

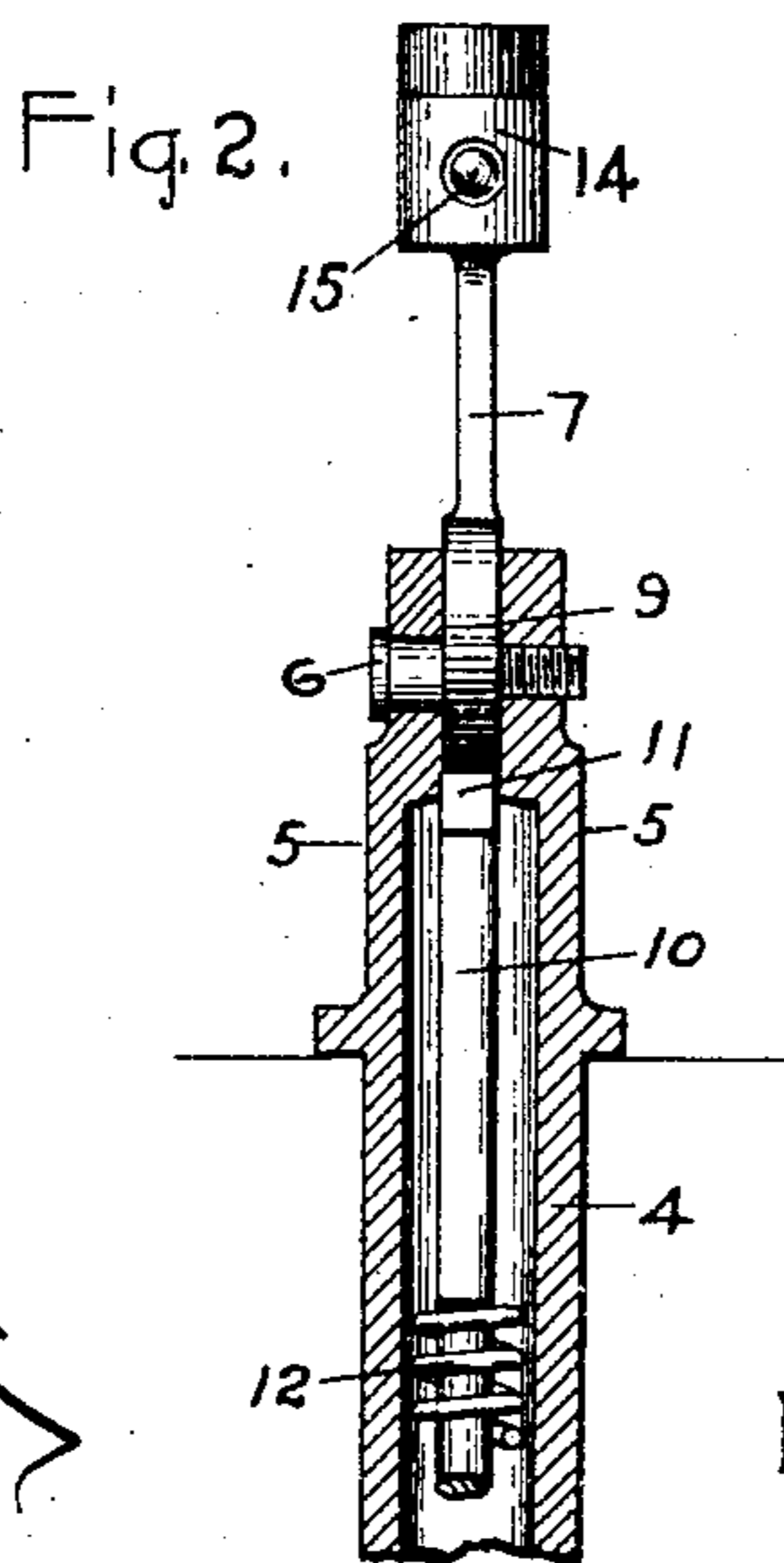
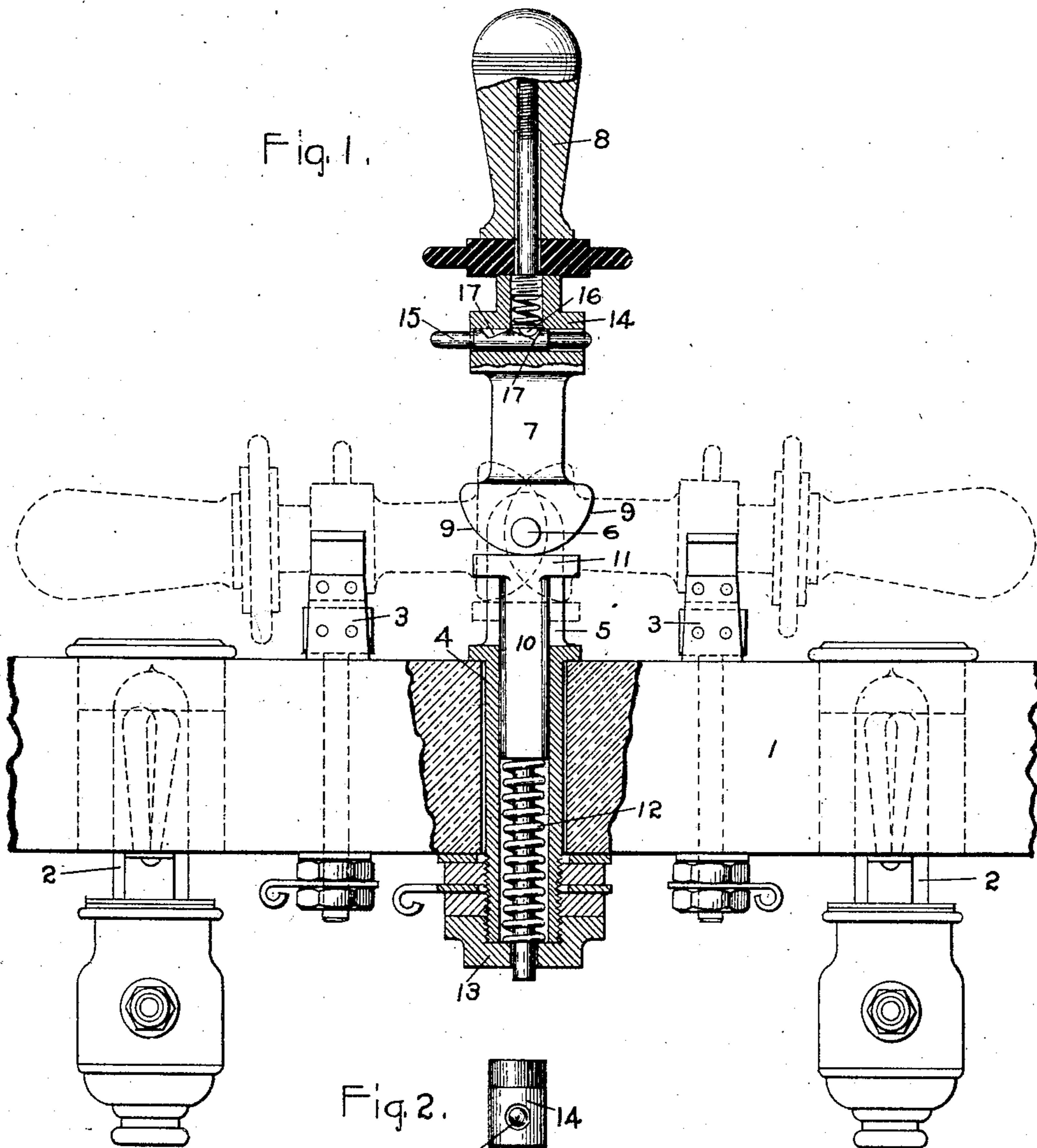
No. 785,949.

PATENTED MAR. 28, 1905.

E. M. HEWLETT.

# DOUBLE THROW ELECTRIC SWITCH WITH INDICATOR.

APPLICATION FILED JULY 11, 1903.



WITNESSES:

Robert C. Chapman.  
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# UNITED STATES PATENT OFFICE.

EDWARD M. HEWLETT, OF SCHENECTADY, NEW YORK, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## DOUBLE-THROW ELECTRIC SWITCH WITH INDICATOR.

SPECIFICATION forming part of Letters Patent No. 785,949, dated March 28, 1905.

Application filed July 11, 1903. Serial No. 165,104.

*To all whom it may concern:*

Be it known that I, EDWARD M. HEWLETT, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Double-Throw Electric Switches with Indicators, of which the following is a specification.

This invention relates to switches for electric circuits, and especially to those which shift the current from one circuit to another by what is commonly termed a "double-throw" construction. Such a switch is employed, for instance, as a controlling-switch for a high-tension motor-actuated oil-switch, which for prudential reasons must be located at a distance from the switchboard and operated by a motor-control circuit running to the switchboard, where it includes a small hand-switch. An installation of this kind is shown in the pending application of Hewlett and Button, filed January 15, 1902, Serial No. 88,757. The motor is controlled by two parallel circuits leading to a double-throw switch, and the arrangement is such that the two circuits must be used alternately.

My invention consists in an improved switch for such a system, and it is so constructed as to advise the operator which circuit he must employ when he wishes to operate the switch.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a switch embodying my invention; and Fig. 2 is an edge view, partly in section, of a portion of the switch.

In a suitable support, plate, or panel 1, of insulating material, are mounted two signal-lamps 2, each in a different circuit. Adjacent to each lamp and in circuit therewith is a contact-clip 3. Midway between the clips is a tubular pillar 4, which has jaws 5, between which is pivoted on the transverse pin 6 a switch-blade 7, having means for operating it, preferably a handle 8, at its outer end. By means of a spring the blade is compelled to stand normally in a central "off" position, as shown in Fig. 1, and is returned to the said position automatically if pressed down into contact with a clip and then released. The

preferred construction is that shown, where the heel of the blade 7 is a double cam having two surfaces 9 eccentric to the pin 6. In the pillar 4 is a reciprocable follower 10, having a flat head 11 transverse to its axis and preferably guided between the jaws 5. A spring 12 in the pillar abuts at one end against a cap 13 on the bottom of the pillar and at the other end against the follower, causing the head 11 to bear against the double cam and return it to and retain it in its central position if moved away therefrom.

A certain portion of the blade 7, preferably the circuit-closing portion 14, is thick enough to contain a transverse hole, in which is slidably held an indicator, comprising a pin or "bobber" 15, somewhat longer than the hole, so that it will project beyond the portion 14 of the blade at one side or the other. The ends of the bobber may be of contrasting colors, such as red and green, corresponding with the colors of the signal-lamps 2. A frictional retaining device prevents the bobber from falling out or from changing its position unless forcibly moved. This may consist of a spring-detent 16 in the blade 7 engaging with inclined notches 17 in the bobber, so located that one end or the other will always project.

When the switch-blade is closed upon a clip, as shown in dotted lines, the bobber by striking against the base of the clip will be forced back and will project on one side of the blade or the other depending upon which clip is used. When the blade is released and thrown up by the spring-follower, the bobber will indicate by its position which circuit has been closed, and its projecting end will always point toward the clip that must be used next.

In accordance with the patent statutes I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is only illustrative and that the invention can be carried out by other means.

What I claim as new, and desire to secure by Letters Patent of the United States, is

1. The combination with a double-throw switch, of an indicator carried by the switch-blade to show which way the switch was last closed.

5 2. The combination with a normally open double-throw switch, of an indicator carried by the switch-blade and showing which way the switch was last closed.

10 3. The combination with a double-throw switch, of means for automatically returning it to "off" position when released, and an indicator carried by the switch-blade, showing which way the switch was last closed.

15 4. The combination with a double-throw switch, of an operating-handle and an indicator slidable transverse to the switch-blade.

5. The combination with a double-throw switch having a transverse hole in its blade,

of an indicating-pin slidable in said hole and long enough to project beyond the blade. 20

6. The combination with a double-throw switch having a transverse hole in its blade, of an indicating-pin slidable in said hole and projecting therefrom, and a frictional retaining device for said pin. 25

7. The combination with a double-throw switch having a transverse hole in its blade, of an indicating-pin slidable in said hole and provided with inclined notches, and a spring-plunger engaging with said notches. 30

In witness whereof I have hereunto set my hand this 9th day of July, 1903.

EDWARD M. HEWLETT.

Witnesses:

BENJAMIN B. HULL,  
HELEN ORFORD.