

J. W. TORPEY.
 SWITCH STAND AND LOCK.
 APPLICATION FILED OCT. 26, 1907.

900,131.

Patented Oct. 6, 1908.

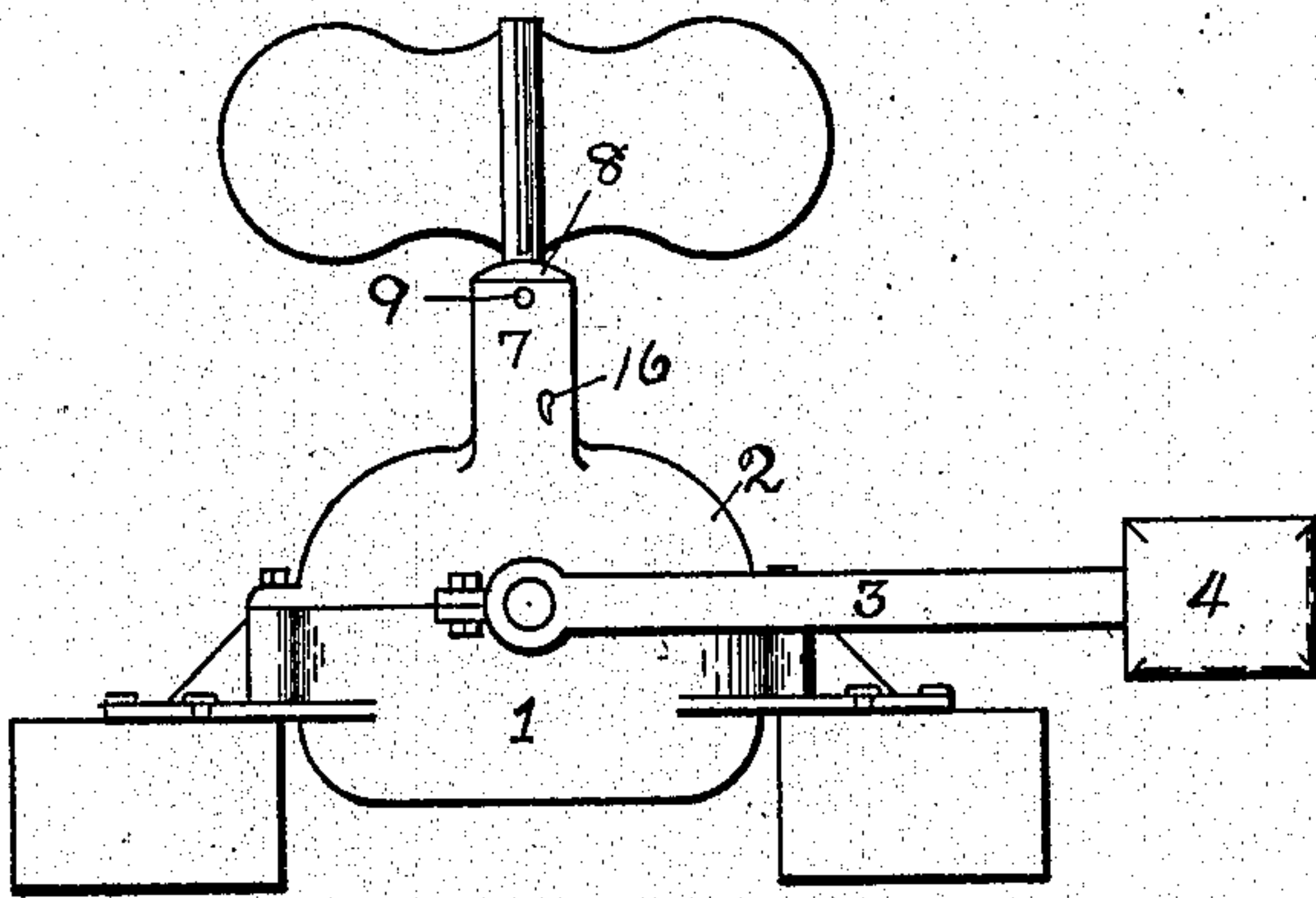


Fig-1-

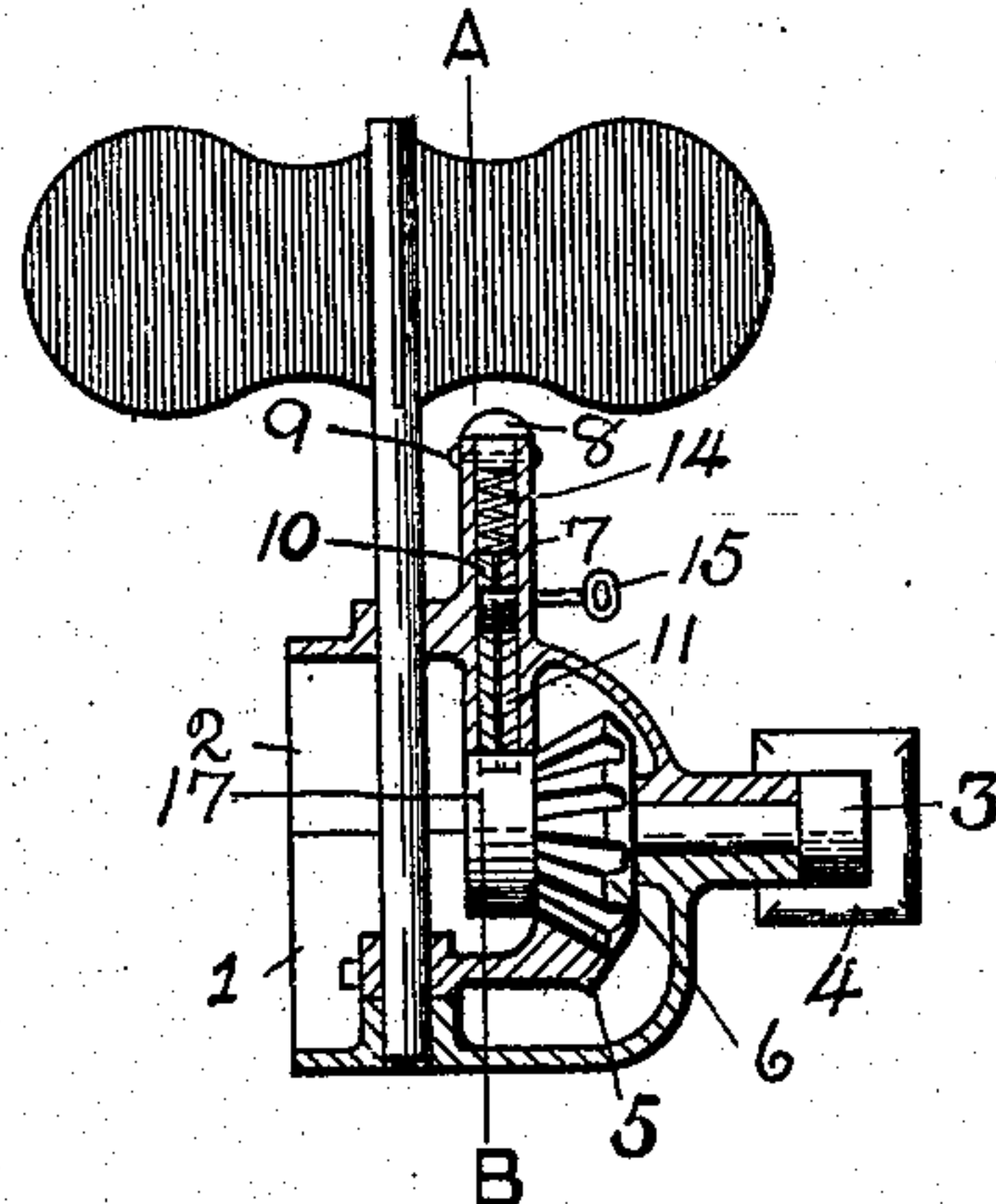


Fig-2-

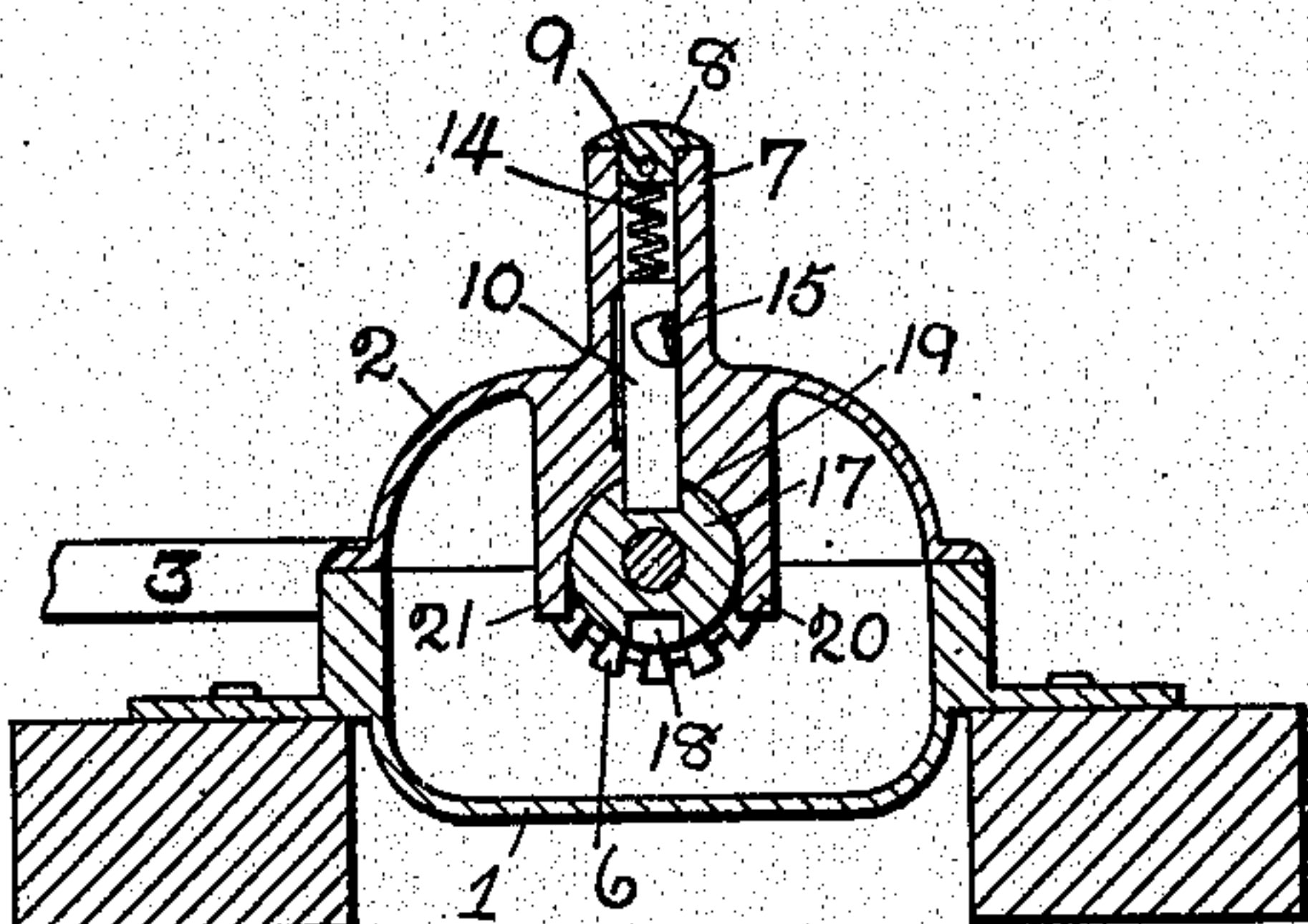


Fig-3-

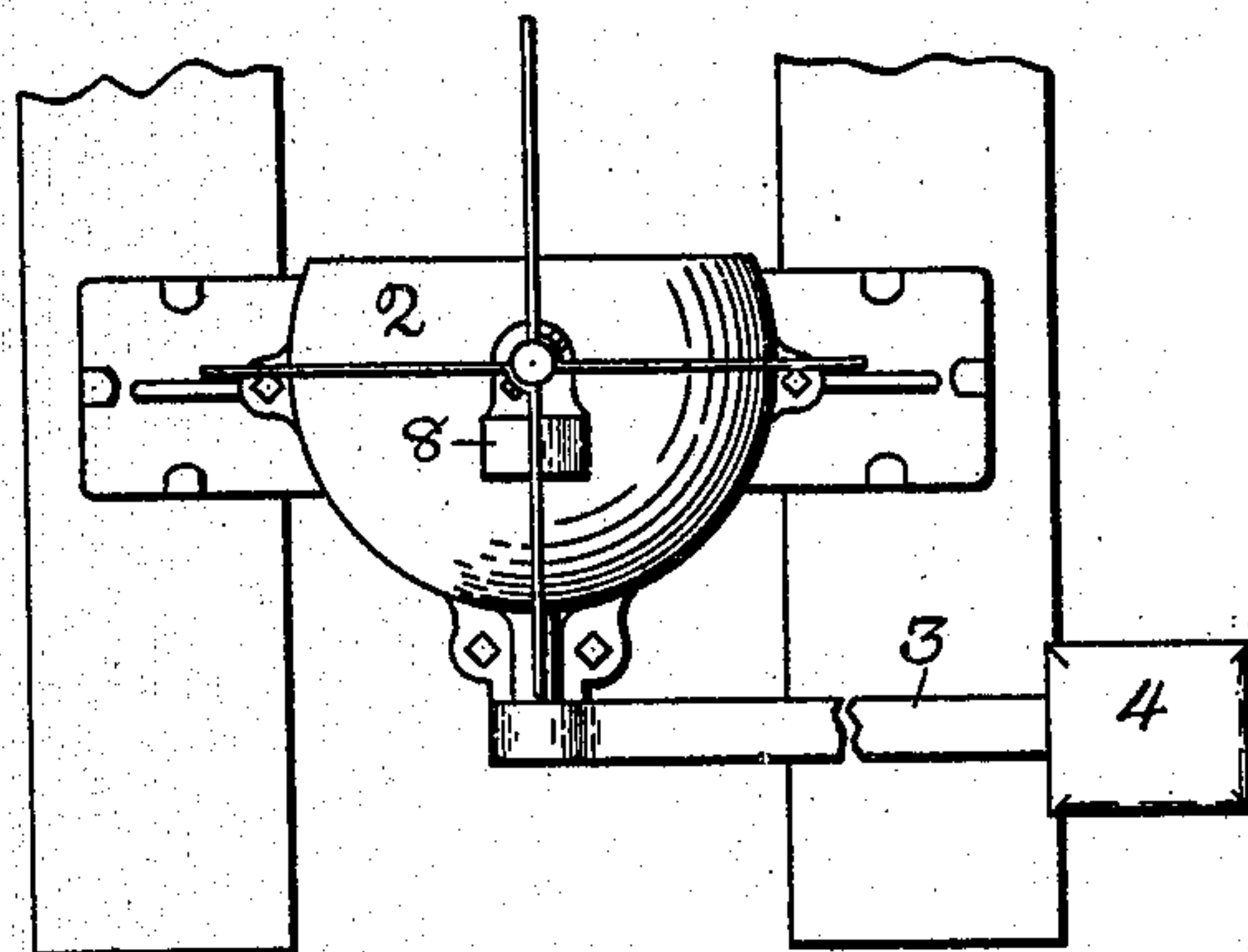


Fig-4-

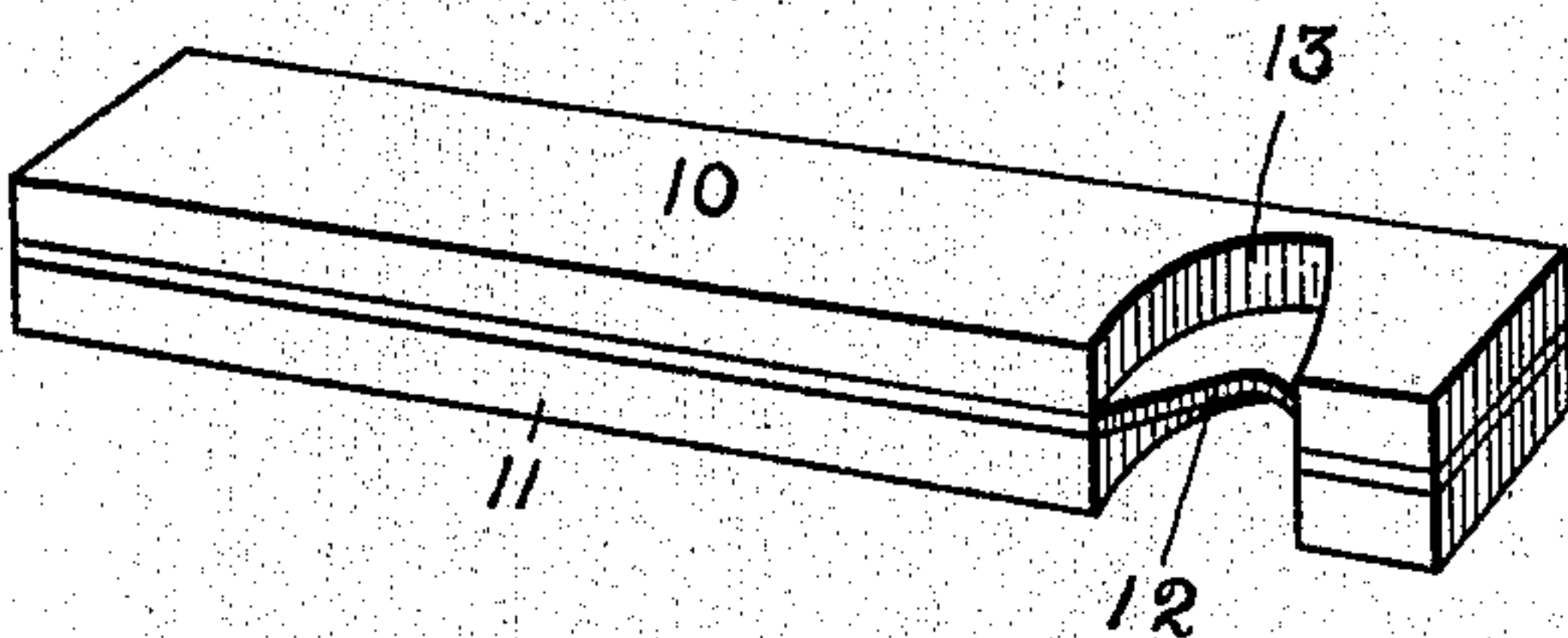


Fig-5-

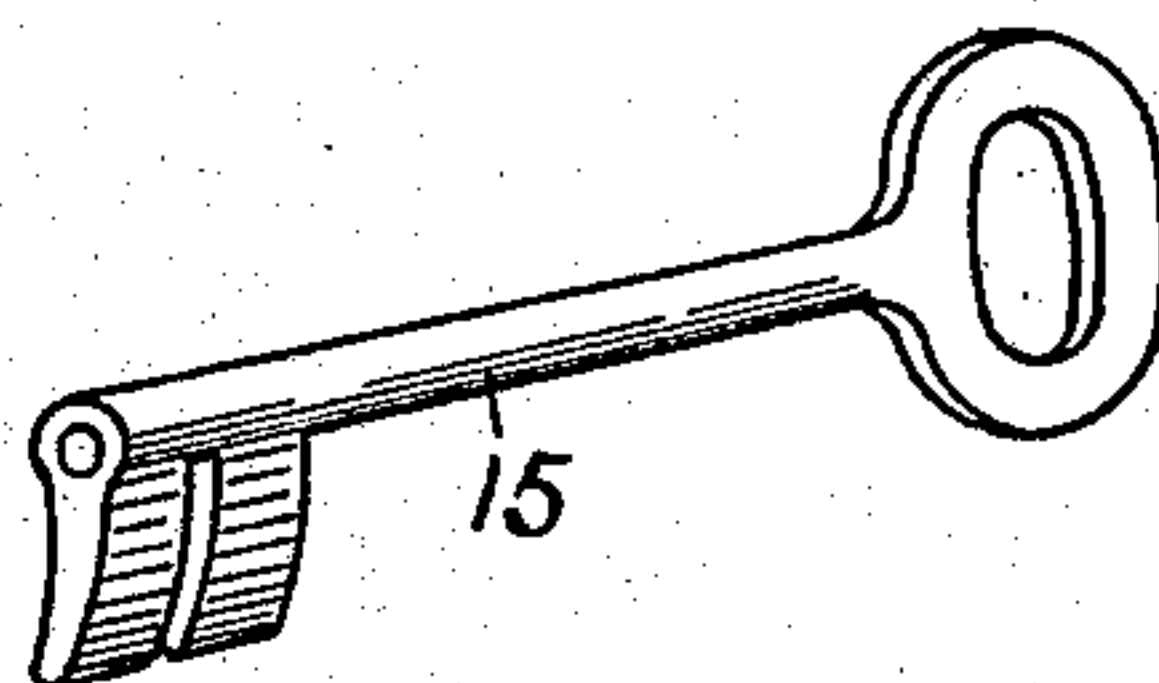


Fig-6-

WITNESSES:
 John E. Heller.
 Minnie C. Rollwage.

INVENTOR
 Joseph Walter Torpey.
 BY
 Abraham Knobel,
 ATTORNEY

UNITED STATES PATENT OFFICE.

JOSEPH WALTER TORPEY, OF LOUISVILLE, KENTUCKY.

SWITCH STAND AND LOCK.

No. 900,131.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed October 26, 1907. Serial No. 399,331.

To all whom it may concern:

Be it known that I, JOSEPH WALTER TORPEY, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Switch Stand and Lock, of which the following is a specification.

This invention relates to means for locking railroad switches; and the objects of my improvement are, to provide a railroad switch-lock which cannot be removed or detached from the body of the switch-stand, to provide a railroad switch lock from which the key cannot be removed except when the switch is fully locked, thus preventing switches from being left unlocked and liable to be shifted by persons without authority to do so, to facilitate placing the responsibility for irregularity in the position of switches, and to provide a combined switch-stand and lock which may be cheaply manufactured. These objects I accomplish by means of the mechanism shown in the accompanying drawing, in which:—

Figure 1 is a front elevation; Fig. 2, a transverse section; Fig. 3, a section on line A—B; Fig. 4, a top plan view; Fig. 5, a perspective view of the locking bolts and dividing plate; and, Fig. 6, a perspective view of the key.

Similar reference numerals refer to similar parts throughout the several views of the drawing.

The lower section 1 and the upper section 2 constitute the usual case of the switch-stand. The lever 3 and weight 4 are of the usual form and serve to throw the switch. Within the stand are the bevel gear 5 and bevel pinion 6, gear 5 being secured on the upright shaft and gear 6 secured on the shaft with lever 3. Pinion 6 is provided with a hub 17 of considerable diameter. The hub 17 is provided with notches 18 and 19 diametrically arranged and in such position that when the switch is open one of the notches is up and when it is closed the opposite notch is up. On the top of section 2 is an integral lug or pillar 7 cored vertically to receive the bolt of the lock which consists of flat pieces of steel 10 and 11 with a strip of brass 12 between them. The bolt is notched at 13 to receive the key. The bolt 10—11 is surmounted by a spring 14, and the spring by a cap 8 which covers the upper end of the opening and is riveted in by means of a transverse rivet 9. A key-hole 16 is provided in

pillar 7. The pillar 7 is preferably extended downward so as to form bearing-lugs 20 and 21 to serve as a bearing for hub 17 to take the side thrust incident to the resistance of bolt 10—11 against the sides of keepers 18 and 19, and thus prevent bending the shaft or overstraining the outer bearing of the shaft. This construction also adds steadiness and security to the switch by preventing lost motion.

It will be understood that key 15 may be inserted in key-hole 16 and turned to raise bolt 10—11, but when the key has been turned sufficiently to raise the bolt to its upper limit its bit comes in contact with the wall of pillar 7 and cannot be turned further and will therefore hold the bolt in the elevated position. The key cannot be removed while the bolt is in the elevated position, and in order to remove the key the bolt must be lowered. The bolt cannot be lowered unless either notch 18 or 19 in hub 17 is brought into register therewith, or in other words, when the switch is either entirely open or entirely closed. This prevents the switch-man from leaving the switch only partly open or partly closed without leaving his key, by which he may be identified.

Having thus described my invention so that any one skilled in the art pertaining thereto may make and use it, I claim:

1. A combined switch-stand and lock, comprising a casing, a lever for throwing the switch, a shaft, a hub provided with peripheral keeper notches on said shaft, a vertically arranged socket for a lock-bolt in said casing, and a slidably mounted lock-bolt mounted in said socket and adapted to be shot into the keepers in said hub.

2. A lock for railroad switches, comprising in combination with a switch-stand having a shaft for throwing the switch, a hub provided with suitably located keepers in its periphery, a vertical socket for the lock-bolt provided in the casing of the switch-stand adjacent said hub, a bolt mounted loosely in said socket and adapted to be shot into one of said keepers in said hub, and a bearing for said hub in said casing.

3. A lock for railroad switches, comprising a socket for a bolt in the casing of the switch-stand, a bolt mounted in said socket, said bolt consisting of a plurality of bars with a plate between, said bars being adapted to receive the bit of a key, a key having a ward to straddle said plate, a key-hole in the

switch-stand, the parts of the lock being so arranged that when the bolt is released from a keeper the bit of the key impinges on the wall of the socket, so that it cannot be turned
5 in either direction and cannot be removed till said bolt again fully engages a keeper in said hub.

4. In a lock for railroad switches, a stationary pillar 7 forming the casing for a bolt,
10 a composite bolt 10—11—12 loosely mounted in said pillar 7, said pillar 7 provided with a key-hole 16, a keeper-member 17 provided with keepers 18 and 19, a key 15, said bolts
15 all so arranged and coöperating that when

said bolt is released from its keepers by means of the key, the bit of the key impinges against the inner wall of said pillar 7 when turned forward and stops and when turned backward impinges against the wall of the notch 20 in said bolt, so that it cannot be brought into register with said key-hole and therefore cannot be removed from the lock till said bolt is brought into full engagement with said keepers.

JOSEPH WALTER TORPEY.

Witnesses:

D. B. MEDANICH,
MINNIE C. ROLLWAGE.