

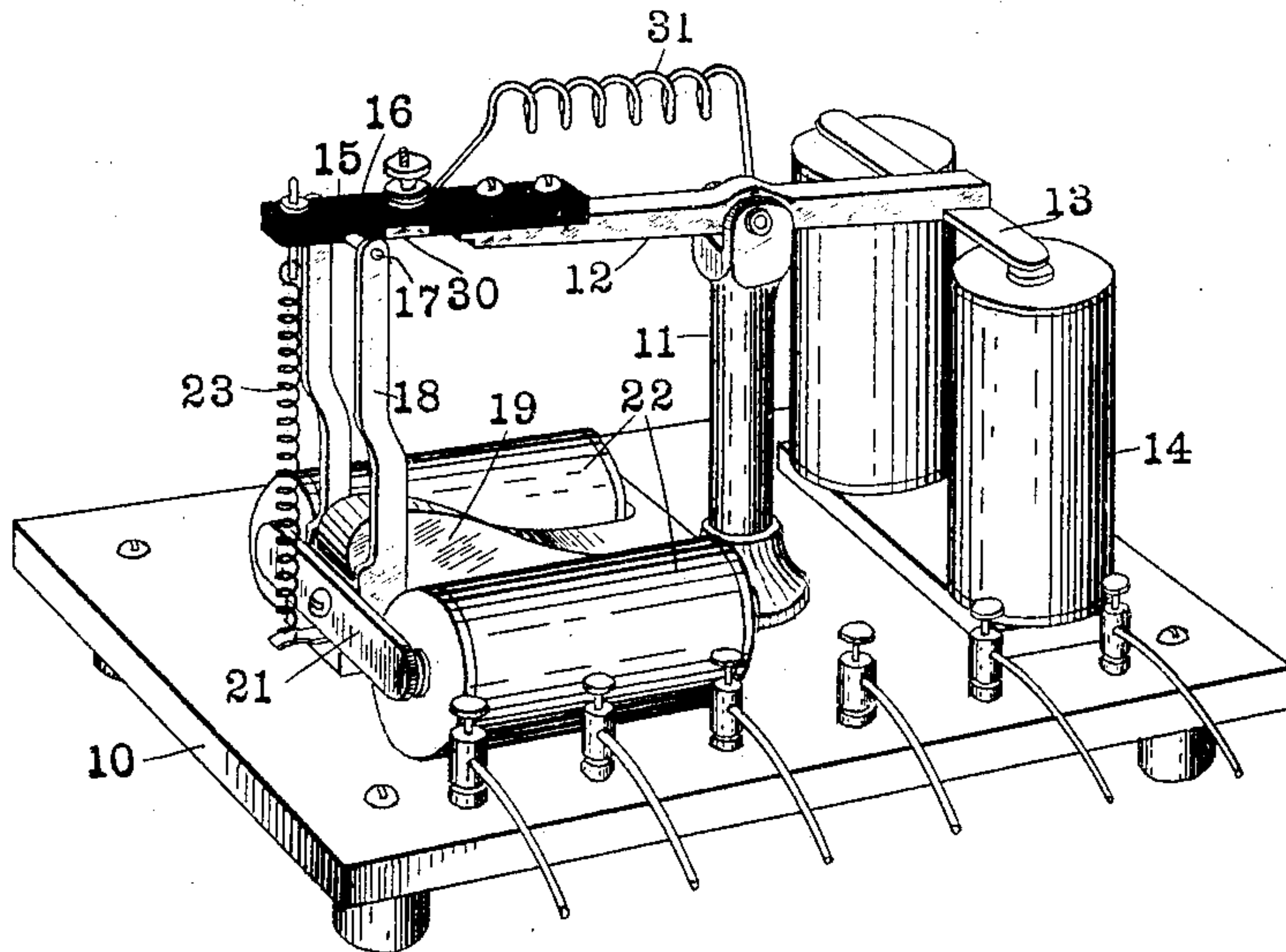
No. 789,769.

PATENTED MAY 16, 1905.

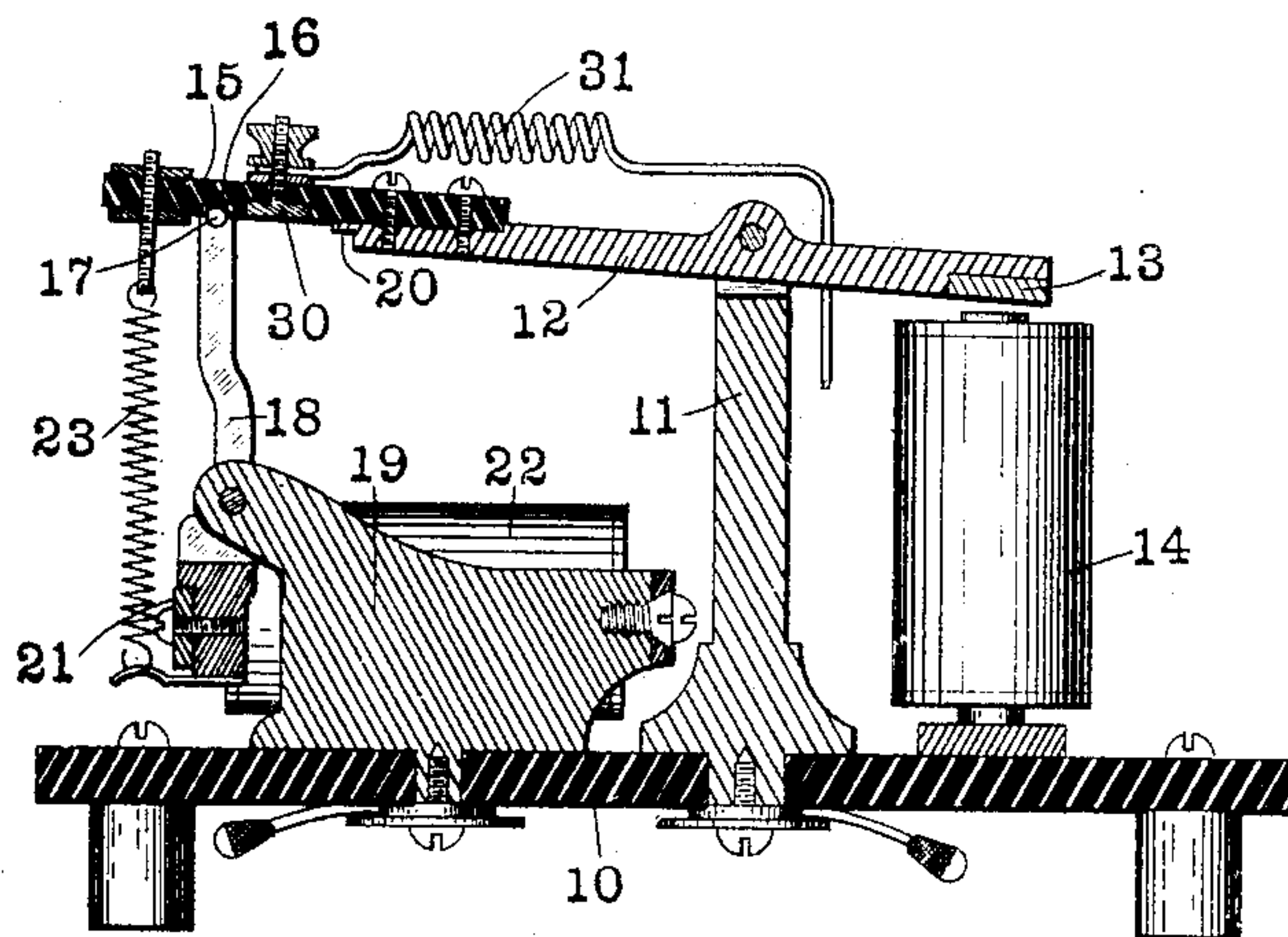
J. SUMMERS.  
RELAY.

APPLICATION FILED JULY 5, 1904.

*Fig. 1.*



*Fig. 2.*



Witnesses

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# UNITED STATES PATENT OFFICE.

JESSE SUMMERS, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE INDIANAPOLIS WATCHMAN CLOCK COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION OF INDIANA.

## RELAY.

SPECIFICATION forming part of Letters Patent No. 789,769, dated May 16, 1905.

Application filed July 5, 1904. Serial No. 215,276.

*To all whom it may concern:*

Be it known that I, JESSE SUMMERS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Relays, of which the following is a specification.

The object of my invention is to produce an improved relay construction, the device being especially applicable for use in connection with watchman's time-recorders, such as that shown in my pending application, No. 108,409, of which a portion of this application is a division.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective view, and Fig. 2 a vertical medial section.

In the drawings, 10 indicates a suitable base, preferably of insulating material, upon which the various parts are mounted. Rising from base 10 is a post 11, which forms a conducting member, and to the upper end of which is pivoted a conducting-lever or first swinging member or arm 12, one end of which is provided with an armature 13, to be acted upon by an electromagnet 14. The opposite end of lever 12 carries an insulating-finger 15, provided on its under face a short distance from the end of lever 12 with a notch 16, adapted to receive a cross-bar 17, carried at the upper end of a vertical conducting-lever or second swinging member or arm 18, pivoted on a horizontal axis on the conducting-standard 19. Bar 17 of lever 18 is also adapted to lie in a notch 20, formed in the adjacent end of lever 12. The lower end of lever 18 is provided with an armature 21, adapted to be acted upon by an electromagnet 22. Secured to the end of finger 15 is one end of a spring 23, the opposite end of which is secured to the lever 18, the arrangement being such that the single spring will act upon the two levers 12 and 18 in opposition to the action of the electromagnets 14 and 22, respectively, and such that lever 12 is urged downward onto bar 17 and bar 17 is urged inward into notch 20. Let into the under surface of

the finger 15, between notch 16 and the end of lever 12, is a plate or terminal 30, to which may be attached a suitable conductor 31, the arrangement being such that conductor 31 and terminal 30 may form one side of a second circuit, the other side of which is composed in part of lever 18, this second circuit being distinguished, however, from the circuit composed in part of lever 18 and the lever 12.

In operation, with the parts in the position shown in Fig. 2, if magnet 14 be energized lever 12 will be swung so as to throw arm 15 away from bar 17, whereupon spring 23 will urge bar 17 into the notch 20, and thus electrically connect lever 12 and 18. An energization of the magnet 22 will then swing lever 18 away from notch 20 and into notch 16, the spring 23 holding lever 12 down upon the bar 17. As bar 17 is swung away from notch 20 toward the notch 16 it will wipe across terminal or plate 30, and thus momentarily close the circuit of which terminal 30 and conductor 31 form a part.

I claim as my invention—

1. A relay consisting of a swinging member 12 having an insulated portion, an electromagnet for operating said member in one direction, a second swinging member 18 adapted to engage said first member or the insulated portion thereof, an electromagnet for swinging said second swinging member 18 in one direction, and means for simultaneously moving either swinging member upon actuation of the other swinging member by its magnet.

2. A relay consisting of pivoted member 12 having an insulated end, electromagnet 14 for moving the same in one direction, arm 18 adapted to engage member 12 or the insulated extension of member 12, electromagnet 22 for moving said member 18 in one direction, and a spring 23 connecting the ends of said two members, substantially as and for the purpose set forth.

3. A relay consisting of a swinging member 12 having an insulated portion an electromagnet for operating said member in one direction, a second swinging member adapted

to engage said first member or the insulated portion thereof, an electromagnet for swinging said second swinging member in one direction, and a terminal carried by the insulated portion of the swinging member 12 separate from said member in position to be wiped across by the second swinging member.

4. A relay consisting of pivoted member 12 having an insulated end, electromagnet 14 for moving the same in one direction, arm 18 adapted to engage member 12 or the insulated extension thereof, electromagnet 22 for moving said member 18 in one direction, a spring

23 connecting the ends of said two members, and the terminal 30 carried by the insulated end of member 12 but electrically separate from said member and in position to be wiped across by the member 18, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 15th day of June, A. D. 1904.

JESSE SUMMERS. [L. s.]

Witnesses:

ARTHUR M. HOOD,  
JAMES A. WALSH.