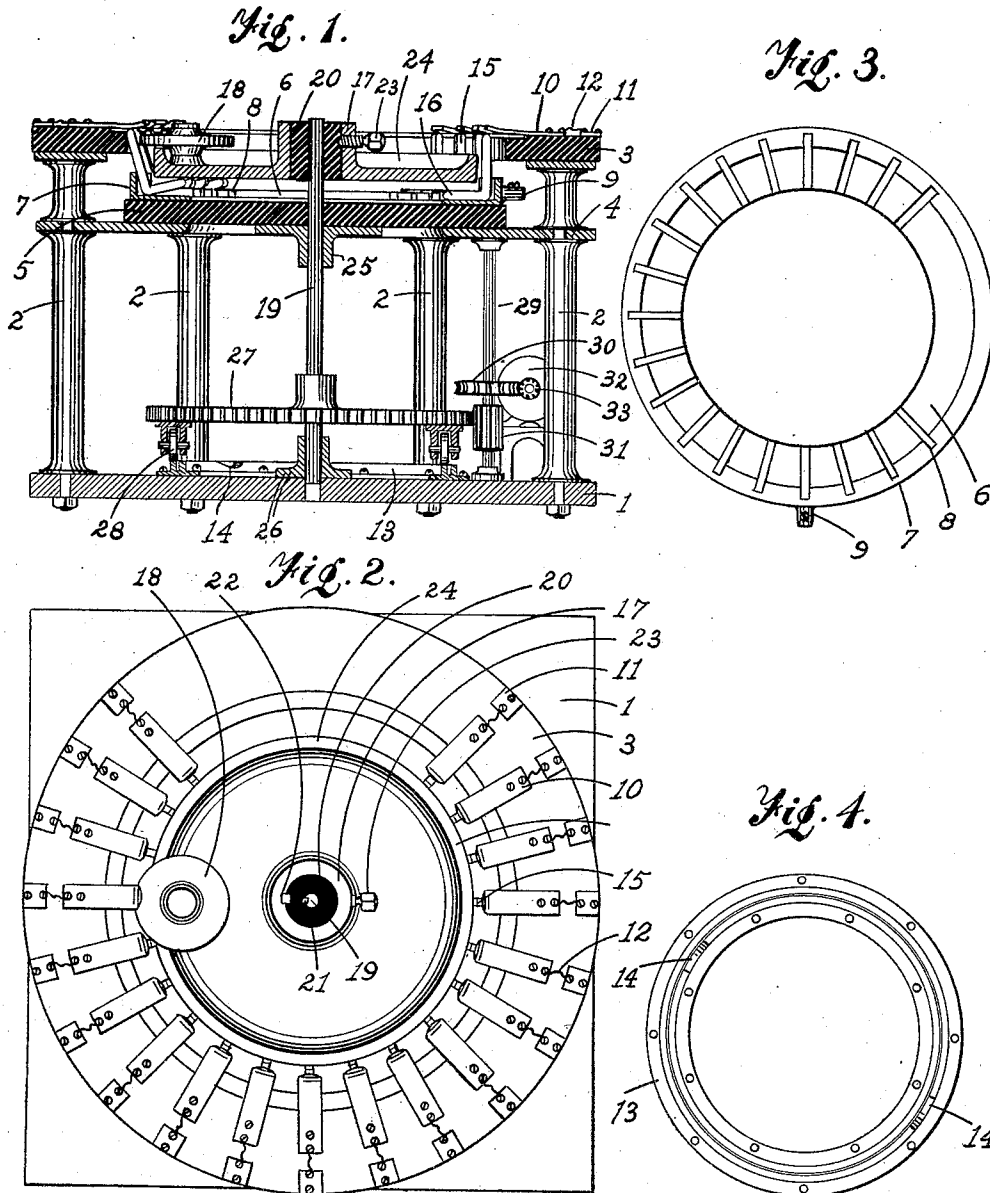


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SIGN FLASHER.
APPLICATION FILED JULY 7, 1911.

1,031,863.

Patented July 9, 1912.



WITNESSES

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SIGN-FLASHER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SCOTT A. PALMER, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented a new and useful Sign-Flasher, of which the following is a specification.

The invention has reference to an organization of movable elements which are capable of closing a series of electrical circuits, and embodies an arrangement whereby the several elements are successively brought into such circuit closing contact and are simultaneously released after a predetermined time.

It is an object of the invention to so relate the elements that the structure shall be compact, efficient of operation, and economical of operating power.

It is a further object of the invention to construct a foundation plate with upright extensions thereon carrying a circular switch board with a plurality of spring switch members radially arranged thereon, and a ring supported adjacent to the switch board having a plurality of rocking contact members arranged to engage with said spring switch members, normally in an inoperative position, a wheel member adapted to throw said contact members into an operative position, a central rotative member carrying said wheel member, a circular track normally supporting said rotative member in a raised position relative to the contact members, and depressions in the track whereby the rotative member at a predetermined point in its revolution will drop upon said rocking members and simultaneously release them from engagement with the spring switch members, and means for operating the rotative member, comprising an electric motor and suitable means for connecting the motor to the rotative member.

It is a further object to successively effect the closure of a series of electrical circuits and maintain such closure until the entire series are thus effected, and to obtain a sudden cut-out of the entire series, and to provide rotative parts whereby such closure and reopening of the circuits may be indefinitely repeated.

This invention embodies the use of a plurality of switch members, each independent of the other, arranged upon a circular switch board, and a corresponding series of

rocking contact members which are mounted on a common base of electrical conductive material, having means for connecting to one conductor of an electric current, and means for connecting an independent terminal to each switch member, suitable insulating parts being provided to secure the proper transmission of an electric current through each of the series of circuits.

It is a further object of the invention to provide a rotative part with a vertical axis and wheels which support said part on a circular track, thereby reducing friction and requiring a minimum of actuating power. The drawings illustrate a simple and preferred form of the invention, it being understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the claims may be made in the device.

An embodiment of the invention is shown in the several views of the accompanying drawings, of which—

Figure 1 is a side and sectional view of the structural features of the device, Fig. 2 is a top plan view, Fig. 3 is a plan view of the ring which supports the rocking contact members, and Fig. 4 is a plan view of the double circular track which supports the central rotative member.

More particularly of the drawings, in the several views of which similar reference characters apply to similar parts, the elements referred to may be operatively mounted on foundation plate 1, having upright extensions 2, which support circular switch board 3, of non-conducting material in a horizontal position, the extensions also supporting circular plate 4. Plate 5 is supported by member 4, in a plane below said switch board, and has mounted thereon ring 6, with an outer annular and upwardly extending flange 7, adjacent to said switch board, and a series of radial slots 8, extending into said flange. Ring 6, is of electrical conducting material and is provided with an integral connector 9, adapted to receive the terminal of an electric circuit, while its supporting plate is of insulating material, thus preventing the transmission of electricity to the rotary parts.

On the switch board a series of spring switch members 10, are radially mounted, corresponding with slots 8, the switch members projecting over the edge of the switch

board inwardly. A corresponding series of circuit connectors 11, are arranged upon the switch board adjacent to the switch members, the respective connectors being connected to the respective spring switches by fuse wires 12. A double railed circular track 13, is mounted on the foundation plate, having an outer and an inner rail, each provided with a depression 14, the depression of one rail being diametrically opposite the other.

Of the movable elements, a plurality of rocking contact members 15, are mounted in the radial depressions of ring 6, said contact members projecting upwardly and being adapted to engage with spring members 10, of the switch board, the contact members having inwardly extending arms 16, which rest upon ring 6 while the contact members are in an inoperative position. The contact members are detachable from the supporting ring and are secured against side movement by the retaining walls of the slots, and by the retaining flange on the ring. A central operative member 17, whose axis of rotation is concentric with the switch board, carries a rotative wheel member 18, which is adapted to successively knock the rocking contact members into an operative position, wheel member 18, being independently rotative relative to carrying member 17, to reduce friction. In the operative position of the rocking contact members, arms 16, project upward from the slots and beneath rotative member 17, which, at a predetermined point in its revolution, drops upon arms 16, and simultaneously releases said contact members from engagement with the switch elements. Member 17, is provided with a shaft 19, a section 20, of insulating material being provided, preventing the transmission of the electric current to the rotative parts. In the present arrangement, the insulating section 20, is secured to the shaft by a key 21, and to member 17, by key 22, the parts being further secured by set-screw 23. A retaining flange 24, on member 17, maintains the rocking contact members in position in the respective radial slots of ring 6. Member 25 forms a bearing for shaft 19, which is rotatably and also slidably mounted therein for the operation of member 17, to knock the contact members into an inoperative position. Shaft 19, is also rotatably and slidably mounted in bearing member 26, upon the foundation plate.

Of the means for actuating rotative member 17, and shaft 19, a gear 27, is mounted on said shaft, and is provided with supporting wheels 28 which are mounted on diametrically opposite parts of the gear, and engage with a double railed track 13, the supporting wheels being so mounted that one rides upon each rail, this arrangement pro-

viding for the support of member 17, in a raised position relative to the rocking contact members. Depressions 14 in the track cause member 17 to drop upon the raised arms 16, and release contact members 15.

A counter-shaft 29 is provided with a worm-wheel 30, and a pinion 31, which is adapted to mesh with gear 27 in either position of member 17. A motor 32, having a worm shaft 33, meshing with worm-wheel 30, is adapted to be operated by electrical power, and thus cause the rotation of member 17, for the successive closing of a series of circuits and their simultaneous release.

From the foregoing it may be seen that my invention comprehends an organization of elements adapted to the intermittent distribution of electricity for the purpose of sign-flashing.

I claim as my invention:

1. In a sign-flasher, the combination with a circular switch board and a plurality of spring switch members radially arranged thereon and supported thereby, of a ring having a series of slots corresponding with said switch members, a series of rocking members arranged upon the ring and in said slots, having upwardly extending arms adapted to engage with said switch members, a frame carrying said switch board and ring, a rotative member mounted in said frame, a wheel member carried by said rotative member and adapted to throw the rocking members into a contact position with said switch members, and means for operating the rotative member, substantially as set forth.

2. In a sign-flasher, the combination with a frame having a circular switch board and a plurality of spring switches radially arranged on the switch board, of a ring supported by the frame beneath the switch board and having a series of slots in the upper side of the ring, rocking contact members carried in said slots, a flange on said ring adapted to retain the rocking members in said slots, upwardly extending arms on said rocking members adapted to engage with said spring switches, a rotative member mounted in said frame, and a wheel member carried by said rotative member and adapted to successively throw said rocking members in contact with said switch members, substantially as set forth.

3. In a sign-flasher, the combination with a foundation plate having uprights extending therefrom, of a circular switch-board carried by the uprights, a plurality of spring members radially arranged on the switch-board, an annular ring supported by said uprights below the switch-board and having a series of slots, rocking contact members arranged in said slots on said annular ring, having upwardly extending arms to engage said spring members and

inwardly extending arms projecting above said slots when said first named arms are in contact with said spring members, a wheel member to throw said rocking members in contact with the spring members, a rotative member above said inwardly extending arms and mounted to rotate on a vertical axis and adapted to have longitudinal movement in its bearings, and carrying said wheel member, a double-railed circular track normally supporting the rotative member in a raised position relative to the contact members, having depressions whereby the rotative member at a predetermined point in its revolution will drop upon the inwardly extending arms of said rocking members and simultaneously release them from contact with said spring members, substantially as set forth.

4. In a sign-flasher, a frame a circular switch board supported thereby and an annular ring concentric therewith, a series of fixed contact members arranged in a circle on the switch board, a corresponding series of movable contact members carried by and arranged in a circle on the annular ring, a rotative member mounted in said frame and arranged concentric with both series of contact members, a wheel member carried by said rotative member and adapted to throw the movable contact members into contact with the fixed contact members, a circular track supporting the rotative member having depressions whereby said rotative member will drop upon and release the movable contact members, and means for operating the rotative member comprising a shaft carrying the rotative member, a gear on the shaft, a counter-shaft, an elongated pinion on said counter-shaft engaging with the gear, a worm-wheel on said counter-shaft, a worm driving said worm-wheel, and an electric motor operating the worm, substantially as set forth.

5. In a sign-flasher, the combination with a frame, of a circular switch-board supported by said frame, a series of spring contact members radially arranged and fixed on

said switch-board, an annular ring supported by said frame below said switch-board and having a series of slots, a series of movable contact members radially arranged on said ring and in said slots, a wheel member adapted to throw the movable contact members into contact with the spring contact members, a rotative member carrying said wheel member, a circular track on said frame supporting said rotative member, and supporting wheels carried by and beneath said rotative member and which are adapted to travel on said track and thereby reduce friction to a minimum, substantially as set forth.

6. In a sign-flasher, the combination with a frame of a circular non-conducting switch board supported by the frame, of spring contact members radially arranged and relatively fixed thereon, an annular inwardly extending plate supported by the frame below the switch board, an insulated section on the plate, a ring supported by said insulated section, movable contact members radially arranged on said ring in slots provided for them and supported against side motion by the walls of said slots, the movable contact members each having an upwardly extending arm and an inwardly extending arm, a rotative member adapted to throw the movable contact members into an operable position by contact with the upwardly extending arms thereof, and adapted to have a longitudinal movement in its bearings for contact with the inwardly extending arms of the contact members for their release, and means for operating the rotative member to, successively close a series of circuits and to simultaneously reopen the same for the intermittent illumination of signs, substantially as set forth.

Signed at San Diego, in the county of San Diego, and State of California, this 30th day of June, 1911.

SCOTT A. PALMER.

In the presence of—

F. M. KEENEY,
J. W. MASTER.