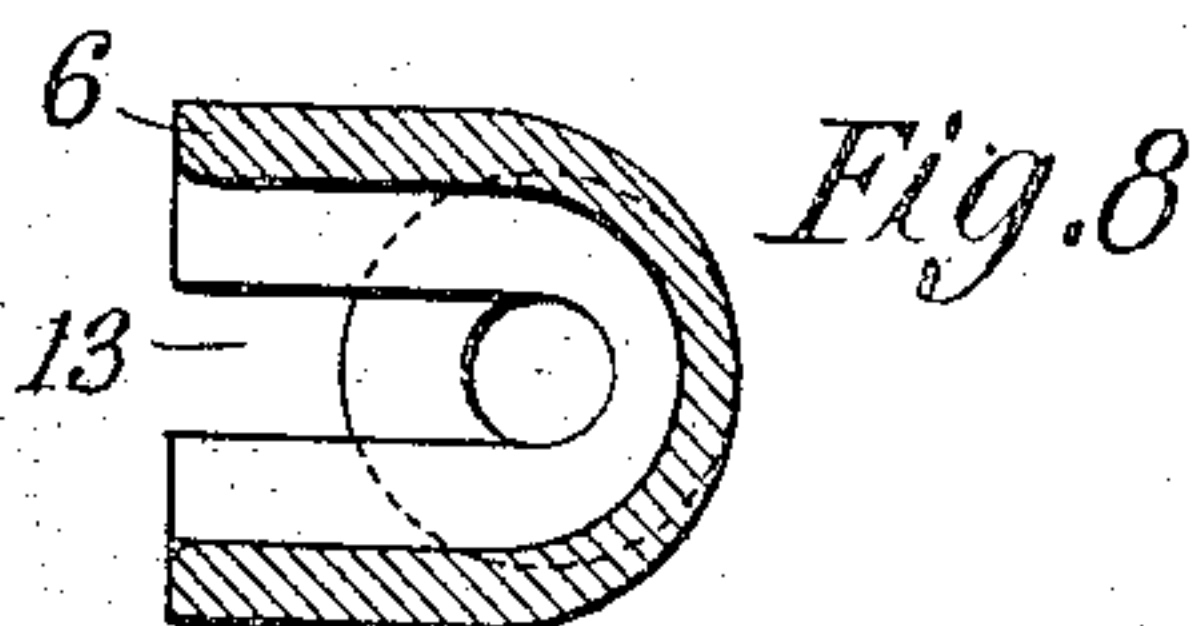
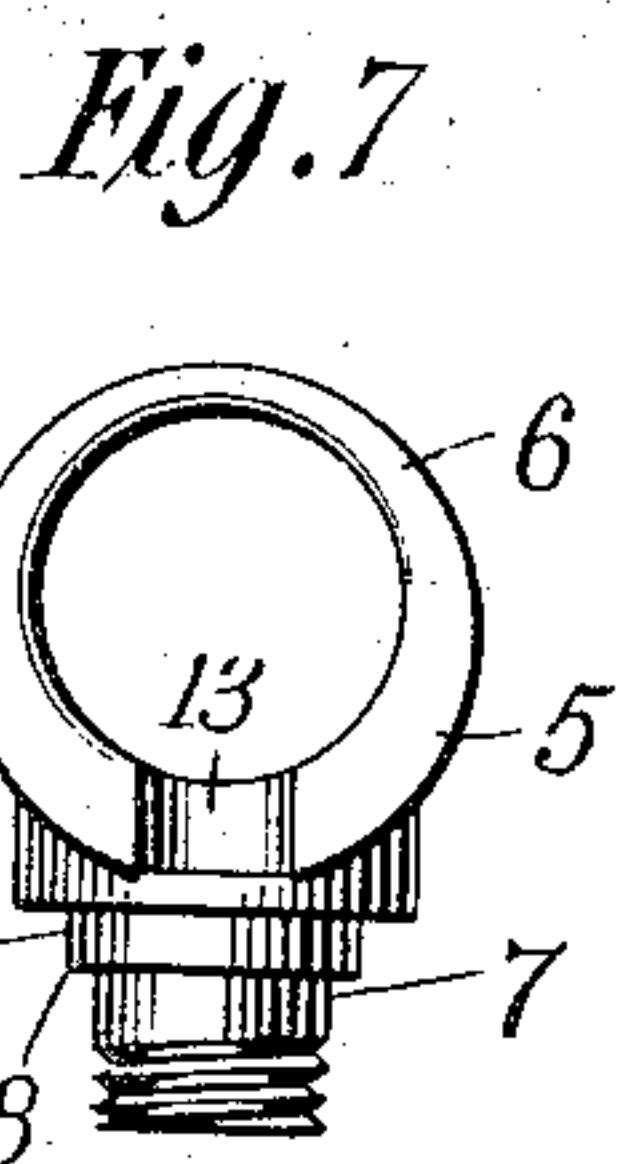
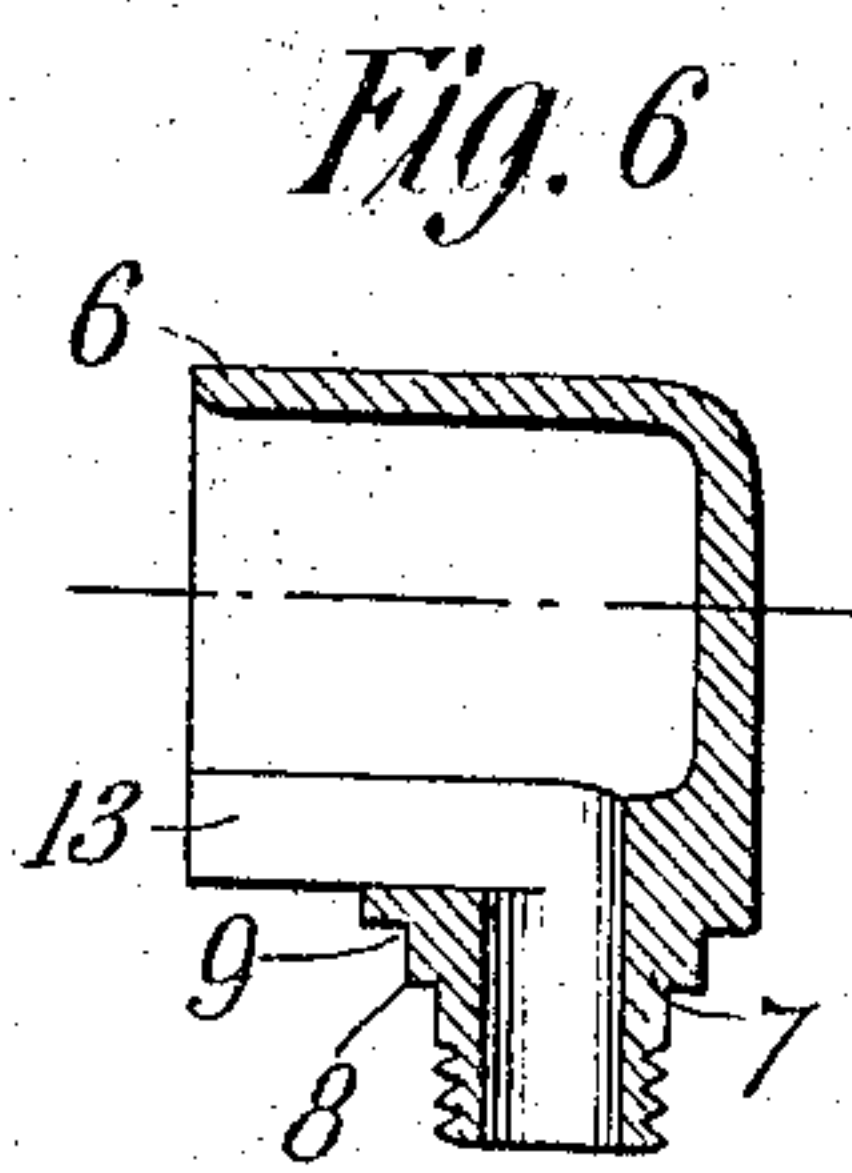
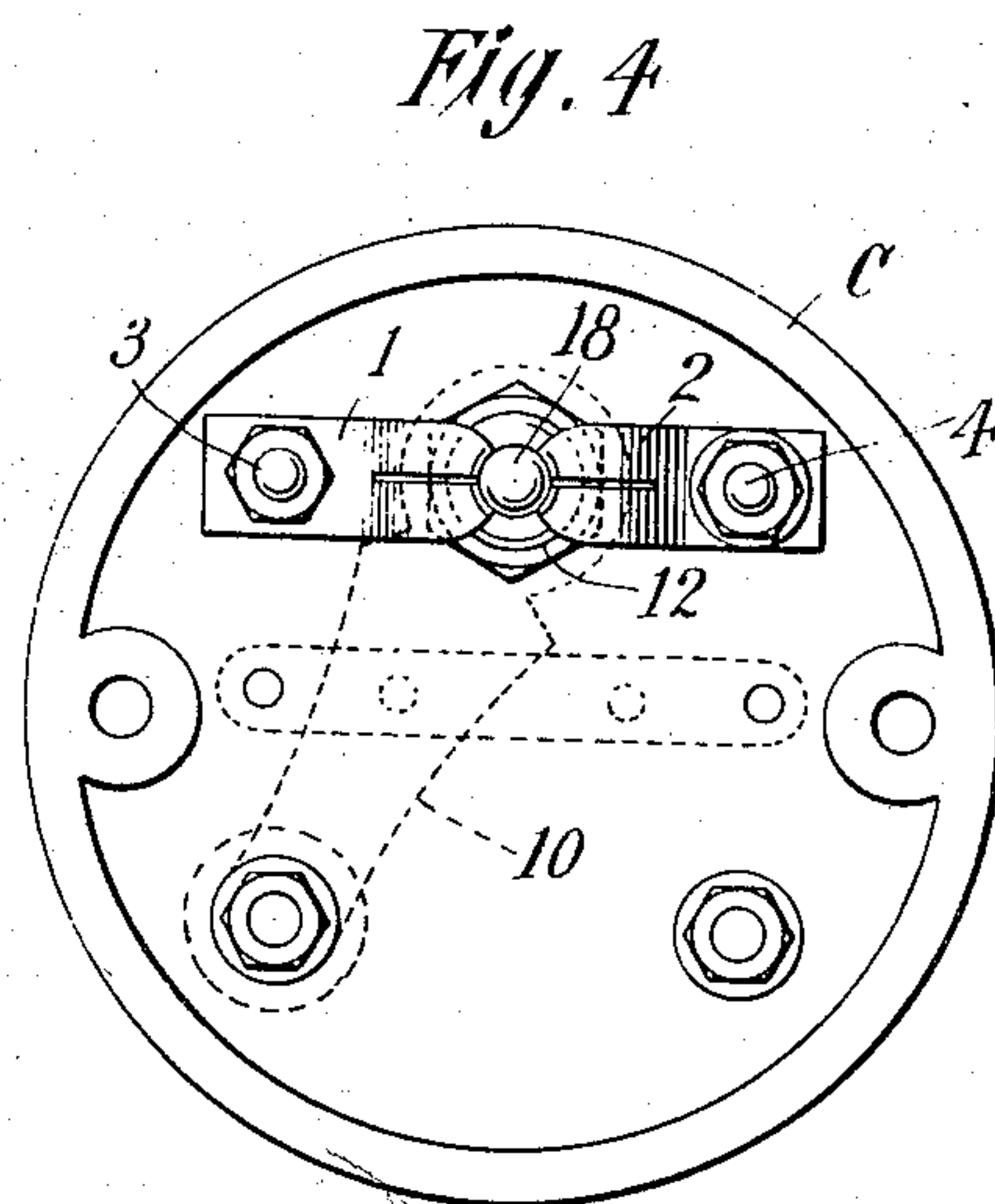
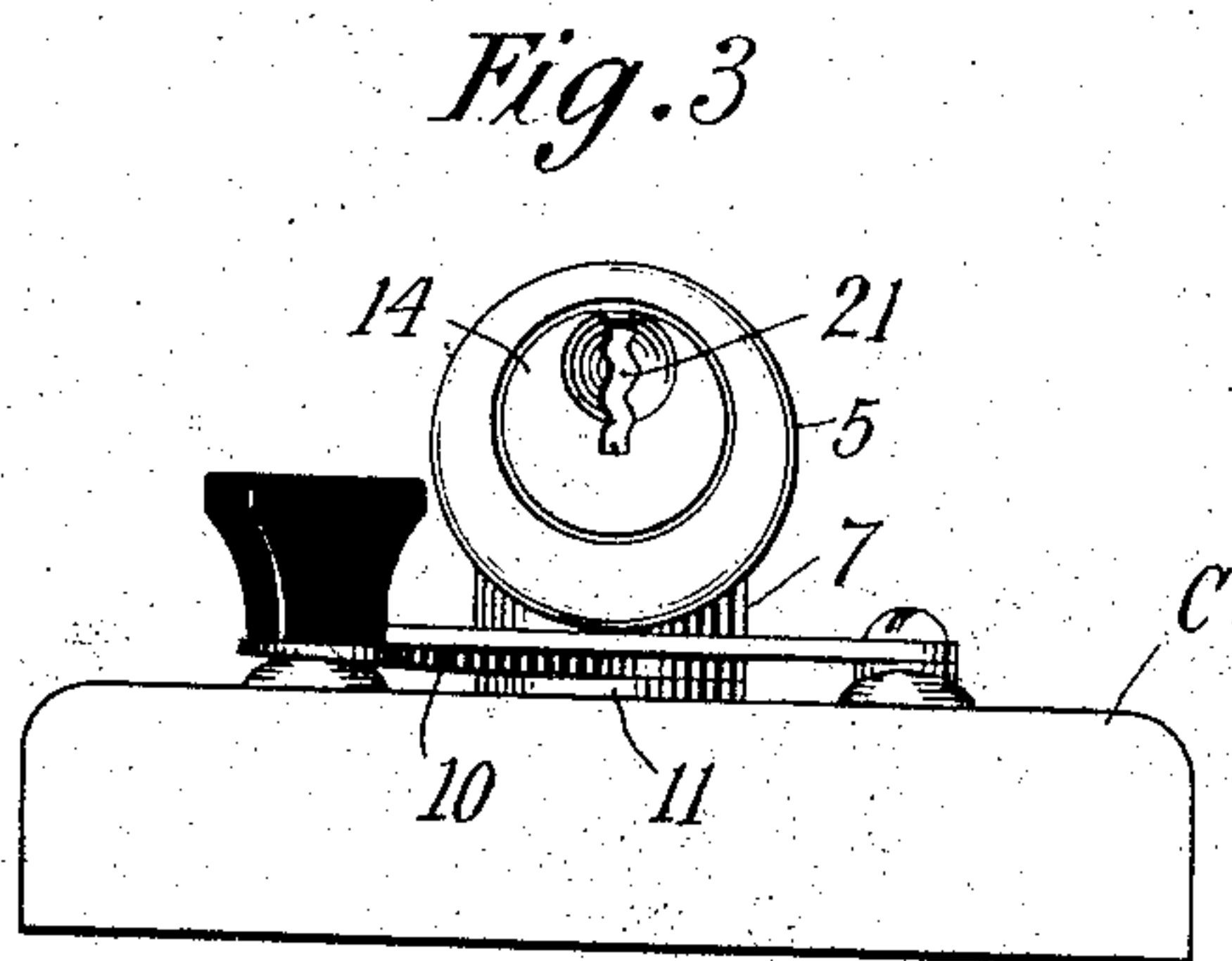
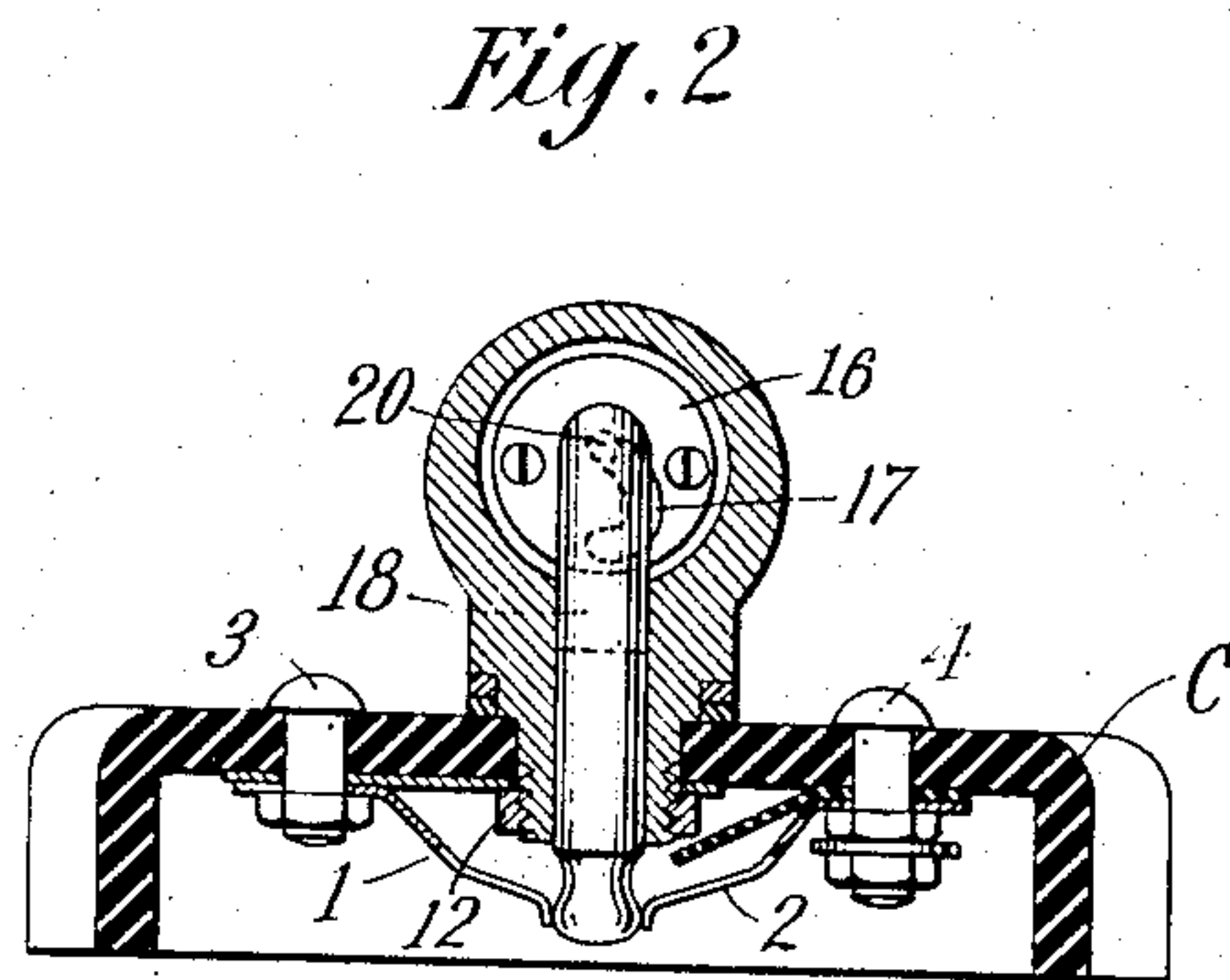
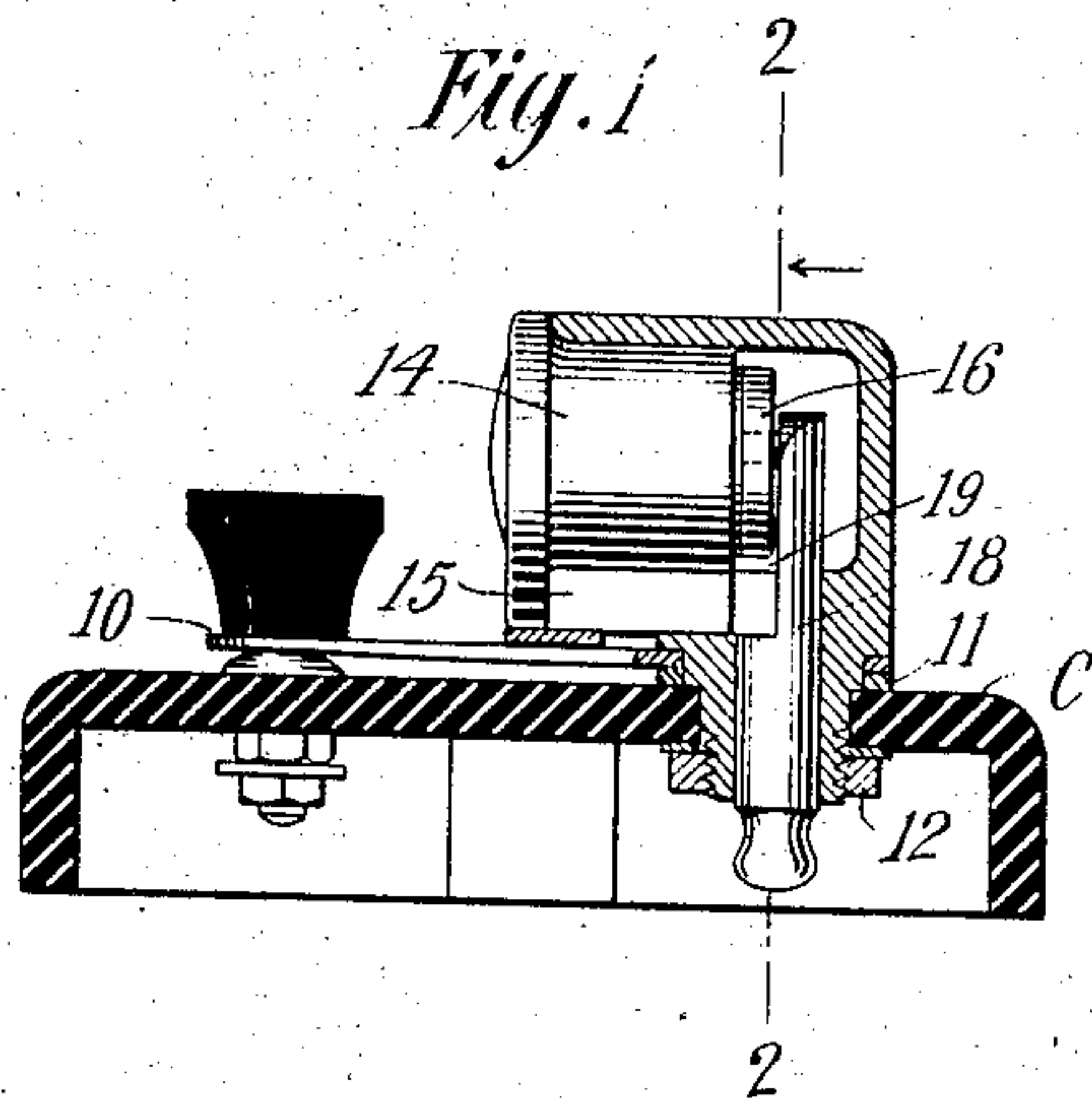


No. 897,130.

PATENTED AUG. 25, 1908.

L. OTTINGER.  
SAFETY CIRCUIT CLOSER.  
APPLICATION FILED FEB. 11, 1905.



Witnesses  
Raphaël Ketter  
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# UNITED STATES PATENT OFFICE.

LEON OTTINGER, OF NEW YORK, N. Y.

## SAFETY CIRCUIT-CLOSER.

No. 897,130.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed February 11, 1905. Serial No. 245,213.

*To all whom it may concern:*

Be it known that I, LEON OTTINGER, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, and whose post-office address is 31 Nassau street, New York, have invented a Safety Circuit-Closer, of which the following is a specification.

This invention relates to safety circuit closers and it is primarily intended for use upon motor vehicles; but it is adapted for use in other situations where a circuit closer is required that may be positively locked in operative or inoperative position.

In the great majority of motor vehicles now in use, it is customary to provide a "cut-out" plug, the removal of which will interrupt the battery circuit and render it impossible to start the vehicle until the plug is restored to its socket to complete the battery circuit. These cut-out-plugs vary somewhat in form, but, in general, they are simply pieces of iron or brass rod which are slightly tapered or otherwise modified in form at the end which is introduced into the socket. Hence, if the owner of a motor vehicle removes the cut-out plug and leaves the vehicle unwatched, it is not difficult for a passerby to introduce a nail or wire of suitable diameter into the plug socket and so complete the battery circuit, making it possible to start the vehicle. The ease with which the ordinary cut-out plug of a motor vehicle may be replaced by something else has given rise to a considerable number of thefts of such vehicles and has also led to serious accidents through the pranks of mischievous children seeking to start the vehicles.

The object of the present invention is to provide a simple, compact and thoroughly effective circuit closer which is adapted for use in lieu of the ordinary cut-out plug and by means of which the closer may be positively locked in open position and retained in that position until the lock is released by some one having the key to the lock.

The further object of the invention is to provide a circuit closer which is adapted for application to motor vehicles already provided with cut-out plugs of the ordinary construction.

In the accompanying drawings, forming part of this specification, I have illustrated one embodiment of my invention, showing it applied to a switch of a well known type and taking the place of the ordinary cut-out plug

and socket. It is to be understood, however, that various modifications in the details of construction may be resorted to without departing from the spirit of the invention or exceeding its scope, which is hereinafter defined in the appended claims.

In the drawings: Figure 1 is a view in transverse section through the circuit closer and the casing upon which it is mounted. Fig. 2 is a sectional view on the line 2—2 of Fig. 1, the parts being shown in elevation. Fig. 3 is a view in elevation taken from the left side of Fig. 1. Fig. 4 is a bottom plan view of the casing and the structures mounted thereon. Fig. 5 is a view partly in elevation and partly in section, the section being upon substantially the line 2 2 of Fig. 1, and the circuit closer being shown in open position. Figs. 6, 7, and 8 are detail views of the housing of the lock.

Referring to the drawings, in which like parts are designated by similar characters of reference, C designates the casing of vulcanite or other insulating material upon the interior of which are mounted two resilient contact members 1 and 2. These contact members are connected in the battery circuit and have their ends spaced apart as best shown in Fig. 5. The contacts 1 and 2 are secured in position by short bolts 3 and 4, having their nuts inclosed within the casing C. Between the two bolts 3 and 4 the casing is pierced by an opening through which extends the lower end of the housing 5 of the circuit closer. The housing 5 comprises a horizontally disposed barrel 6 and a vertical tubular extension 7 which is externally threaded at its lower end, as shown, and provided near the top with a shoulder 8 which contacts with the outer surface of the casing C and leaves above it a portion 9 of the tubular extension which serves as a pivot for the swinging switch arm 10, which rests upon a washer 11 that also surrounds the upper portion of the tubular extension 7. The housing 5 is secured in the opening provided therefor in the casing C by means of a nut 12 in threaded engagement with the lower portion of the tubular extension 7.

The barrel 6 of the housing is slotted along the bottom as shown at 13 and is adapted to receive a small lock 14, preferably a pin lock having a revoluble barrel. The pin casing 15 of the lock enters the slot 13 at the bottom of the barrel of the housing. At the end of the barrel of the lock is secured a plate 16



in which there is preferably formed a spiral cam slot 17, one end of which is near the periphery of the disk and the other end of which terminates near the center of the disk.

5 The tubular extension 7 of the housing for the circuit closer serves as a guide for the cut-out plug 18, the lower end of which is of such shape that it may be easily pushed between the free ends of the resilient contacts 1 and 2.

10 The upper portion of the cut-out plug 18 is cut away on one side to present a flat surface 19 which lies adjacent to the disk 16 at the end of the lock barrel. This prevents the cut-out plug 18 from turning in its guide way

15 but does not interfere with its sliding movement. Near the upper end of the plug 18 there is provided a stud or pin 20 which engages the cam slot 17 in the disk 16. The construction of the slot 17 is such that when

20 the slot is in the position shown in Fig. 2, the cut-out plug 18 is held in the lowest position that it can assume, with its free end projecting between the two contacts 1 and 2 and completing the circuit. But, when the disk

25 16 is given a half turn by inserting the key of the lock into the key-hole 21 and turning it through 180 degrees, the stud 20 will be forced to pass to the other end of the slot 17 and, as a result, the cut-out plug will be

30 raised to the position shown in Fig. 5, in which the plug is shown as entirely out of contact with the two resilient contact pieces 1 and 2. When the cut-out plug is in this position it is positively held and cannot be

35 displaced by the vibration of the vehicle upon which the device is mounted. Furthermore, the pin or stud 20 operates as a stop to limit the rotative movement of the lock barrel and so prevents the lock barrel from being

40 turned through an arc of more than 180 degrees. As is ordinarily the case with such locks, the lock 14 is so constructed that the key cannot be withdrawn except when the lock is in the position shown in Figs. 1, 2, and

45 3, thus preventing the removal of the key when the circuit is complete and insuring the locking of the cut-out plug in inoperative position whenever the key is removed from the key-hole.

50 The operation of the device is obvious from the description and the drawings. In order to close the circuit, the key is introduced into the opening 21 and given a half turn to the left. This will cause the cut-out plug to

55 move from the position shown in Fig. 5 into that shown in Figs. 1 and 2, and will bring the lock barrel into the position shown in Fig. 3. When it is desired to open the circuit in order to withdraw the key from the

60 key-hole and leave the vehicle standing, the key is given a half turn to the right and the

cut-out plug is raised, to the position shown in Fig. 5.

As will be noted, the circuit closer is very simple in construction, comprising only a 65 housing, a cut-out plug slidable within the housing, and a lock having operative connections with the cut-out plug whereby the turning of the lock in its housing imparts movement to the cut-out plug, to close or 70 interrupt the circuit, as desired.

As will be seen the lock and sliding contact member are inclosed in a housing which is adapted to any switch of the character shown in which the connection between the num- 75 bers 1 and 2 is effected by a simple plug.

With slight modifications in the details of construction the circuit closer may be applied to vehicles having different types of battery switches and cut-out plugs. 80

As will be obvious, the closing of the circuit by means of the circuit closer above described can be accomplished only by a person having the key adapted to fit the lock 14, and, hence, the theft of the motor vehicle will 85 be absolutely prevented, unless a duplicate key is obtained by the thief.

As the means by which the housing of the lock and cut-out plug is secured upon the casing is entirely concealed within the casing, 90 the removal of the circuit closer and the introduction of a piece of iron between the contacts 1 and 2 is impossible.

Having thus described my invention, what I claim as new and desire to secure by Letters 95 Patent is:

1. In a safety circuit-closer, the combination with a casing of a fixed contact piece inclosed within the casing, a lock mounted on the exterior of the casing and having a hous- 100 ing with a tubular extension into the casing, a movable contact piece adapted to reciprocate in said tubular extension of the lock housing, and connections between said lock and said movable contact piece whereby the 105 reciprocation of said movable contact piece into and out of contact with the fixed contact piece is effected by means of said lock.

2. In a safety circuit closer, the combination with a fixed contact, of a sliding contact, 110 said sliding contact having a stud projecting laterally therefrom and a lock comprising a revolving member and a disk carried by the revolving member and having a cam slot therein with which the stud of the sliding 115 contact engages.

In testimony whereof, I have subscribed my name in the presence of two witnesses.

LEON OTTINGER.

Witnesses:

BAXTER MORTON,  
H. RICHARD WÖBSE.