(No Model.)

E. TREGONING.

TELLTALE DEVICE FOR ELECTRIC CIRCUITS.

No. 470,722. Patented Mar. 15, 1892.

Fig. 1.

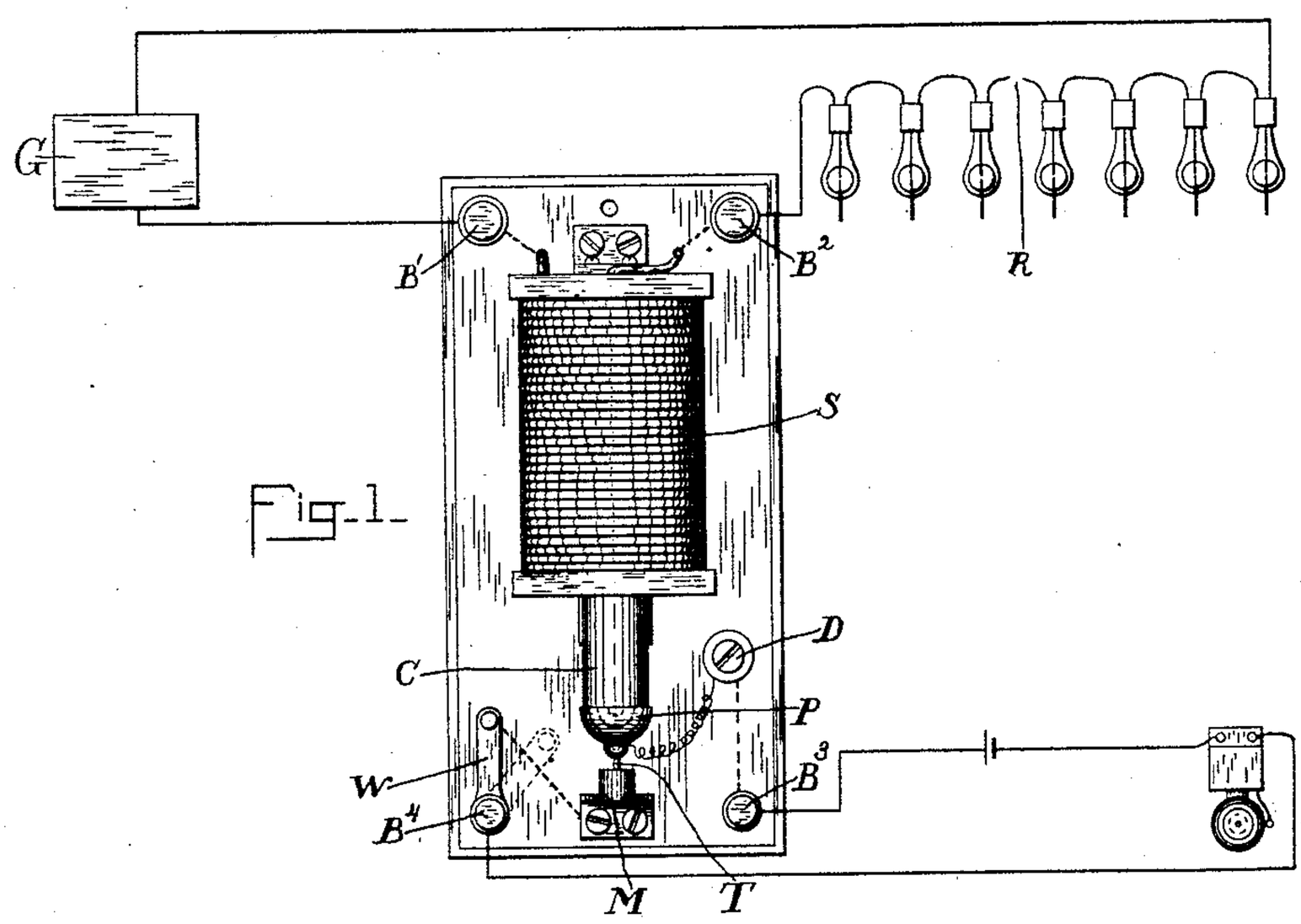


Fig. 2.

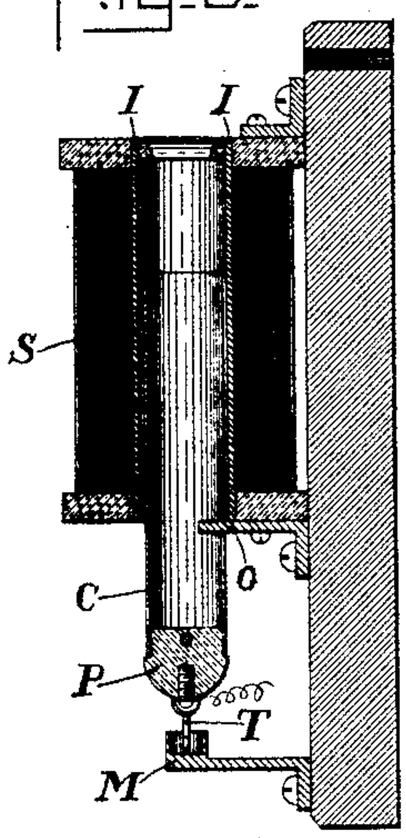
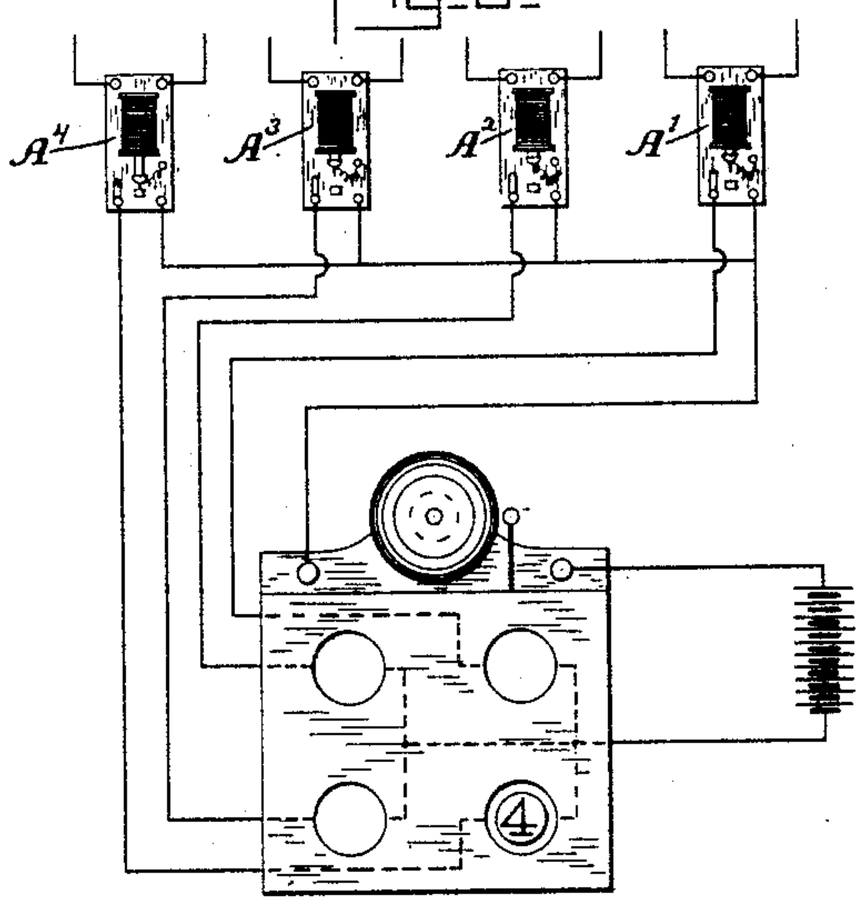


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDGAR TREGONING, OF MALDEN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ALVIN E. BLISS, OF SAME PLACE.

TELL-TALE DEVICE FOR ELECTRIC CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 470,722, dated March 15, 1892.

Application filed October 2, 1891. Serial No. 407,583. (No model.)

To all whom it may concern:

Be it known that I, EDGAR TREGONING, a citizen of the United States, and a resident of Malden, in the county of Middlesex and Commonwealth of Massachusetts, have invented a certain new and useful Tell-Tale Device for Electric Circuits, of which the following is a specification.

My invention relates to improvements in electric alarm apparatus used in systems of electric distribution, and is more especially applicable to alternating and direct electric-lighting circuits.

The object of my invention is to provide a simple and durable device for ringing an alarm when the circuit in which it is placed is ruptured or broken.

My invention consists in the combination of a solenoid having a movable tubular core provided with means for closing a bell or annunciator circuit and certain details of construction, which will be more fully set forth and described in connection with the accompanying drawings.

Figure 1 is a general view of a tell-tale device constructed in accordance with my invention, and also shows the manner of connecting same in an electric-arc-lighting circuit. Fig. 2 illustrates a vertical section of the same device. Fig. 3 shows in a general way the application of my invention to several independent systems, so arranged as to register a fault in any one of the different circuits at a central point by means of an annunciator.

In Figs. 1 and 2, S is a solenoid formed of a coil wound on an insulating-tube I, the terminals of said coil being attached to the binding-posts B' and B^2.

A movable tubular core C, preferably made of thin sheet-iron, fits loosely into the insulating-tube I and has at its lower extremity the plug P, made of insulating material, which carries at its outer end a metal contact-piece T. To this is permanently attached a spiral of fine wire, making a flexible connection with the screw D, and this in turn is joined by a wire (shown by a dotted line) with the binding-post B^3. At the lower central portion of the base is a cup M, so arranged in relation to the core that the contact T will fall directly into it. This cup is supplied with mercury or the like to insure perfect electrical connection between the parts. The binding-post B^4 is connected with the cup M, and a switch W is provided, by means of which the instrument may be at any time disconnected from the alarm-bell circuit.

Attached to the base-board is a small guide O, the end of which projects through a narrow slot in the tubular cone C. This guide prevents the cone from turning, thus overcoming any twisting or derangement of the flexible conductor leading to the contact T.

It will be understood that any form of contact device may be used instead of the one shown without departing from the spirit of my invention, although the arrangement shown is preferred by me.

An electric-lighting system is represented in Fig. 1 in a conventional manner.

G is the generator, and the lamps are shown connected in series. The line is broken at R, causing the core of the tell-tale device to fall and complete the bell-circuit. The latter being shown by the usual figures, requires no further description.

In Fig. 3 four tell-tale devices A' A^2 A^3 A^4, as described in connection with the previous figures, are shown connected to an annunciator and battery.

Upon an examination of the figure it will be seen that all of the tubular cores are raised and their ends are out of contact with the mercury-cup, except that in A^4, which has dropped, completing the battery-circuit and causing the alarm-bell to ring and the No. 4 disk to appear.

While I have illustrated a preferred form of my invention as applied to electric-lighting circuits, I do not by any means limit myself to those illustrations, as it will be readily understood by these practiced in the art that many modifications can be made without departing from the spirit of my invention, and the device is applicable to a great variety of uses.

Having described and illustrated my invention, what I claim is—

In a tell-tale device for electric circuits, the combination of the coil S, the insulating-tube I, the hollow movable core C, the guide O, the insulating-plug P, the contact T, the mercury-cup M, and an alarm-circuit, as described.

Signed at Boston, in the county of Suffolk and Commonwealth of Massachusetts, this 22d day of September, A. D. 1891.

EDGAR TREGONING.

Witnesses:
D. F. QUINN,
W. H. HODGES.