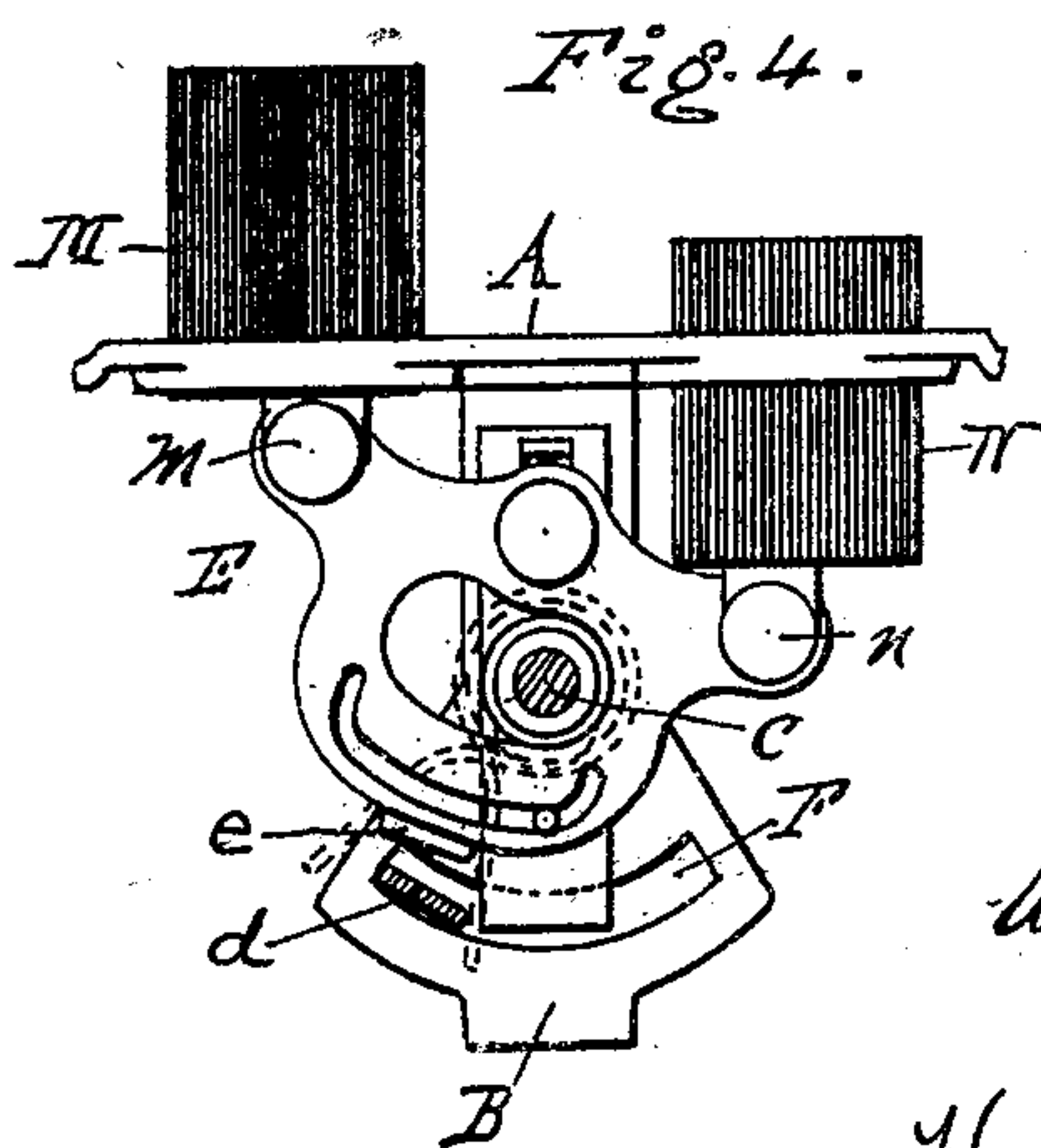
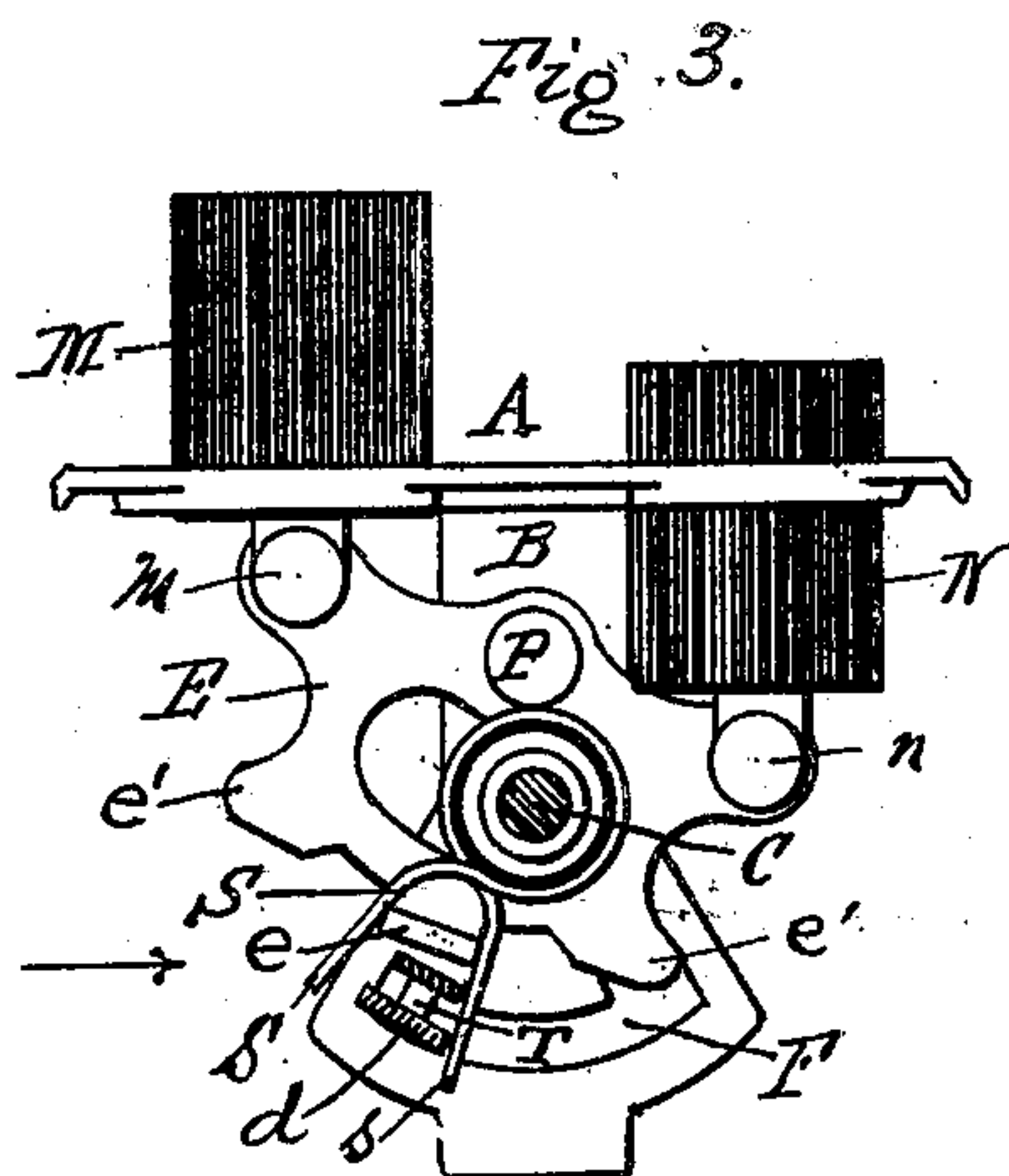
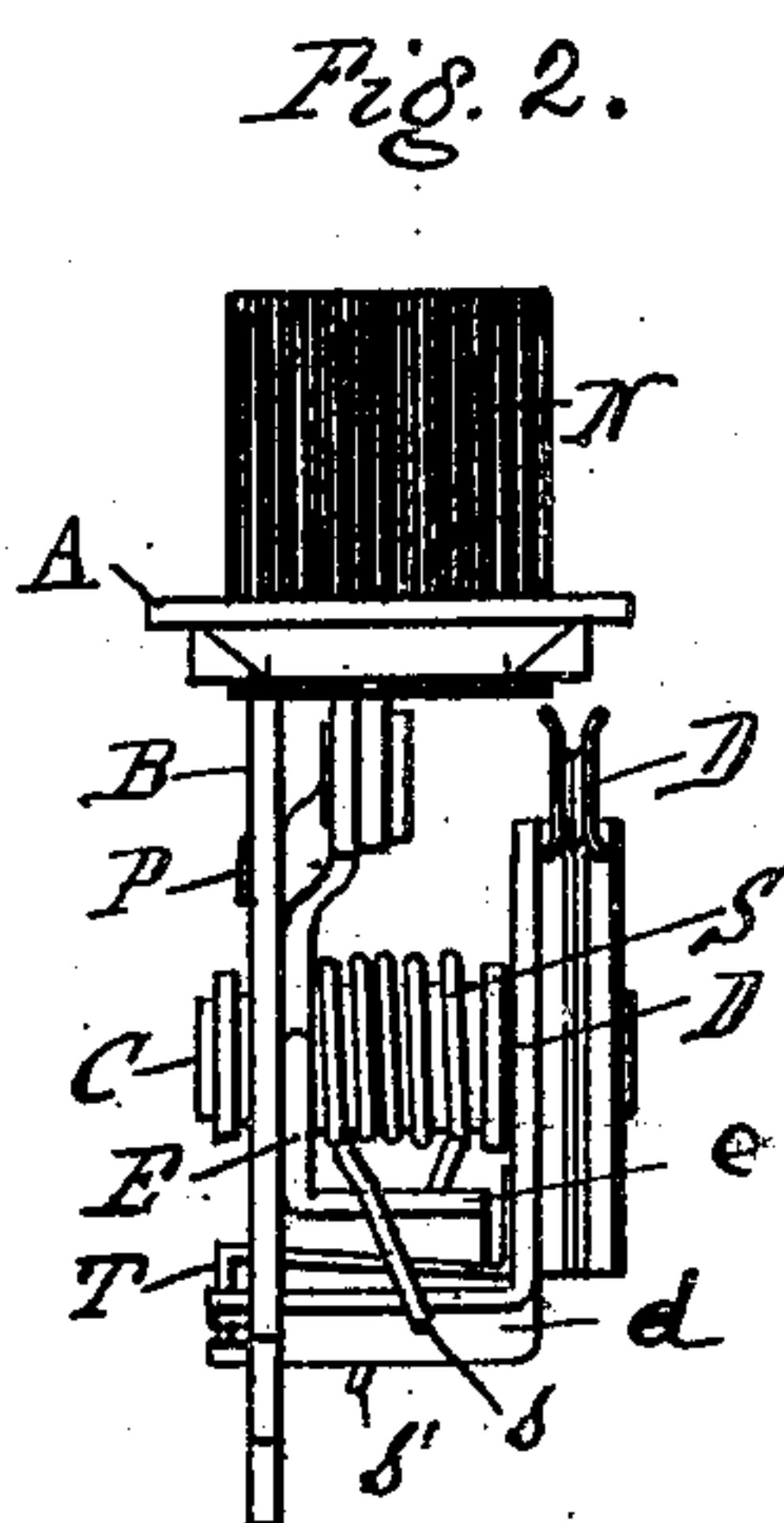
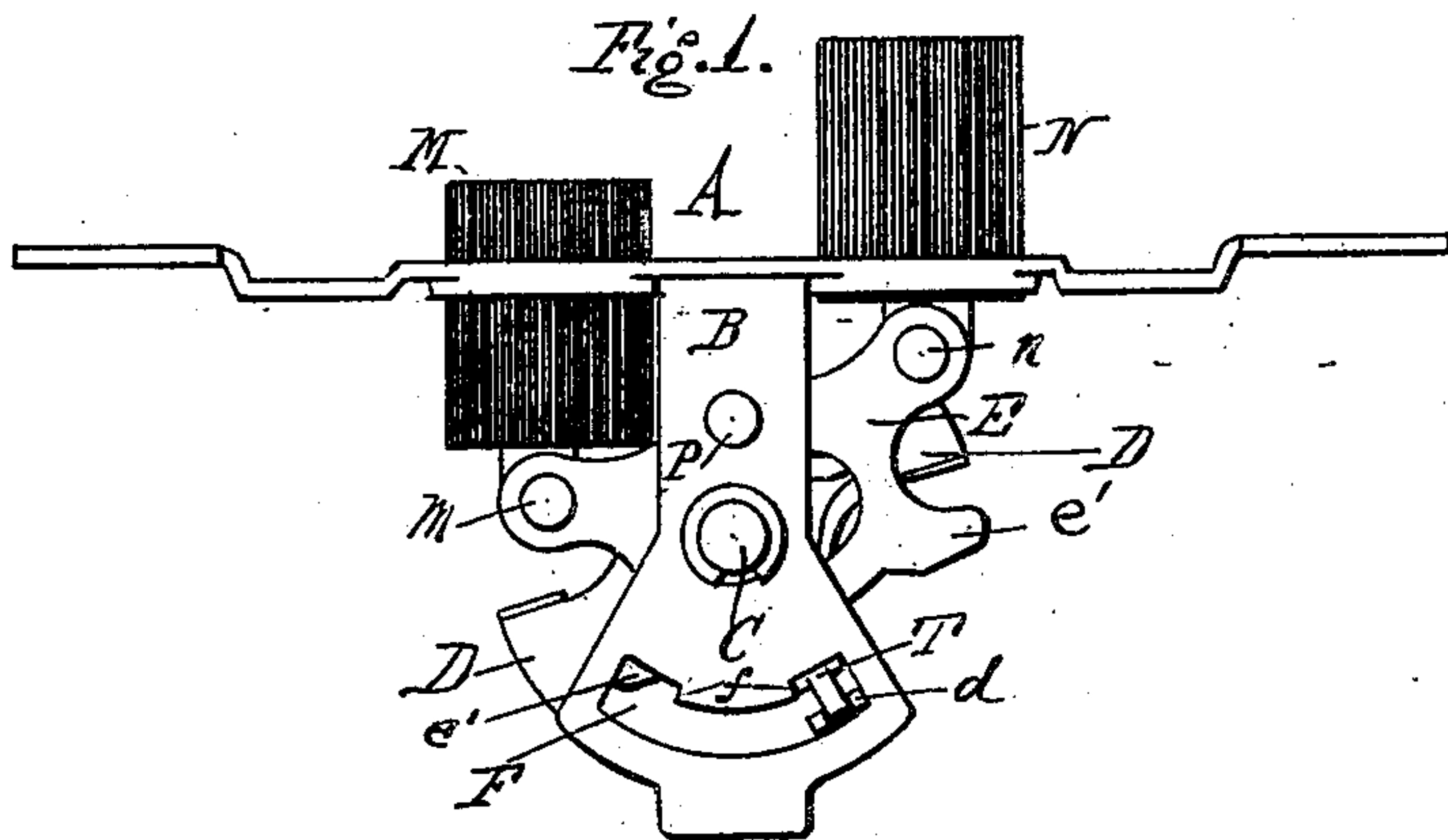


W. VAN P. STEIGER.
ELECTRIC SWITCH.
APPLICATION FILED NOV. 12, 1908.

922,443.

Patented May 18, 1909.



WITNESSES

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UNITED STATES PATENT OFFICE.

WALTER VAN PATTEN STEIGER, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE PERKINS ELECTRIC SWITCH MFG. COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

ELECTRIC SWITCH.

No. 922,443.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed November 12, 1908. Serial No. 462,280.

To all whom it may concern:

Be it known that I, WALTER VAN PATTEN STEIGER, a citizen of the United States of America, and residing in the city of Bridgeport, in the county of Fairfield, in the State of Connecticut, have invented a certain new and Improved Electric Switch, of which the following is a specification.

My invention relates to electric switches and particularly to push button switches, the object of my invention being to provide an improved escapement device whereby the stroke of the push buttons is shortened.

In the accompanying drawings, Figure 1 is a rear elevation of the operating mechanism of a push button switch illustrating my invention; Fig. 2 is a side elevation of the same; Fig. 3 is a front elevation of the rock lever mounted on the switch standard, the spindle carrying the contact piece being in section; and Fig. 4 is a broken elevation of a modification.

The present invention will be readily understood by those skilled in the art without showing the usual porcelain case and its common accessories and I have accordingly illustrated merely the yoke or cross bar A carrying the standard B on which the switch mechanism is mounted. The spindle C carries the oscillating contact member D adapted to make and break contact with the terminals (not shown) carried by the porcelain case. The coil spring S is also mounted on this spindle and its depending ends s , s^1 embrace the lugs d and e carried by the contact member D and the rock lever E respectively. The lug d works in the slot F in the standard and the extent of oscillation is thereby limited. A spring detent T carried by the lug d engages in notches f at each end of the slot F and serves to hold the lug d during the downward travel of the out push button until disengaged by one of the cam shoulders e^1 on the rock lever, thus insuring a snap break and make for the switch.

To actuate the rock lever E with a shorter stroke of the push button than is customary I now propose to pivot the same eccentric to the spindle C, for instance above at P, as illustrated. This enables me to make the distance from P to the points of attachment m and n for the push buttons M and N considerably less than the distance from P to

the spring tensioning lug e , and to the actuating cam-shoulders e^1 . Pressure sufficient to move the points m and n through a comparatively small arc will therefore move the points e and e^1 through arcs which, while subtending the same angle, have a considerably greater length. Thus the stroke of the push button may be made materially shorter than it must be where the rock lever is pivoted on the spindle S. The action of the present rock lever is practically that of bell crank lever having a short shank to which power is applied and a long shank carrying the actuating members at its extremity. The advantages of this arrangement are apparent since the push buttons may be made materially shorter and a considerable saving of material is effected. Furthermore the buttons project a less distance from the face of the switch and the latter thus presents an improved appearance.

It will of course be understood that the arrangement shown is merely illustrative and I do not limit myself to the precise forms or details shown in Figs. 1 to 3. Thus for example a sliding detent actuated by a pin on the rock lever E is shown in Fig. 4. The device may be adapted to various forms of switches without departing from my invention.

I claim as my invention—

1. In a switch of the character described, a pivoted contact member, a spring to actuate the same, and a detent adapted to oppose the movement of said contact member, in combination with a rock lever provided with means to tension said spring and means to free said detent, said rock lever being pivoted eccentric to said contact member and provided with actuating means adjacent the pivoting point of said rocking lever to obtain a bell crank lever action of the character described.

2. In a switch of the character described, a spindle carrying the contact member, a rock lever pivoted on one side of the said spindle and provided with a spring actuating lug and a detent-freeing cam arranged to operate on the other side of said spindle, together with actuating means secured to said rock lever at a point adjacent its pivoting point, whereby a comparatively short stroke of the actuating means secures a compara-

tively long stroke of said spring-actuating lug and detent-freeing cam, substantially as described.

3. A switch having a pivoted contact
5 member, a rock lever pivoted eccentric to the latter and spring means for operating the former upon the actuation of the latter, in combination with a detent adapted to op-
10 pose said contact member and means in connection with said rock lever having its actuating parts arranged at a greater distance

from its pivoting point than that of the points at which the actuating force is applied to said lever, substantially as described.

In testimony whereof I have signed my 15
name to this specification, in the presence of two subscribing witnesses.

WALTER VAN PATTEN STEIGER.

Witnesses:

G. W. GOODRIDGE,

H. W. GOLDSBOROUGH.