

(No Model.)

E. THOMSON.
ELECTRIC SWITCH.

No. 428,704.

Patented May 27, 1890.

Fig. 1.

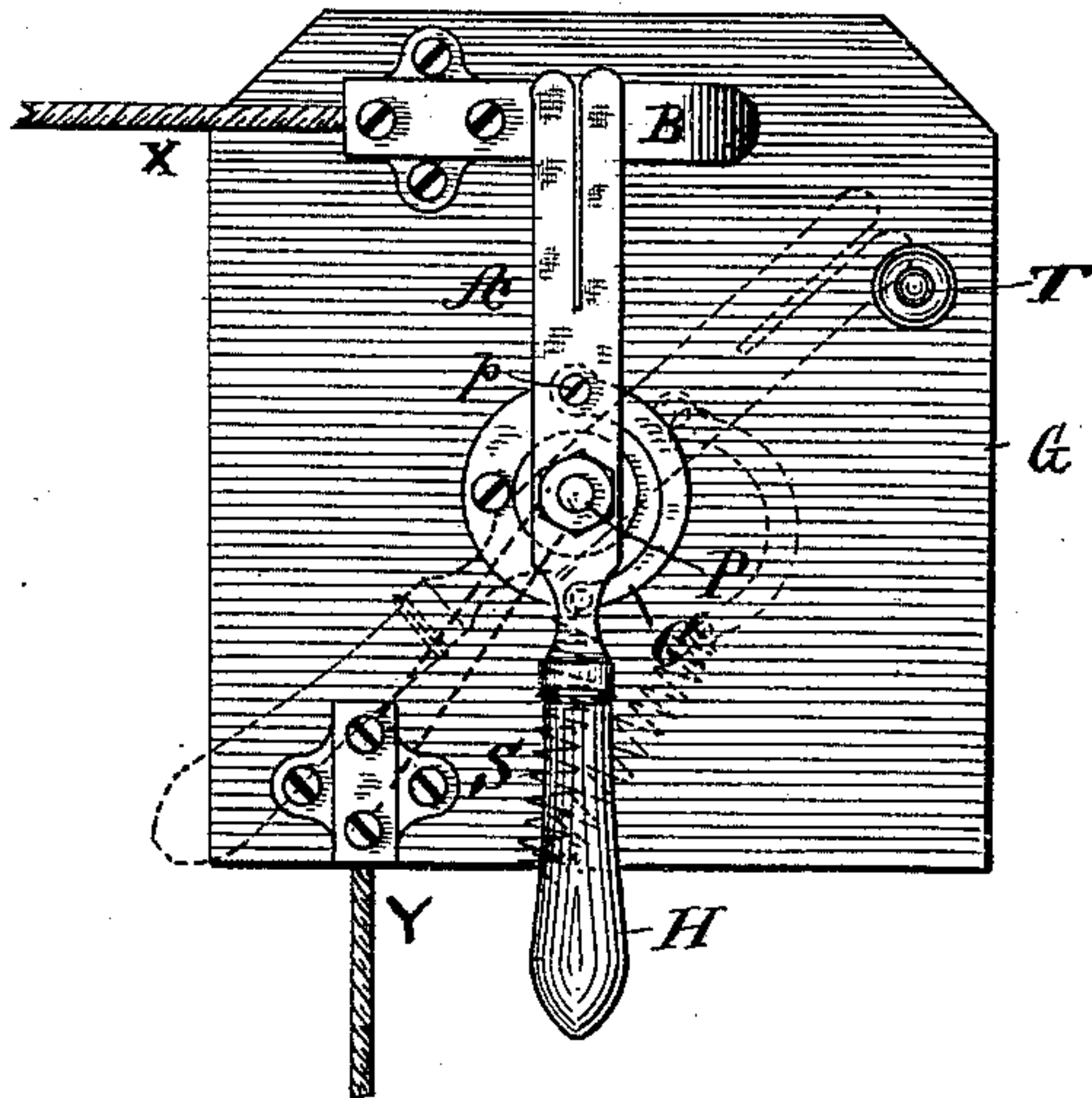


Fig. 2.

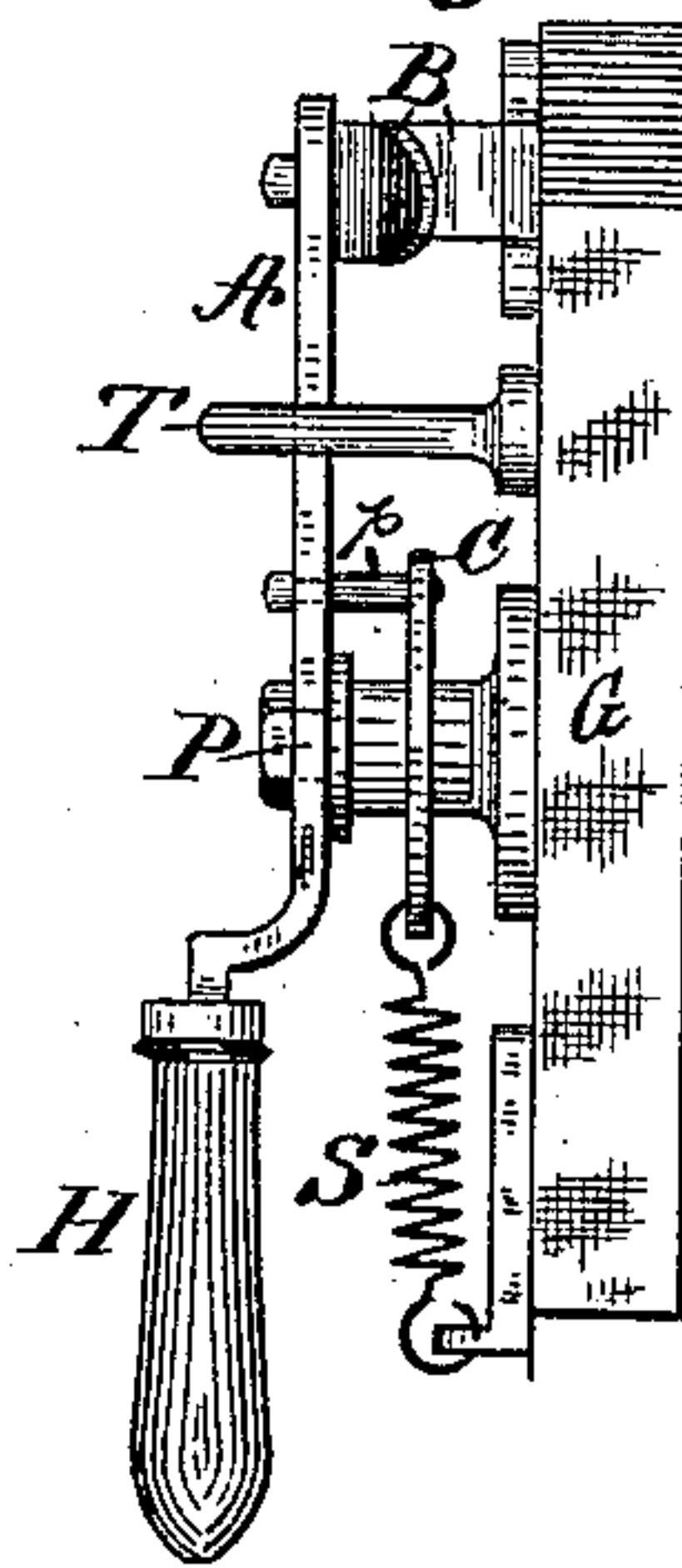


Fig. 3.

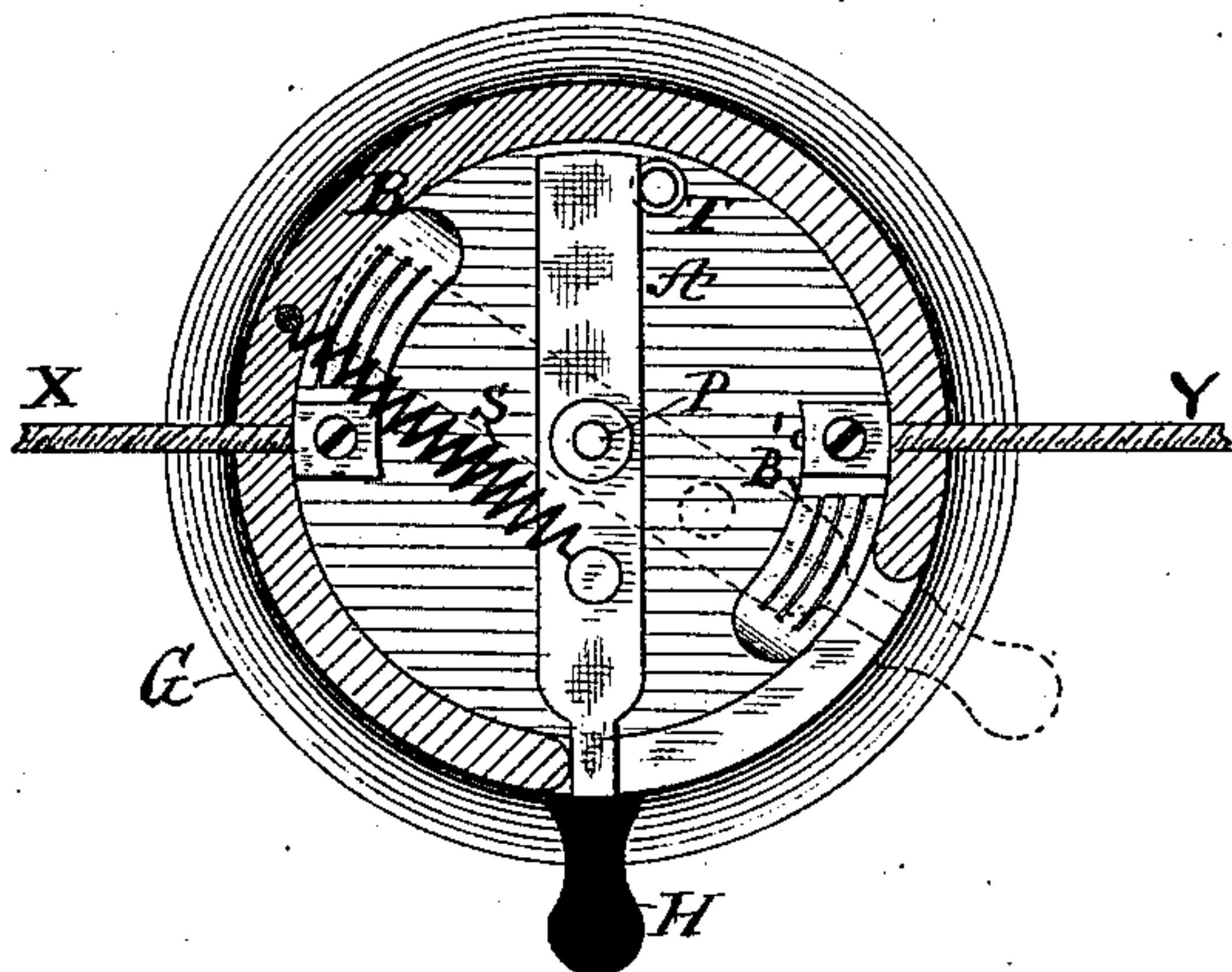


Fig. 4.

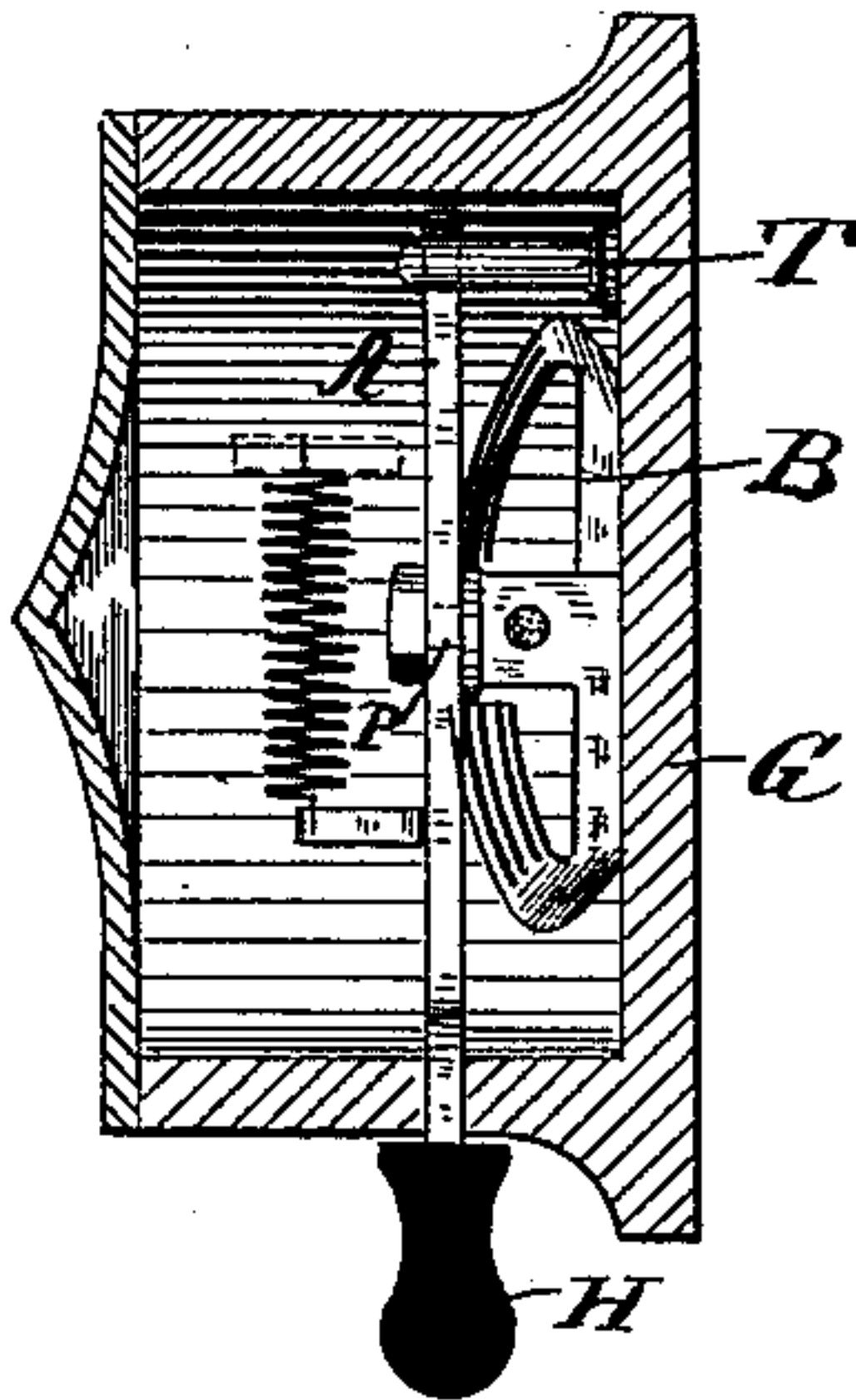


Fig. 5.

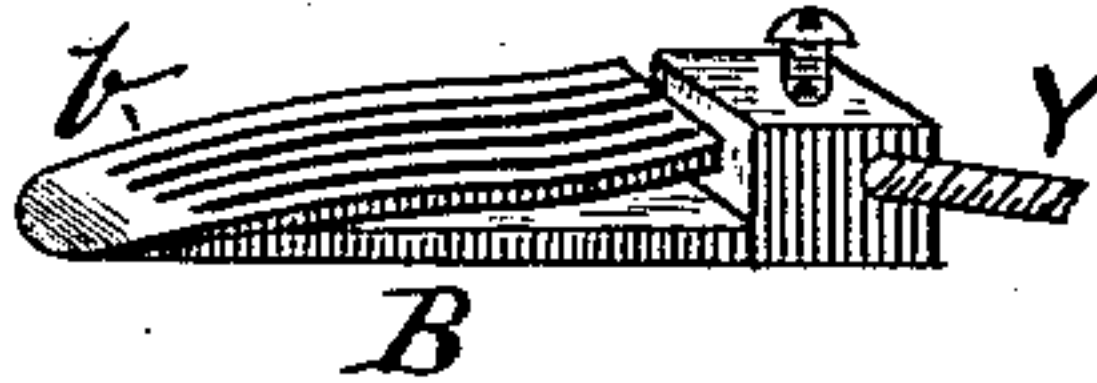


Fig. 6.



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ELIHU THOMSON, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE THOMSON-HOUSTON ELECTRIC COMPANY, OF CONNECTICUT.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 428,704, dated May 27, 1890.

Application filed July 26, 1886. Serial No. 209,141. (No model.)

To all whom it may concern:

Be it known that I, ELIHU THOMSON, a citizen of the United States, and a resident of Lynn, in the county of Essex and State of Massachusetts, have invented a certain new and useful Electric Switch, of which the following is a specification.

My invention relates especially to electric switches, and has for its object the provision of a simple and cheap device wherein means are provided for securing or holding the switch closed and for giving an instantaneous rupture of the circuit when the switch is opened.

To attain the desired end my invention consists in a pivoted arm mounted upon a suitable base bearing one or more contacts, said arm being made of conducting material and provided with a spring so arranged as to hold the switch open when desired or hold the operating-arm upon the dead-center when the switch is closed, all of which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is a plan view of my improved switch, and Fig. 2 is a side elevation thereof. Fig. 3 is a plan of the same construction applied to a base having two contact-points for the switch-arm, and Fig. 4 is a side elevation of the last-named construction. Fig. 5 is a perspective view, and Fig. 6 a plan of the contact employed therewith.

Like letters of reference, wherever they occur, indicate corresponding points in all the figures.

A is the movable switch-arm, and H the operating-handle thereof.

G is the base-board whereon the parts are assembled.

Arm A is mounted upon a pivot P, its lateral movement being limited by a stop T. Suitable binding-posts for connection with the electrical conductors X Y are provided. One of said posts is connected to the contact-spring B, with which arm A can make contact, and the other is suitably connected with the pivot of the switch-arm A, so that the circuit may be completed through the arm and contact.

S is a coiled spring attached, Figs. 1 and 2,

to a curved piece C, secured by a pivot *p* to the switch-arm A. This spring, when the switch is closed by the arm A bearing upon contact B, acts upon a dead-point, the point of attachment of the spring S to the base-piece G and the pivot P, as well as the pivot *p*, being then in a substantially straight line, and the arm is held in this position. When opened, as shown by the dotted lines in Fig. 1, the spring S acts in such a manner that pivot *p* is drawn around, so that the spring will act off the dead-point and throw the switch suddenly, so as to quickly rupture the circuit. In the position shown by dotted lines the spring holds the arm A against the stop T. In the construction shown in Figs. 3 and 4 the arm A comes in contact with a fixed closing-spring B at each side of the pivot P, the binding-posts being connected with said contact-springs. The spring S is connected directly to the arm A, the other extremity being secured at a point opposite one of the contacts, as plainly illustrated in Fig. 3.

The operation of the switch is the same as abovedescribed, the spring acting upon a dead-center when the switch is closed and holding the arm A against stop T when opened.

The contact-piece B consists, preferably, of a divided spring *b*, bent back upon the main portion of the contact, Figs. 5 and 6. By this arrangement the switch-arm first strikes the lower portion of the spring and has a sliding movement thereon as it approaches the binding-post near Y, thus keeping the parts free from corrosion and insuring a good electrical contact.

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

1. The combination, with a pivoted switch-arm A, of the two contact-springs B at opposite sides of the pivot, and a spring S, connected at one end directly to the switch-arm and at the other to a fixed support, as described and arranged, so as to exert a pull on the switch-arm in line with the pivot and the contact-springs when the arm is turned to close the connection from one spring to the other.

2. The combination, in an electric switch,

of a pivoted switch-arm A, having a handle
B attached to and carried thereby, and a
spring attached at one end to the switch-arm
and at the other to a suitable support, and
5 applied, as described, so as to exert a pull
across the pivotal point when the switch is
closed and to one side thereof when the switch
is opened.

Signed at Lynn, in the county of Essex and
State of Massachusetts, this 21st day of July, 10
A. D. 1886.

ELIHU THOMSON.

Witnesses:

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GEORGE J. CARR.