

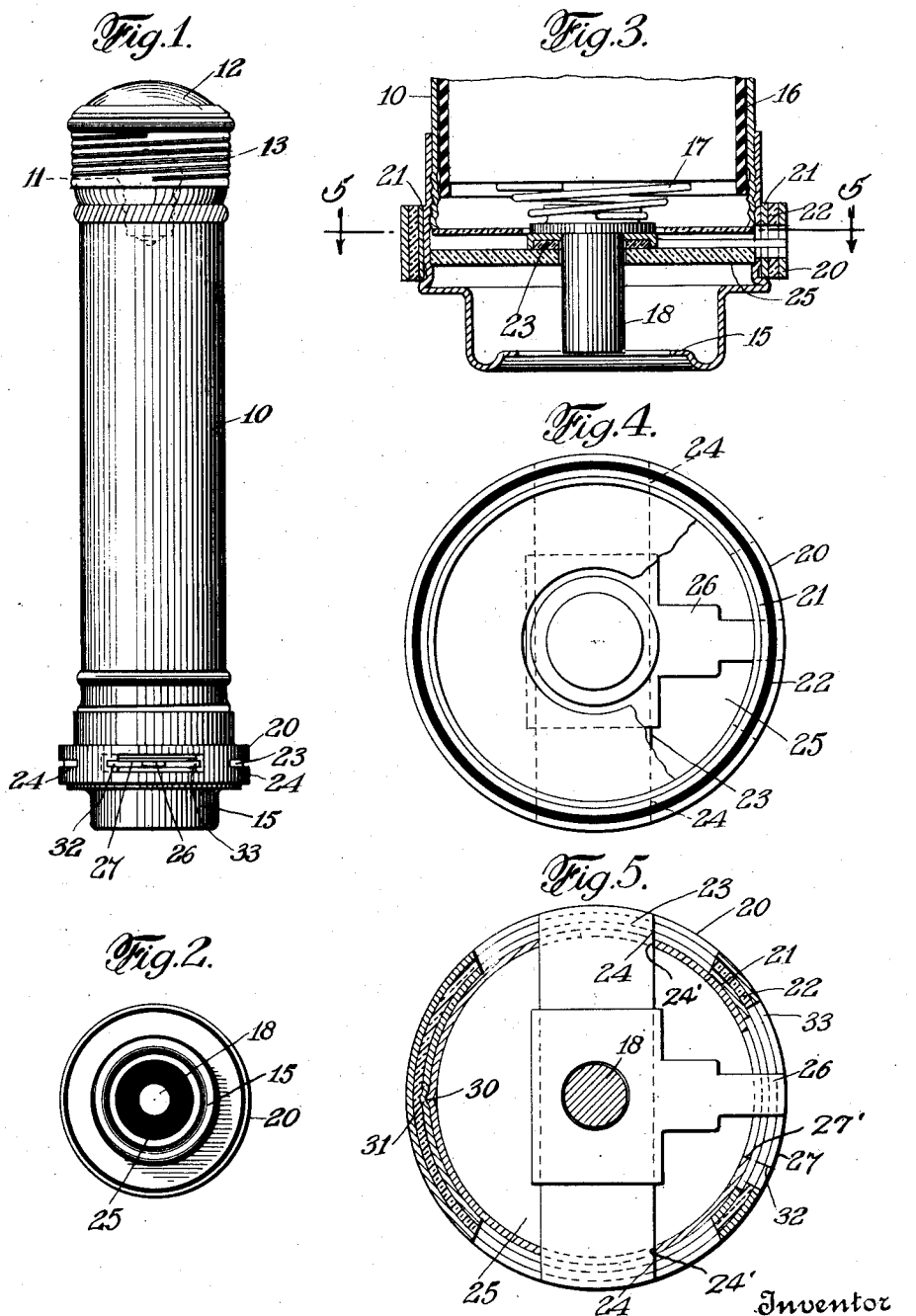
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J. M. COOTE

ELECTRICAL TESTING DEVICE

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Inventor
John Maxwell Coote

By his Attorney

Wm. H. Schuch

UNITED STATES PATENT OFFICE.

JOHN MAXWELL COOTE, OF ELIZABETH, NEW JERSEY, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO COOTE PRODUCTS CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ELECTRICAL TESTING DEVICE.

Application filed July 25, 1922. Serial No. 577,345.

The invention relates to electric flash lamps and to controlling means therefor, as well as to a combined electric flash lamp and testing device suitable, in addition to a temporary means of illumination, as a device for quickly and conveniently determining the condition of various electrical apparatus, for example such as fuses either of the plug, ferrule, or knife blade types, as well as lamps, bells, coils, etc.

More particularly, the invention consists of a suitable container or casing having an electrical responsive device, such as an electric lamp, associated therewith and closing, preferably, one end of the casing, a cell or battery being retained in the casing for energizing the lamp, and means for closing the circuit thereto, as in making a test or for illumination purposes. In applicant's Patent No. 1,637,472, granted Aug. 2, 1927, a somewhat similar device is disclosed; and it is the object of the present invention to so construct the apparatus, and to provide same with control means, as to eliminate any danger of short circuiting same as when resting it, for example, on a conducting surface. To this end, the invention consists in a novel circuit controlling member provided on the apparatus and of a rotatable type which may be substantially locked in a neutral position or in a position either for test purposes or for lighting the lamp to provide a source of illumination, the control member being conveniently shifted from one position to another.

The nature of the invention, however, will best be understood when described in connection with the accompanying drawings, in which—

Fig. 1 is an elevation of one embodiment of the improved device.

Fig. 2 is an end view thereof.

Figs. 3 to 5 are detail views of the operating end, Fig. 3 being a vertical section, Fig. 4 an end view with portion broken away, and Fig. 5 a horizontal section taken on the line 5—5, Fig. 3 of the drawings, and looking in the direction of the arrows.

Similar characters of reference designate corresponding parts thruout the several views.

Referring to the drawings, 10 designates a suitable metallic container, preferably in the form of a barrel or cylinder as shown, and

more or less of the well-known type and at one end of which a lamp 11 is provided, the same being covered by a lens 12 thru which the light of the lamp is projected, said lens and lamp being held to the container 10 by a screw cap 13. Contrary to the usual construction, however, the opposite end of the container or casing carries a conductive and removable receptacle member or contact socket 15, adapted to be screwed onto this end of the container to hold therein the battery 16. One end of the battery is arranged to be in electrical connection with the lamp 11 and the other, thru a spring 17, with a contact button 18. The latter is centrally disposed in the receptacle 15, but is insulated therefrom; and, furthermore, is spring urged outwardly thru the action of the spring 17, thus rendering the apparatus suitable to accommodate different types of screw plugs or the like to be tested, it being understood that the same bridge the gap between the contact button 18 and the shell of the receptacle or socket. The latter is arranged to screw onto the casing 10 and is in electrical connection therewith; and, in accordance with the general practice is, thru the lamp 11, thereby also in electrical connection with the one side of the battery 16 so that if the said gap be bridged, as in testing a plug, the lamp will be lighted if the plug be intact.

It is arranged, furthermore, to also close the circuit from the other side of the battery, or button portion of the apparatus, to the casing thru further means designed, for example, to keep the lamp lighted over a more or less period, or momentarily for further test purposes. It will be understood, moreover, that when the device is thus set for test purposes, a test may be affected by contact between the casing 10 along various portions thereof and a member 20 associated with the receptacle, so that articles of various sizes may be tested.

The member 20 is in the form of a collar or ring mounted upon the receptacle for limited rotation thereon, but insulated therefrom. It carries an inner conducting portion 21 which is separated from the remainder or outer portion of the ring by an insulation portion 22; and the ring as a whole is held to the receptacle by a removable, transverse strip of insulation material 23 fitting through diametrically opposed slits 24' of the wall of the receptacle

and extending into diametrically opposed slits 24 in the ring, said strip serving also as a guide for the oscillating ring and being centrally perforated to allow the stem of the contact button 18 to pass therethru, the stem also passing thru an insulation washer 25 mounted in the socket 15.

Moreover, there is mounted over the insulation strip 23 a stationary tongue member 26 of conducting material and which has its edges turned downwardly over the insulation strip 23 to hold said tongue member against rotation relatively thereto, the said tongue member further being centrally perforated to allow the stem of contact button 18 to pass therethru, but contacting therewith and being placed thereby in electrical connection with the one side of the battery 16. Tongue 26 extends through a slit 27' of the wall of receptacle 15 into a peripheral slit 27 of the ring and is designed to make contact on the one end of the slit with the outer portion of the ring and at the opposite end with the inner portion 21. The said tongue member has no movement relatively to the receptacle as a whole, while the ring member composed of the outer collar 20, intermediate insulation ring 22 and inner conducting portion 21 oscillates relatively thereto to make contact with said tongue either at the inner portion 21 of said ring or the outer portion 20. By this means, the circuit will be established either to the said outer portion and thru an article to be tested and contacting therewith; or, with the said inner portion which is in electrical connection with the casing and thru the casing with the light which will be lighted thereby so long as the tongue remains in the latter position.

In order to prevent the ring from being rotated too readily or from becoming shifted, with possible short-circuiting, the receptacle is provided with a slight projection 30 adapted to fit a recess 31 of the ring. Furthermore, at each end of the slit 27 there is provided a secondary slit 32 in the outer ring and a slit 33 in the inner ring to more or less lock the tongue therein so as to more effectively hold the device in the particular position in which it is set.

I claim:—

1. A combined flash lamp and electrical testing device, comprising a casing, a lamp and a battery for same contained within the casing, an open-ended test receptacle member mounted about one end of the casing, and a circuit controlling ring rotatably mounted on the receptacle exteriorly of same.

2. A combined flash lamp and electrical testing device, comprising a casing, a lamp and battery for same contained within the casing, a receptacle member secured to the casing, a circuit controlling ring movably mounted thereon having a peripheral slit, and a contact member fitting therein and adapted

to make contact with either end of the slit.

3. A combined flash lamp and electrical testing device, comprising a casing, a lamp and battery for same contained within the casing, a receptacle member secured to the casing, a circuit controlling ring movably mounted thereon having a peripheral slit, and a contact member fitting therein and adapted to make contact with either end of the slit, the ring being provided with secondary slits at the ends of the said peripheral slit to receive and hold the contact member.

4. A combined flash lamp and electrical testing device, comprising a casing, a lamp and a battery for same contained within the casing, an open-ended test receptacle member mounted about one end of the casing, a circuit controlling ring rotatably mounted on the receptacle exteriorly of same, and means to limit the rotation of the ring.

5. A combined flash lamp and electrical testing device, comprising a casing, a lamp and battery for same contained within the casing, a receptacle member secured to the casing, a contact member centrally disposed in the receptacle and in electrical connection with one end of the battery, a rotatable circuit controlling ring movably mounted on the receptacle and having a peripheral slit, and a tongue in electrical connection with said centrally disposed contact member and extending into the slit of the rotatable ring to make contact with the ends thereof.

6. A combined flash lamp and electrical testing device, comprising a casing, a lamp and battery for same contained within the casing, a receptacle member secured to the casing and provided with slits, a circuit controlling ring about same and having slits registering with those of the receptacle member, and means to hold said ring to the receptacle and including a transverse insulation strip fitting diametrically opposed and registering slits of the ring and receptacle, a tongue secured over said strip and fitting with a peripheral slit of said ring, and a contact member centrally disposed in the receptacle, passing thru the tongue and in electrical contact therewith.

7. A combination flash lamp and electrical testing device, comprising a cylindrical casing, a lamp and lens closing one end thereof, a battery within the casing, one side thereof being in electrical connection with the lamp, a removable receptacle member at the other end thereof, an axially movable contact button centrally disposed therein, spring urged outwardly and in electrical connection with the other side of the battery, a rotatable ring member consisting of an inner and outer conducting portion and an intermediate insulation portion, said ring being mounted about the receptacle to rotate thereon, and having a peripheral slit, a tongue extending therein and electrically connected with said

contact button and adapted to make contact with the inner and outer portions of the oscillatable ring as the same is turned respectively in one direction or the other, said ring being provided at each end of the peripheral slit with a secondary slit to receive and locate the tongue therein, and means to hold the ring with tongue in position mid-way of the peripheral slit.

8. A combined flash lamp and electrical testing device, comprising a casing, a lamp and battery for same contained within the casing, a receptacle member secured to the casing, a circuit controlling ring rotatably mounted on the receptacle exteriorly of same, and means to hold the ring to the receptacle in different positions.

Signed at New York in the county of New York and State of New York this 19th day of July A. D. 1922.

JOHN MAXWELL COOTE.