J. M. LONG.

RELAY.

APPLICATION FILED MAR. 4, 1907.

930,552. Patented Aug. 10, 1909.

Fig. 2.

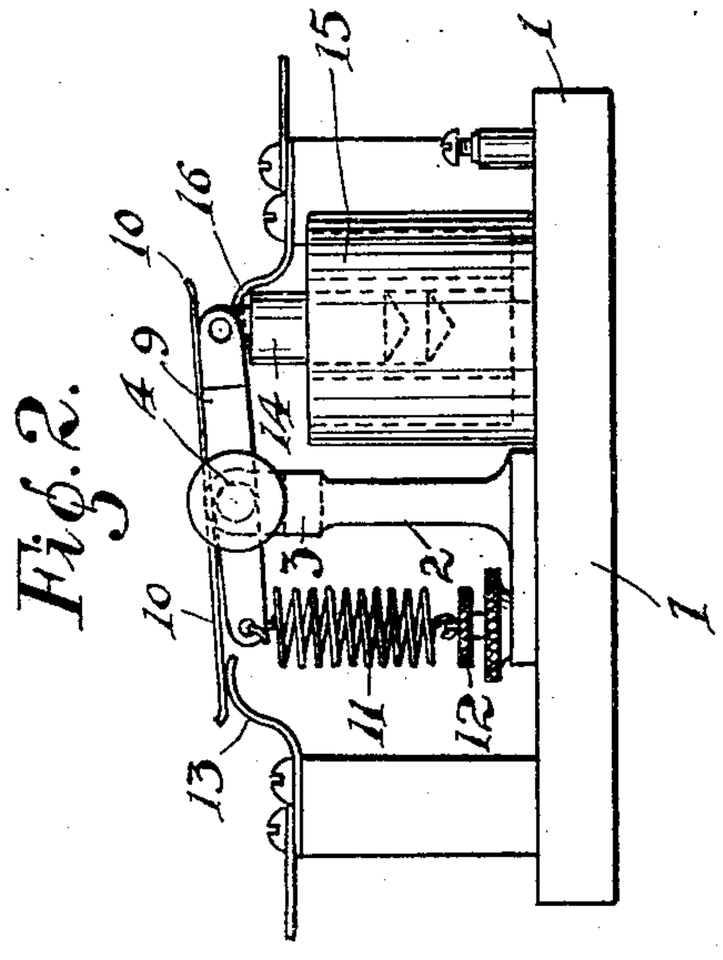
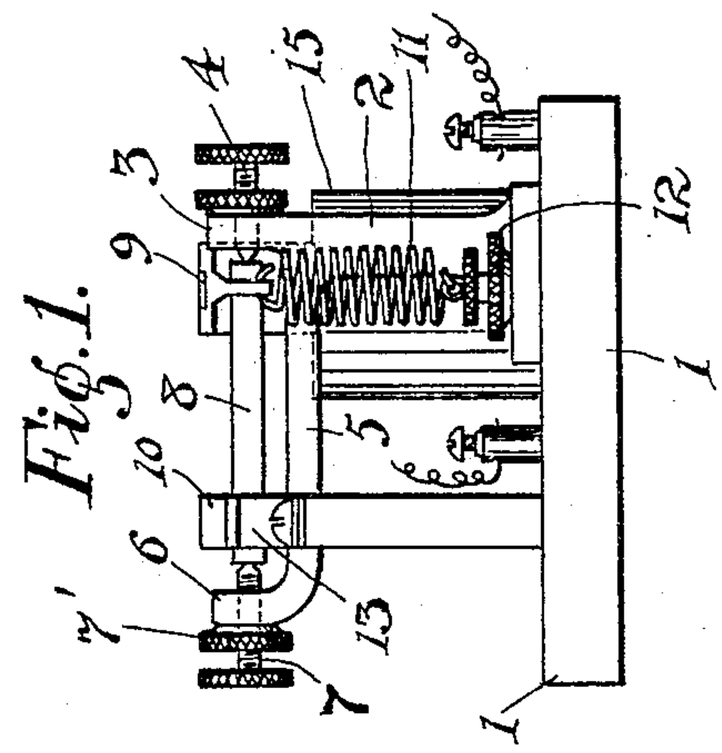


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

JACOB MICHAEL LONG, OF LOS ANGELES, CALIFORNIA.

RELAY.

No. 930,552. Specification of Letters Patent. Patented Aug. 10, 1909.

Application filed March 4, 1907. Serial No. 360,577.

To all whom it may concern:

Be it known that I, JACOB MICHAEL LONG, of the city of Los Angeles, in the county of Los Angeles, in the State of California, have invented a new or Improved Relay, of which the following is a full, clear, and exact specification, reference being had to the annexed drawings and to the figures marked thereon.

Upon the annexed drawings, Figure 1, is a side elevation of the relay device constituting my invention. Fig. 2, is an end elevation corresponding to Fig. 1.

As shown at Figs. 1 and 2, of the drawings, the device constituting my invention consists of a base plate 1, of any suitable insulating material, such as slate, hard rubber, fiber, etc. Upon this base there is fastened a standard 2, the upper part 3, of which is formed with a screwed hole for receiving a pivot screw and check nut 4. Extending laterally from the standard 2, and forming part thereof, is an arm 5, Fig. 2, whose outer end 6, projects upward as shown at Fig. 2, and the hole in this outer end 6, is also screw threaded to receive the pivot screw 7, and check nut 7′. A shaft 8, carried between the points of the pivot screws 4, and 7, has near one end a two armed lever 9, and near the other end a double contact piece 10. A spiral spring 11, is fastened to one end of the lever 9, as shown at Figs. 1, and 2, and at its other end is fastened to the adjusting screws and check nut 12. The tension of this spring 11, pulls the adjacent end of the lever 9, and the contact piece 10, downward, bringing the contact piece 10, in touch with the stationary contact piece 13. To the opposite end of the lever 9, is pivotally secured the soft iron core or plunger 14, of the vertical solenoid 15. When the coil of this solenoid is energized, the pull of the solenoid upon the soft iron core 14, breaks contact between the contact pieces 10, and 13, and makes contact between the contact pieces 10, and 16.

I claim as my invention.

1. The device or apparatus comprising a solenoid coil, a soft iron core operated in said solenoid coil, a carrier for a rotatable shaft, adjustment screws, one in each end of said rotatable shaft carrier engaging with recessed ends of said rotatable shaft, a two-armed lever on said rotatable shaft, a two-ended contact piece on said rotatable shaft, said two-armed lever pivotally connected at one end to the soft iron core of the solenoid, said lever connected at its other end to an adjustable spring, the stationary contact pieces with which the two-ended contact piece on the rotatable shaft alternately makes and breaks contact when the solenoid coil is energized and deënergized, upon the opening and closing of an electrical circuit.

2. The device or apparatus comprising a solenoid coil, a soft iron core operating in said solenoid coil, a carrier for a rotatable shaft, adjustment screws, one in each end of said rotatable shaft carrier, means for adjusting said screws and retaining them in adjusted position, the inner ends of said screws engaging with recessed ends of said rotatable shaft, a two-armed lever on said rotatable shaft, a two-ended contact piece on said rotatable shaft, a soft iron core of the solenoid pivotally connected to one arm of said two-armed lever, an adjustable spring connected to the other arm of said lever, means for adjusting and retaining said spring in adjustable tension, the stationary contact pieces which the operation of the solenoid coil alternately makes and breaks contact of with the contact ends of the two-ended contact piece carried on said rotatable shaft when the solenoid coil is energized and deënergized.

In testimony whereof, I have hereunto set my hand and seal in the presence of two subscribing witnesses.

JACOB MICHAEL LONG. [L. S.]

Witnesses:

ST. JOHN DAY,

J. D. CORY.