

H. FISHER.
ELECTRIC SWITCH.

APPLICATION FILED AUG. 9, 1909. RENEWED DEC. 30, 1910.

995,528.

Patented June 20, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

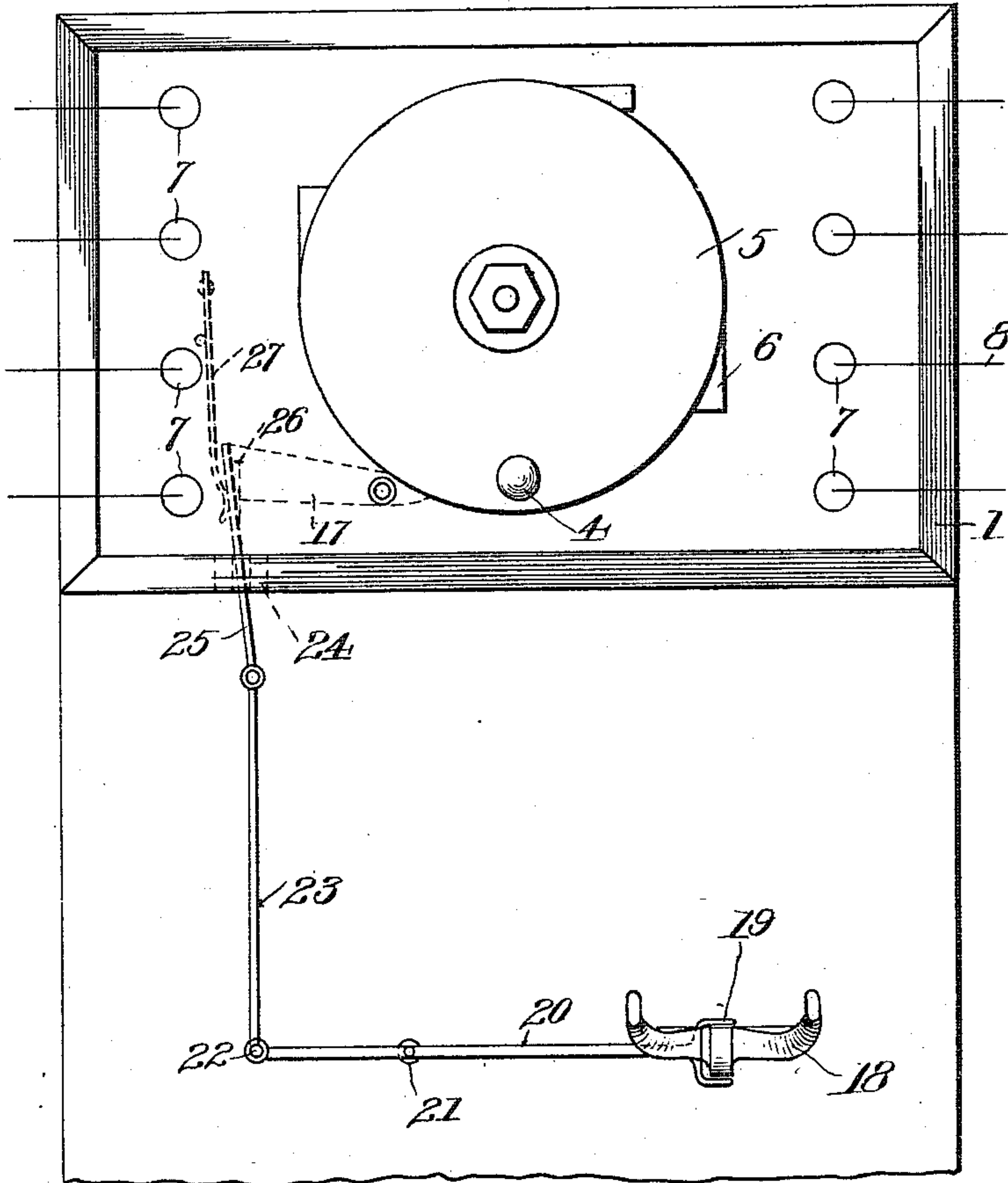
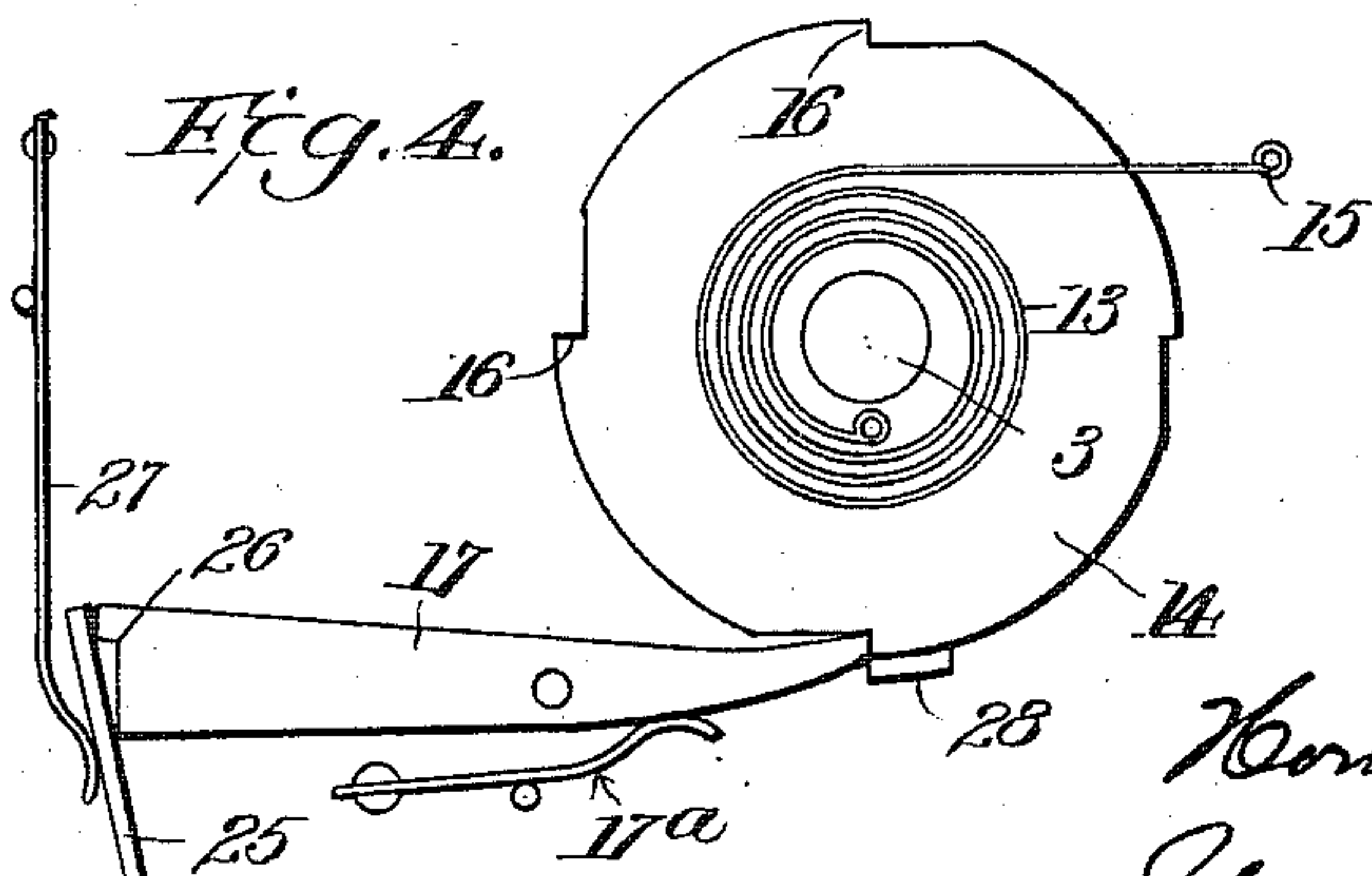


Fig. 4.



Witnesses

C. M. Walker.
E. S. Dalton.

Inventor

Howard Fisher

By

[Signature]

Attorney

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2 SHEETS-SHEET 2.

Fig. 5.

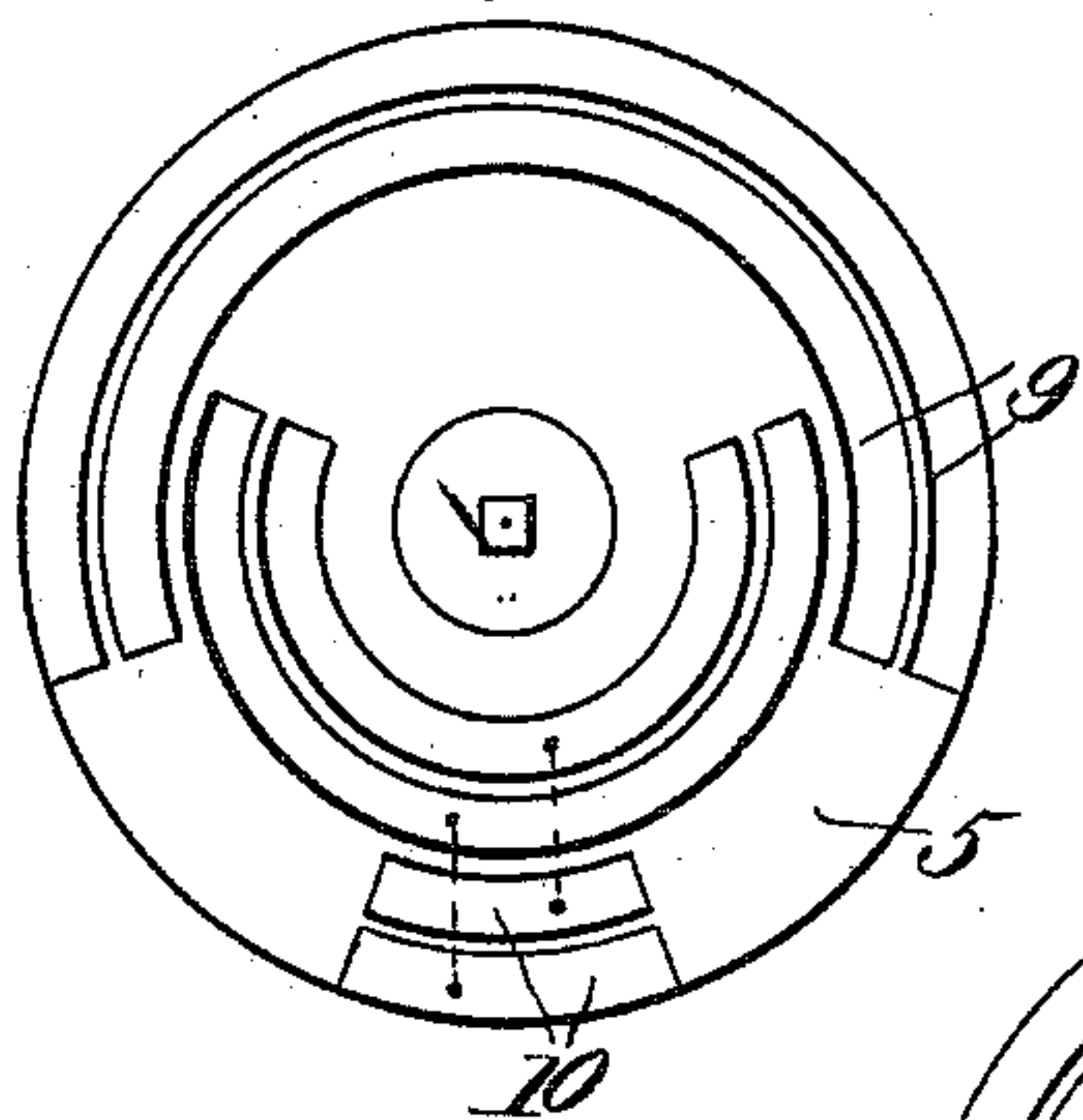


Fig. 6.

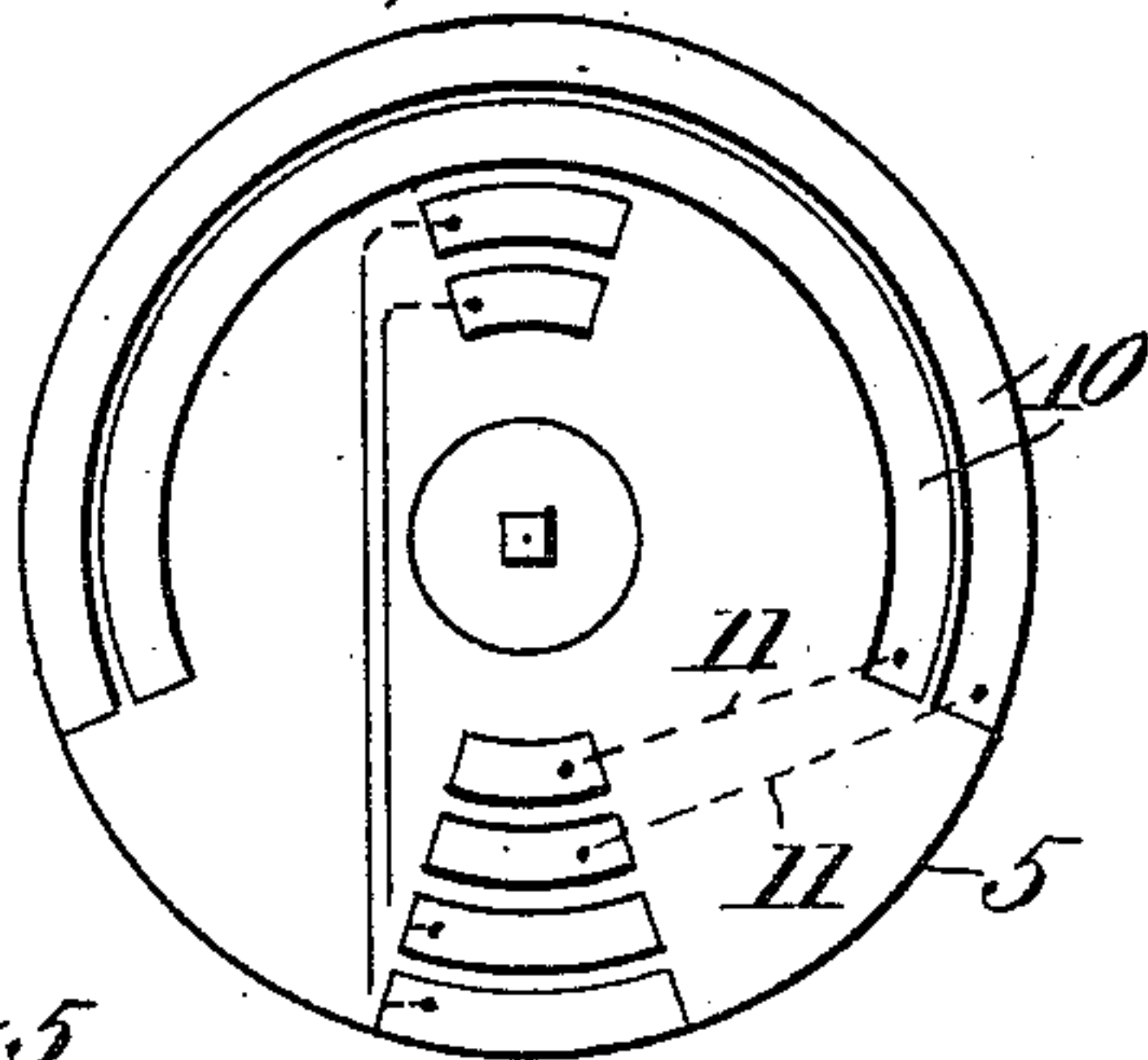


Fig. 7.

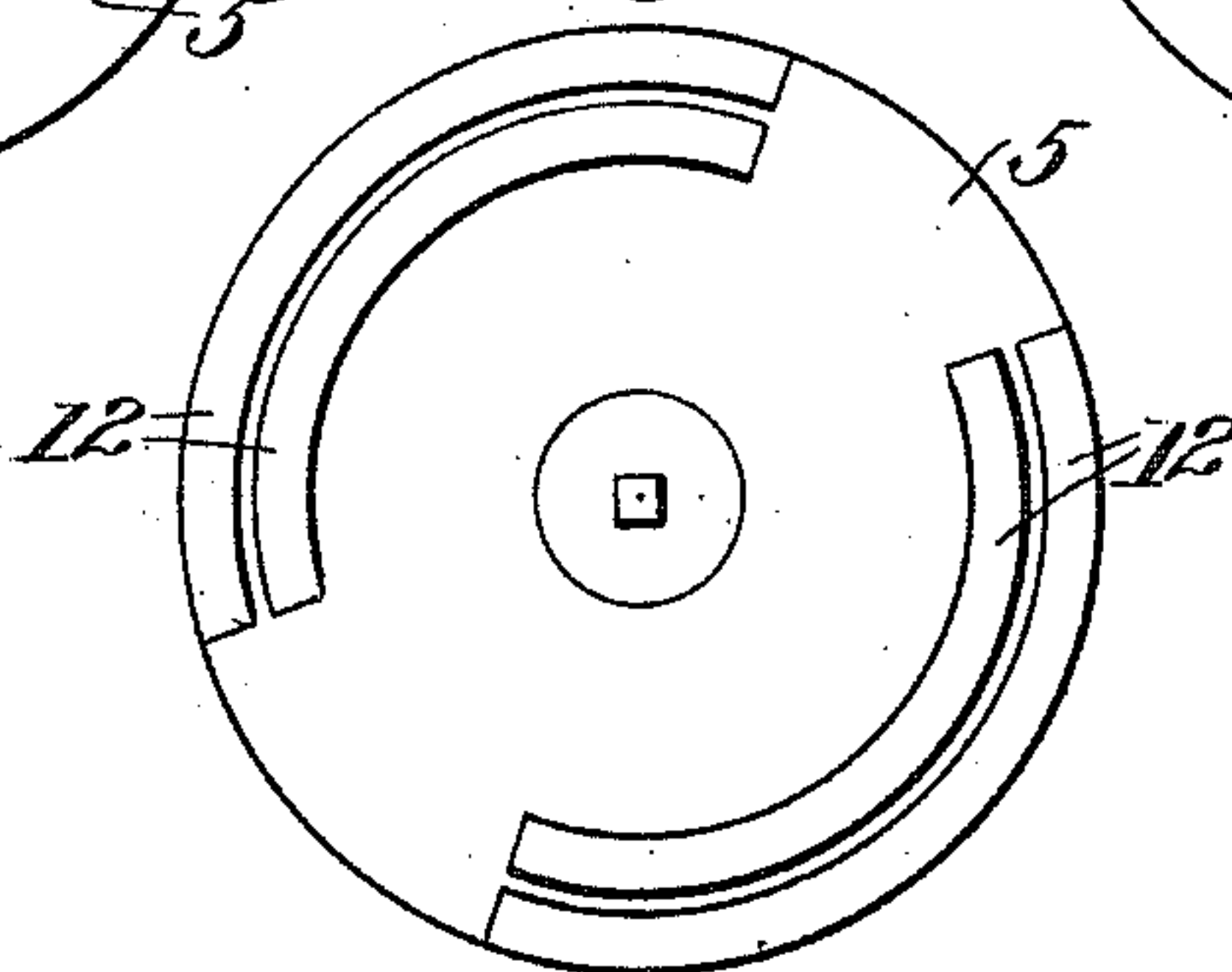


Fig. 3.

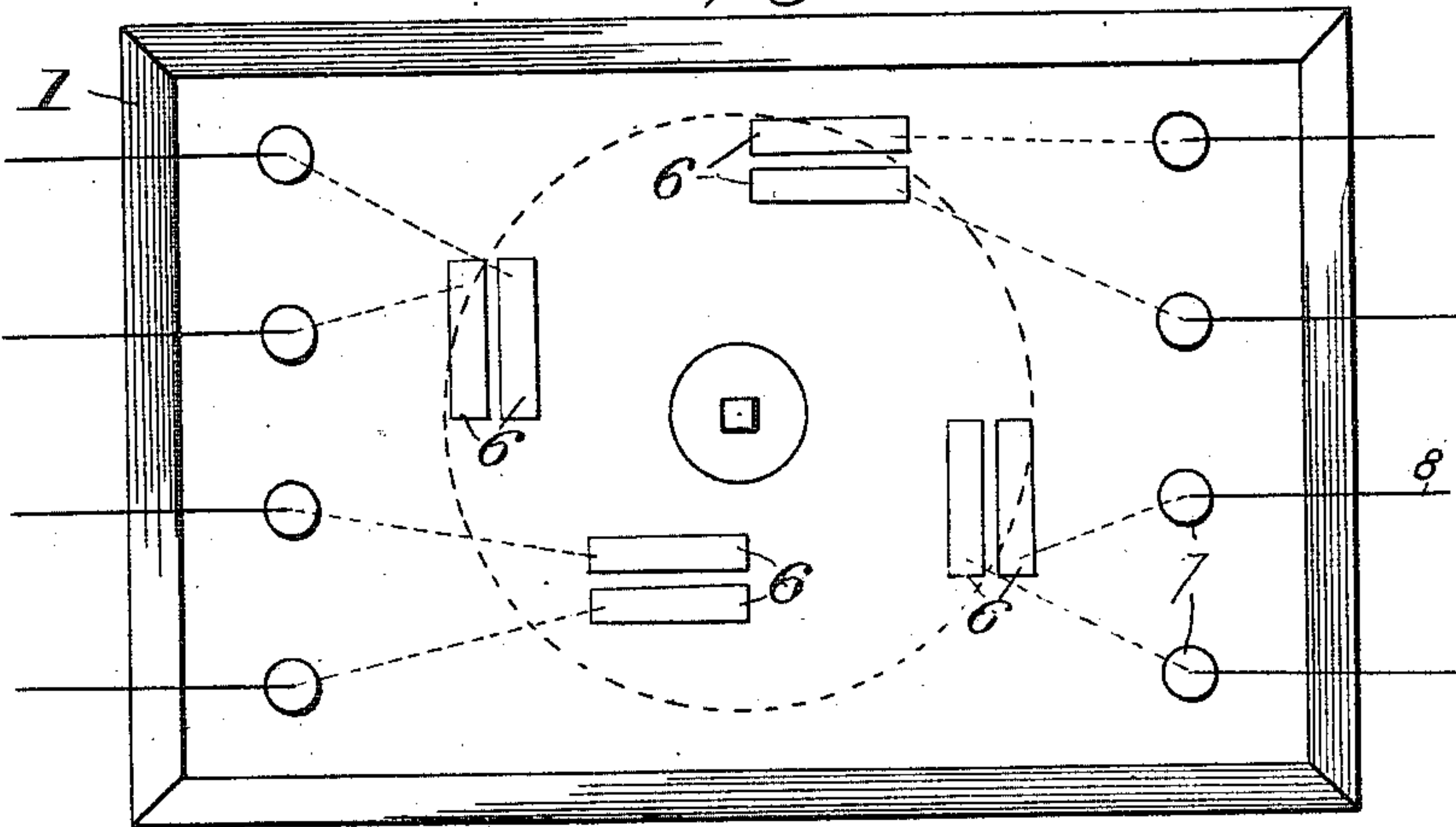
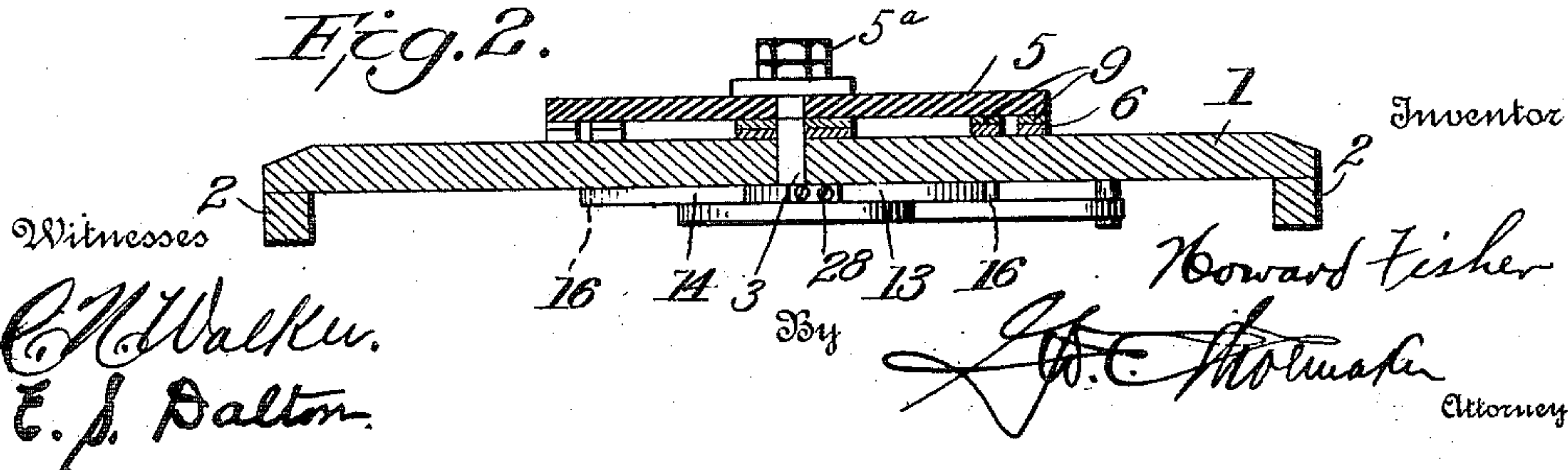


Fig. 2.



UNITED STATES PATENT OFFICE.

HOWARD FISHER, OF PACKERTON, INDIANA.

ELECTRIC SWITCH.

995,528.

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To all whom it may concern:

Be it known that I, HOWARD FISHER, a citizen of the United States, residing at Packerton, in the county of Kosciusko and State of Indiana, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

The present invention relates to switches for connecting one or more telephone instruments together to an extension bell, or for cutting in and out different sections of a party line.

The primary object is to provide a simple, but at the same time thoroughly effective and practical switch mechanism, which may be readily installed, and which can be associated with the ordinary telephone instrument.

The preferred form of construction is illustrated in the accompanying drawings, wherein:—

Figure 1 is a front elevation of the switch, showing the same connected to the receiver supporting hook of a telephone instrument. Fig. 2 is a sectional view thereof. Fig. 3 is a detail view of the base, showing the contact springs and line connection. Fig. 4 is a detail view illustrating the switch locking and releasing means. Figs. 5, 6 and 7 are views illustrating different arrangements of contact plates.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment disclosed, a base 1 is employed, which is adapted to be secured to a wall or other support, and has feet 2 that space the base from such support. Journalled centrally in this base, is a shaft 3. A rotary switch member, in the form of a disk 5 is secured by jamb nuts 5^a to the shaft so as to rotate therewith, and is arranged over the outer face of the base. The switch member can be turned by a suitable knob 4 secured thereto. Pairs of contact springs 6 are secured to the base, and are connected with suitable binding posts 7 to which the line wires 8 may be connected. The springs have outstanding free ends, which are arranged to engage contact strips secured to the rear face of the rotary member or disk 5. These contact strips may be arranged in various ways. Thus in Fig. 5, they are designated 9, and certain of them are connected, as indicated in dotted lines at 10. This particular arrangement may be used for in-

stance, where the switch is to be employed in making connections between an instrument for example in a residence that is connected to a party line, with a line to be used privately to an office. With this arrangement, the residence can be connected privately to the main line or office, and also to an extension bell.

In Fig. 6, the contact strips are designated 10, and certain of them are electrically connected, as shown at 11. This arrangement is particularly useful where it is desired to communicate with three other instruments on separate lines, either privately or having all connected together.

In Fig. 7, the rotary member has oppositely disposed sets of contact strips 12. The arrangement is useful where there are two separate and distinct lines terminating at a single phone and extension bell. It will be obvious that when the instrument is connected with one line, the bell is connected to the other and the two lines are never connected together.

It will be obvious from the above description, that by turning the head 4, the disk 5 will be rotated and the contact strips thereof carried into engagement with the different springs 6. Means are provided for automatically returning the rotary switch member. This means is in the form of a coiled spring 13, one end of which is secured to a ratchet wheel 14, the other end being fastened to the rear side of the base, as shown at 15. The ratchet wheel is located on the rear side of the base, and is fixed to the shaft 3. It is provided with four teeth or shoulders 16, with which cooperate a pivoted dog 17 that will consequently maintain the switch in different positions and normally prevent its return by the spring 13. The dog is held in engagement with the ratchet wheel by a spring 17^a. Means are, however, provided for automatically actuating the dog to release the switch. In the embodiment disclosed, the movable supporting hook 18 of an ordinary telephone instrument is disclosed, and this hook is embraced by the yoke 19 of the lever 20 that is fulcrumed between its ends as shown at 21. The lever has a suitable connection 22 with a vertically reciprocating plunger 23, pivoted to the upper end of which is a latch 25, operating in a guide 24, the upper end of which is slidable alongside the outer end of the dog 17 and is arranged to engage beneath a shoulder 26 formed on said end. A spring 27

bears against the latch 25 to urge it beneath the shoulder.

The normal position of the parts is illustrated in Figs. 1 and 2, the dog being disposed behind one of the shoulders of the ratchet wheel 14, which shoulder is enlarged by means of a projection 28 formed upon the wheel, which projection can be associated with any shoulder desired so as to change the normal position of the switch. When it is desired to set the switch, the same is turned by the head or handle 14 against the action of the spring 13, and the dog which holds it in the position set, as will be obvious. If now the receiver is removed from the hook 18, said hook will rise, and consequently the latch 25 will be depressed, so that its upper end will engage underneath the shoulder 26. When conversation is over, the user of the instrument replaces the receiver upon the hook, which depresses said hook, thereby elevating the plunger 23 and the latch carried by it. This will move the outer end of the dog 17 upward, and consequently disengage the inner end from the shoulder that abuts against it, permitting the spring 13 to react and return the spring to its normal position. At the same time, the upper end of the latch 25 will disengage from the shoulder 26, leaving the dog 17 free to return to its operative position. The switch can of course be set with the receiver either off or on the hook, and can be employed on either grounded, metallic or mixed circuits, one of which is grounded and the other metallic.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

The knob 4 is so placed that when the switch is in normal position it will be at the bottom of the switch, as shown in Fig. 1, so that by its position the connection which the switch is making can be understood. This is essential when the switch is used without the self-restoring attachment.

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

1. In a switch of the character described, the combination with a base, of a rotary switch member located thereon, a dog for holding the switch member in different positions, a telephone instrument having a mov-

able receiver supporting hook, a lever engaged with the hook, and a plunger having a spring controlled latch that engages the dog to actuate the same and release the switch.

2. In a switch of the character described, the combination with a base, of a rotary switch member located thereon, a ratchet wheel located on the base and rotatable with said switch member, a dog for engaging with the ratchet wheel to hold the switch member in different positions, a telephone instrument having a movable receiver supporting hook, a lever engaged with the hook, and a plunger having a latch that engages the dog to actuate the same and release the switch.

3. In a switch of the character described, the combination with a base, of a rotary switch member located thereon, a ratchet wheel located on the base and rotatable with said switch member, a dog for engaging with the ratchet wheel to hold the switch member in different positions, a telephone instrument having a movable receiver supporting hook, a lever engaged with the hook, and a plunger having a latch that engages the dog to actuate the same and release the switch, one of the teeth of the ratchet wheel having an enlargement.

4. In a switch of the character described, the combination with a base, of a shaft journaled thereon, a rotary switch member carried by the shaft, means whereby the switch member may be rotated in one direction, a spring for returning the shaft after its rotation, a ratchet wheel carried by the shaft, a dog for holding the switch member in different positions, the dog having a shoulder, a telephone instrument having a movable receiver supporting hook, a lever engaged with the hook, and a plunger having a latch that engages the shoulder of the dog to actuate the latter and release the switch when the movable receiver supporting hook moves downwardly.

5. In a switch of the character described, the combination with a base, of a rotary switch member located thereon, a dog for holding the switch member in different positions, a telephone instrument having a movable receiver supporting hook, a lever engaged with the hook, and a plunger having a latch that engages the dog to actuate the same and release the switch.

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

HOWARD FISHER.

Witnesses:

L. F. COLEMAN,
ERNEST A. MATTHEWS.