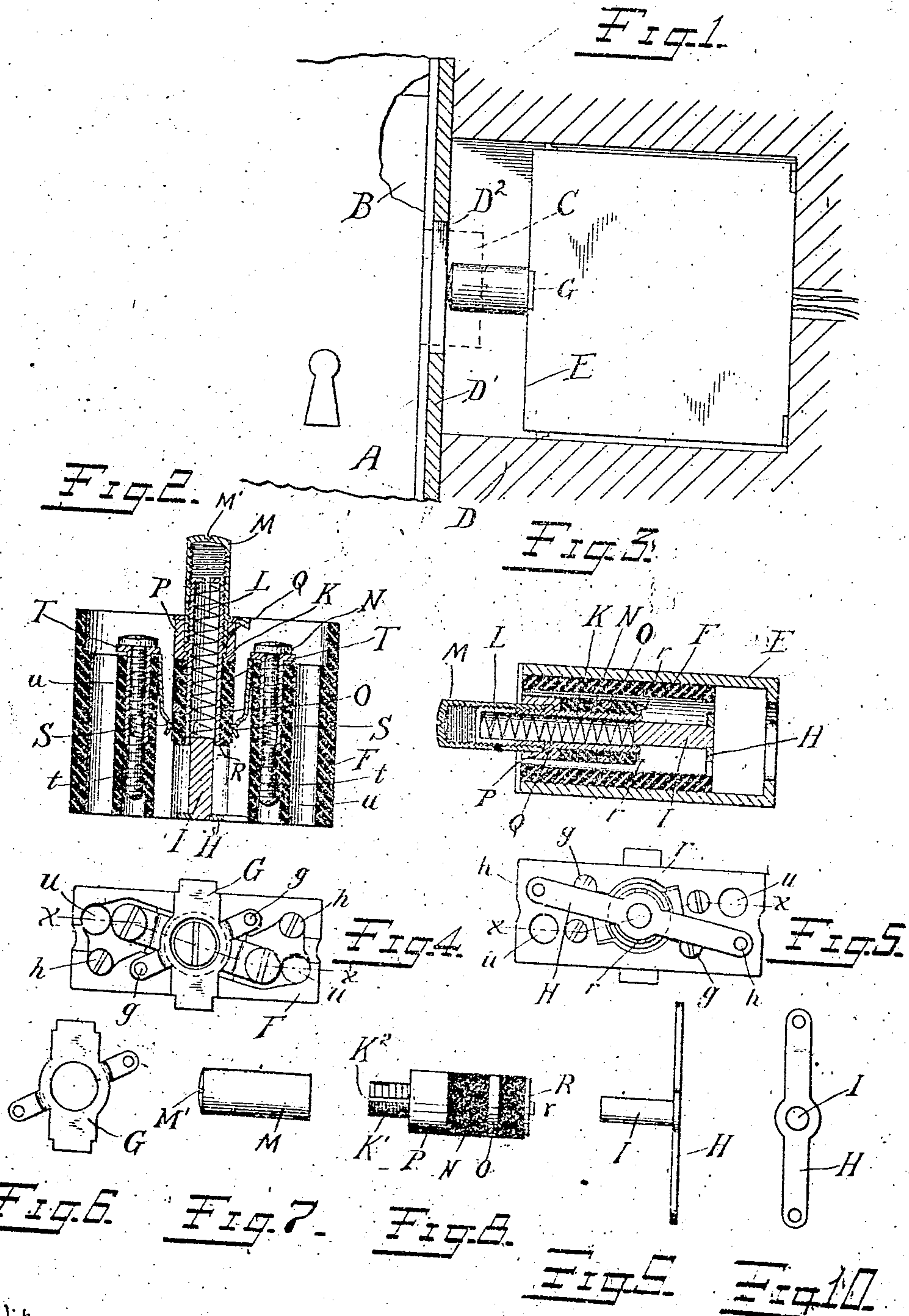


963,301

H. E. LEPPERT.  
CIRCUIT CONTROLLER.  
APPLICATION FILED MAY 8, 1909.

Patented July 5, 1910.



Witnesses:  
Fried. M. Dammeyer  
Chas. A. Beach

Inventor  
Henry E. Leppert  
By *Barrett, Arnold & Mitten*



# UNITED STATES PATENT OFFICE.

HENRY E. LEPPERT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE HART MANUFACTURING COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF NEW JERSEY.

## CIRCUIT-CONTROLLER.

963,301.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed May 8, 1909. Serial No. 494,903.

*To all whom it may concern:*

Be it known that I, HENRY E. LEPPERT, a citizen of the United States, residing at New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Circuit-Controllers, of which the following is a full, clear, and exact description.

My invention relates to electric circuit controllers and has for its object to produce a new and improved device for controlling an electric circuit by means of a push button, and means for adjusting the same so that the throw necessary for making the contact may be increased or diminished, as desired. It is particularly designed to be used for controlling a circuit by means of a door bolt. The adjustment above referred to is desirable, inasmuch as it is difficult to install such devices with absolute precision, and furthermore the door or the jamb may shrink or warp so that in time the relations of the parts will not be those necessary for the producing of the desired results even though such results were produced when the contact was first installed.

The following is a description of my invention, reference being had to the accompanying drawing, in which,

Figure 1 is a side elevation of a circuit controller embodying my invention showing its relation when installed so as to be operated by the bolt of a door lock. Fig. 2 is a longitudinal section of the same with the metallic casing removed, on the line  $x-x$  Fig. 4. Fig. 3 is a cross section of Fig. 1 through the center of the push button. Fig. 4 is a top view of the parts shown in Fig. 2. Fig. 5 is a bottom view of the same. Figs. 6, 7, 8, 9 and 10 show details of the top-plate, plunger, and base-plate.

Referring more particularly to the drawing, A is a door provided with a lock B having the bolt C, shown in dotted lines in extended position.

D is a door jamb, in which the controller is installed.

D' is the flash plate on the jamb having the opening D<sup>2</sup> for the bolt.

E is a metal casing constituting a wall socket for receiving the controller proper.

F is the base of the controller, the same being made of porcelain or other suitable insulated material.

G is a top-plate or guide for the plunger, secured to the upper part of the base by screws  $g-g$ , and projecting laterally so as to extend across the tops of the walls of the wall socket.

H is a base-plate, secured to the bottom of the base by screws  $h-h$ , and having an upright guide-pin I, which fits within a metallic sleeve or plunger body K, closed at one end. Within this metallic sleeve K is a spiral spring L, the lower end of which rests upon the head of the projection I. The upper end of the sleeve K is externally screw-threaded at K' and an adjusting cap M, internally screw-threaded, is secured thereon, so constituting the adjustable portion of the plunger. The sleeve K carries an insulating bushing N, in which is embedded a conducting ring O. The insulating bushing is held in place by a ring P in engagement with a projection Q and a washer R, held on the inner end of the sleeve K by upsetting edge of the lower end of the sleeve K. This washer R has one or more downward projections  $r-r$ , which span the bar H on the lower end of the base when the push button is at the limit of its inward movement. The purpose of these projections is to laterally engage the cross piece, which acts as an abutment, holding the sleeve K and the parts carried thereby from rotation when it is forced inward to its extreme limit. When so forced in, the adjusting cap M, which has a slot M' for a screw-driver at its outer end, can be turned so as to lengthen or shorten the push button and secure the proper adjustment in order that the circuit may be properly completed, that is, so that the conducting ring O of the device shown may come opposite the ends of spring contacts S-S when the door bolt is thrown. The spring clips S-S are connected to the binding posts T-T to which the terminals of the circuit to be controlled by the contact are led up through holes  $u-u$  in the base. The posts T-T are held in position by the screws  $t-t$ .

The device is simple and safe, and, as above stated, is easily capable of adjustment. As ordinarily used by me, it is employed simply to make the circuit, since when the contact ring O is moved out of engagement with the spring clips S-S, the circuit has already been broken at another point. There is, therefore, no sparking at



the conducting ring on its separation from the spring clips of the circuit.

The upper end of the sleeve K is slotted at K<sup>2</sup> and slightly expanded so as to make a frictional engagement with the cap M thereby holding it in adjusted position.

What I claim is:

1. In a circuit controller, the combination of a base, a stationary contact carried by said base, a plunger movably mounted in said base and having engaging screw-threaded outer and inner portions and an insulated contact carried by the inner portion and adapted to make engagement with said stationary contact, said plunger being normally free to revolve, a spring for holding said plunger normally in extended position, means for engaging the inner portion of said plunger only when thrust inward so as to hold said inner portion from turning, the screw-threaded outer portion being capable of being turned when the inner portion is so engaged so as to vary the distance between the outer end of said plunger and said insulated contact.

2. In a circuit controller, the combination of a base, contacts carried thereby, a normally extended hollow plunger mounted in said base and having an insulated contact moving therewith and adapted to complete a circuit through said contacts when such plunger is forced inward, means for varying the distance between said insulated contact and the outer end of said plunger, a stationary guide-pin extending into said plunger and carried by said base, and a spring within said plunger engaging said guide-pin and tending to extend said plunger.

3. In a circuit controller, the combination of a base, an abutment carried thereby, a normally extended plunger body movably mounted thereon and normally free to revolve, said plunger having its outer end

screw-threaded; a screw-threaded end portion carried by said plunger body, a projection on the inner end of said plunger body adapted to engage said abutment on said base only when said plunger is forced inward, circuit terminals and means carried by said plunger for electrically connecting and disconnecting said terminals.

4. In a circuit controller, the combination of a base, contacts carried thereby, a hollow plunger body movably mounted in said base so as to be normally free to revolve and carrying an insulated bridging member adapted to engage said contacts, an abutment for the inner end of said plunger body, an adjustable end portion secured to the body of said plunger by screw-threads, the inner end of said plunger body having a projection adapted to make lateral engagement with said abutment only when said plunger is forced inward, a guide-pin on said abutment extending into said body and a spring within said plunger bearing against said pin.

5. In a circuit controller, the combination of a base, stationary contacts carried thereby, a movable hollow plunger body mounted in said base so as to be normally free to revolve and carrying an insulated contact adapted to engage said stationary contacts, an adjustable cap portion secured to said body portion by screw threads, an abutment for the inner end of said body portion, a pin secured to said abutment and entering said hollow body portion, a spring within said body portion engaging said pin, and a projection secured to said body portion and adapted to laterally engage said abutment only when said plunger is forced inward.

HENRY E. LEPPERT.

Witnesses:

M. H. GLYNN,  
J. T. CLARKE.