

No. 890,695.

PATENTED JUNE 16, 1908.

J. L. McQUARRIE.
COMBINED SIGNAL AND SPRING JACK.
APPLICATION FILED MAY 5, 1906.

Fig. 4.

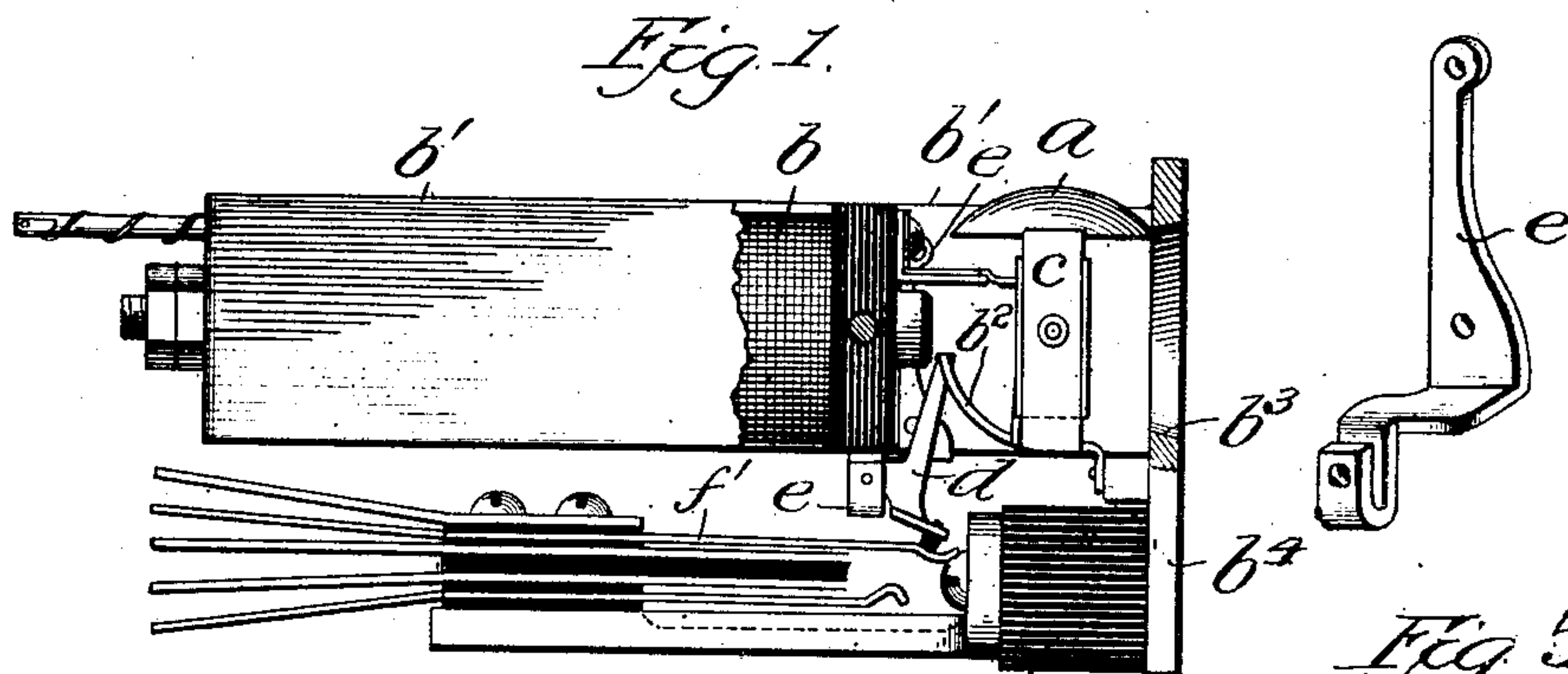


Fig. 5.

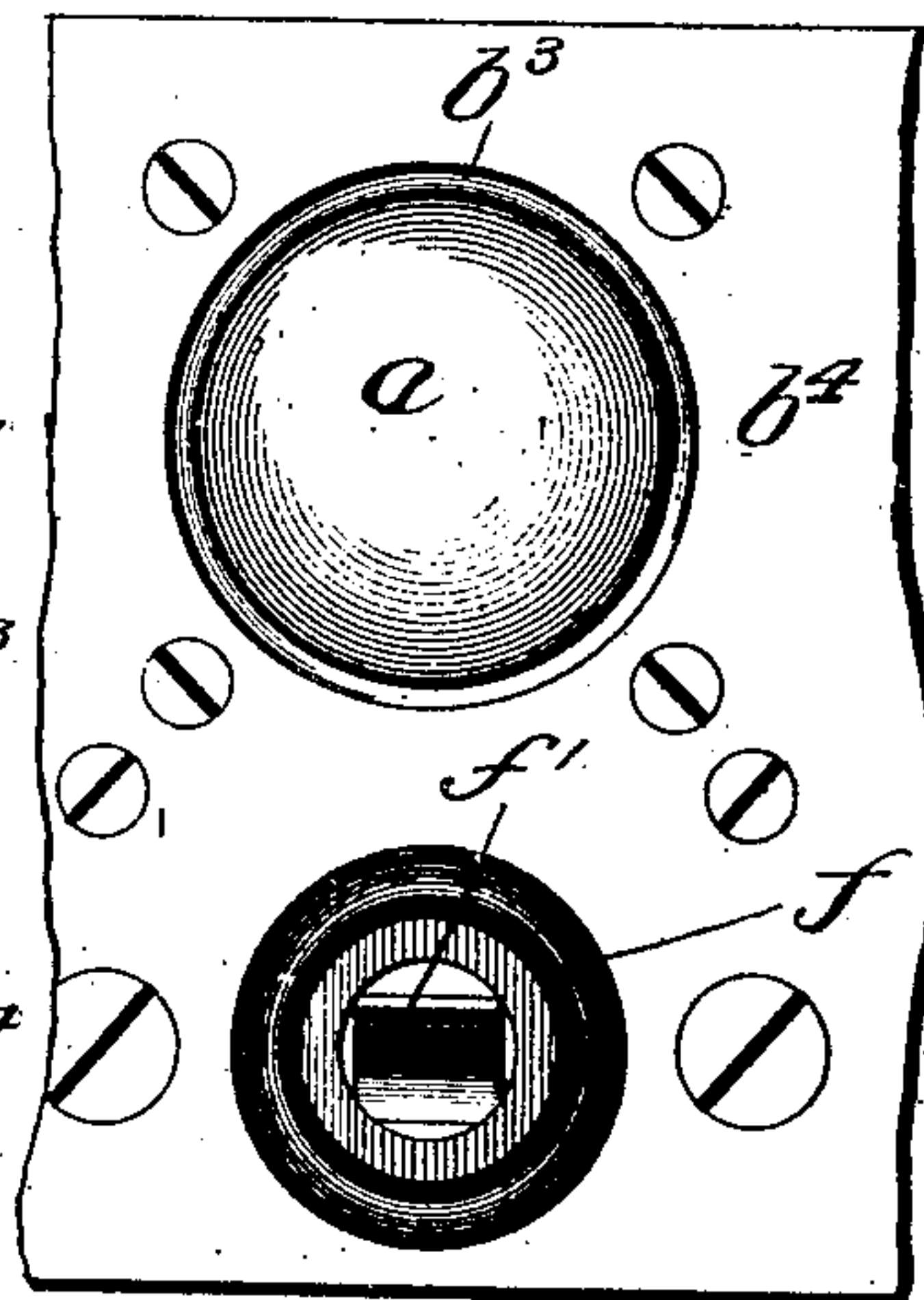
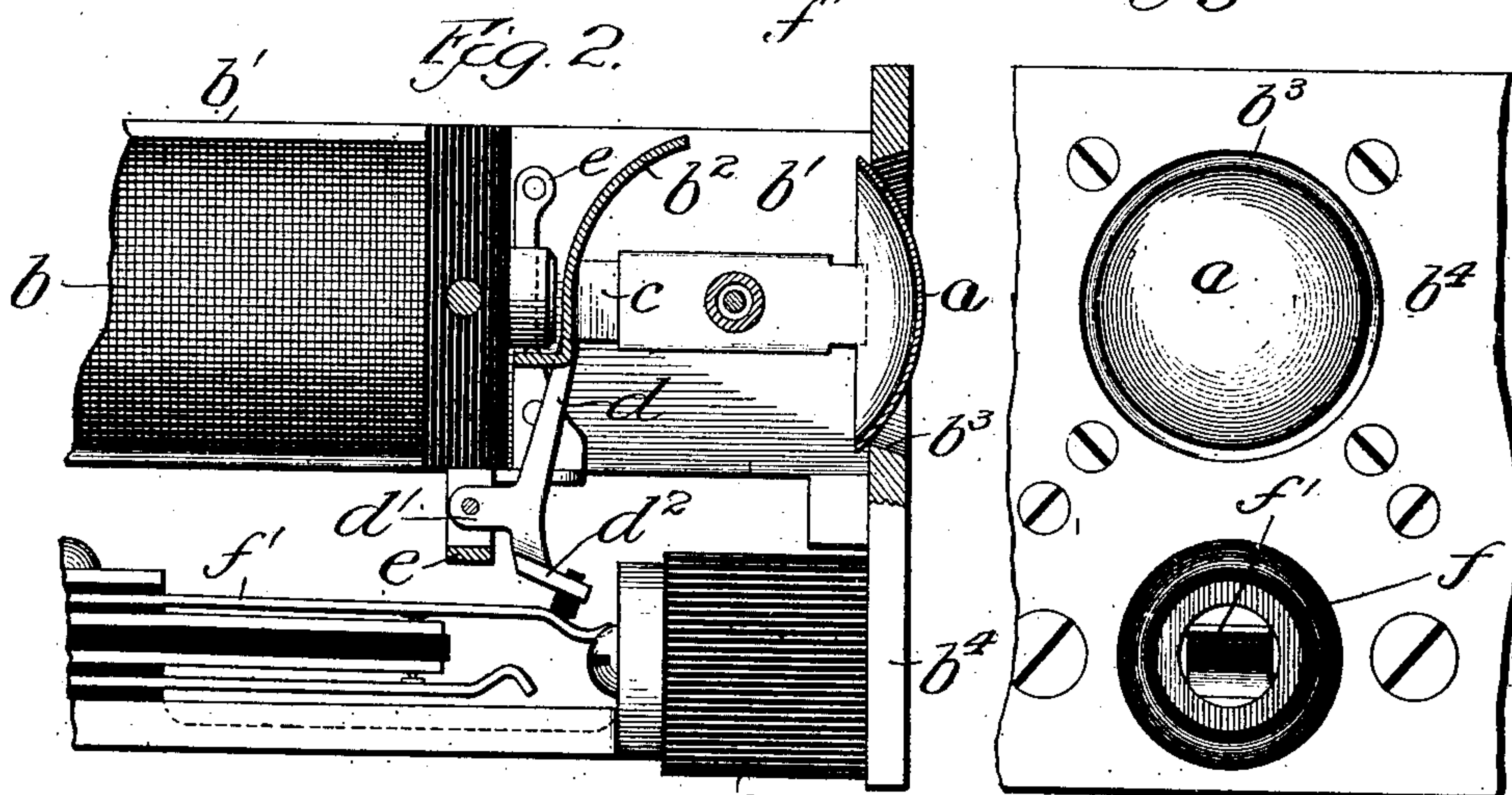


Fig. 3.

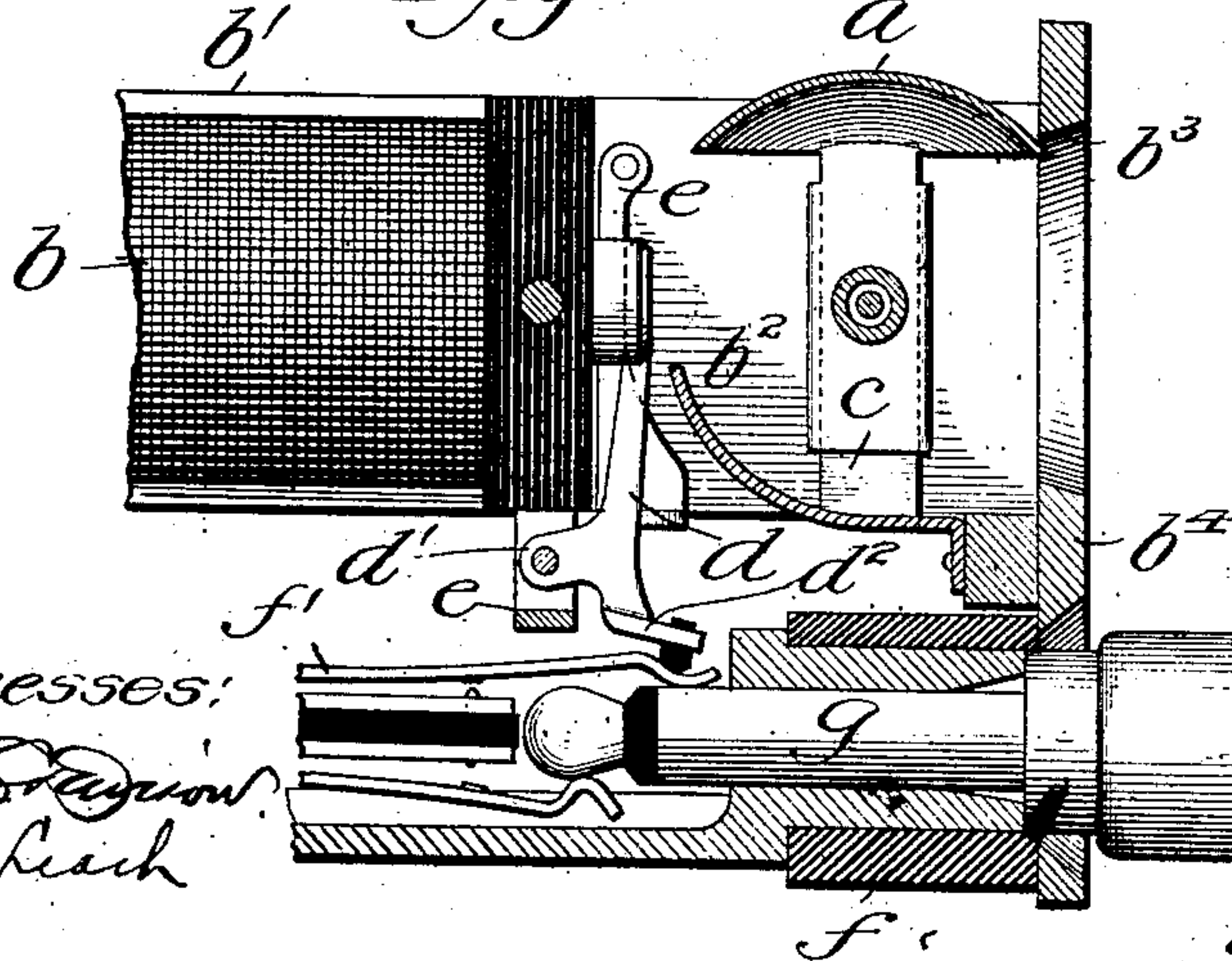
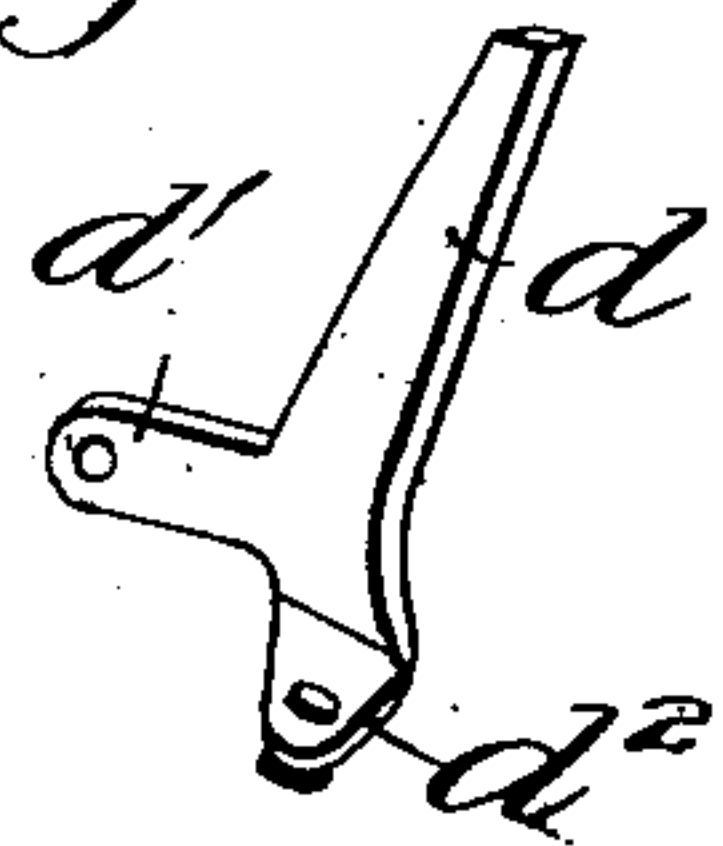


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES L. McQUARRIE, OF OAK PARK, ILLINOIS, ASSIGNOR TO WESTERN ELECTRIC COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

COMBINED SIGNAL AND SPRING-JACK.

No. 890,695.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed May 5, 1906. Serial No. 315,295.

To all whom it may concern:

Be it known that I, JAMES L. McQUARRIE, citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in a Combined Signal and Spring-Jack, of which the following is a full, clear, concise, and exact description.

My invention relates to the provision of an annunciator drop with improved, simple and efficient mechanism, operated in the closure of a connection switch, adapted to effect the restoration of the signal of the annunciator from its displayed position to its normal or concealed position.

In an embodiment of my invention, I provide a signal adapted to be operated or displayed by an electromagnet, against a restoring force, such as gravity, a catch being arranged to maintain the signal in its position of display. A springjack is associated with the annunciator, and provided with a line spring adapted when flexed by the insertion of a plug, to operate said catch and release the signal, allowing it to return to its normal or concealed position.

I will describe my invention by reference to the accompanying drawing, which illustrates the preferred embodiment thereof, reserving for the appended claims a statement of the parts, improvements and combinations which I consider novel with me.

Figure 1 is a side elevation, with one side of the framework broken away, of a combined annunciator and springjack equipped in accordance with my invention, showing the signal or target concealed; Fig. 2 is a partial sectional view of the same, showing the signal displayed and locked in such position by the catch; Fig. 3 is a similar view, but with the plug inserted to cause the line spring of the jack to operate the catch and release the signal; Fig. 4 is a detail perspective view of the mounting for the lever or catch for locking the signal in its displayed position; Fig. 5 is a front view of the annunciator and jack; and Fig. 6 is a detail perspective view of the catch lever.

Similar letters of reference are used to designate like parts throughout the several views.

The signal or target *a* is arranged to be operated by an electromagnet *b* and moved into a position of display against a restoring force

such as gravity. The signal may be carried at the upper end of a rocking arm *c*, centrally pivoted in the arms of the U-shaped return pole piece *b'* of the magnet *b*, said arm carrying at its lower end a curved eccentric armature *b²* in position to be attracted by the magnet pole to rock the arm against the restoring force of gravity and move the target into a position of display before the window *b³* in the face plate *b⁴* secured to the arms of the return pole piece.

A catch is arranged to maintain the signal in its position of display, said catch preferably comprising a lever *d* having an angular arm *d'* pivoted in a mounting *e* secured to one of the arms of the U-shaped pole piece. The lever is arranged to normally lie in the path of the curved armature *b²*, and is adapted to be forced back by said armature in its attractive movement, and to move by its own weight when the armature passes, to bring its free end under said armature and lock the same in its attracted position with the signal displayed.

A springjack *f* is secured to the face plate *b⁴* beneath the annunciator, and is provided with a line spring *f'* adapted when flexed by a plug *g* inserted in the jack, as shown in Fig. 3, to operate an angular foot *d²* secured to the lever *d*, and move the lever *d* to release the armature, allowing said armature and signal to return by gravity to their normal positions, concealing the signal. Said plug and springjack constitute a connection switch for uniting an operator's plug circuit with a telephone line.

I claim:—

1. The combination with an electromagnet, of a rocking arm pivoted intermediate its ends, a curved armature carried by one end of said arm in position to be attracted by said magnet to rock the arm, a signal carried by the opposite end of said arm and displayed when the arm is rocked, a catch for holding said armature in its attracted position, a springjack, and a plug adapted when inserted in said springjack to release said catch.

2. The combination with an electromagnet, of a centrally pivoted rocking arm, a curved armature carried by one end of said arm in position to be attracted by said magnet to rock the arm, a signal carried by the opposite end of said arm and displayed when

the arm is rocked, a catch adapted to hold
the armature in its attracted position to
maintain the signal displayed, a springjack,
and a plug adapted when inserted in said
5 jack to flex one of the springs of said jack
to operate said catch and release the arma-
ture and signal.

In witness whereof, I hereunto subscribe
my name this 3rd day of May A. D., 1906.

JAMES L. McQUARRIE.

Witnesses:

JOHN G. ROBERTS,
RAY. T. ALLOWAY.