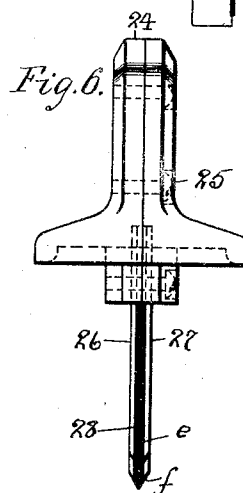
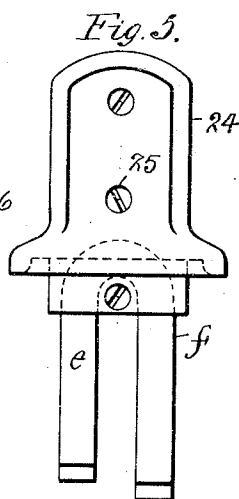
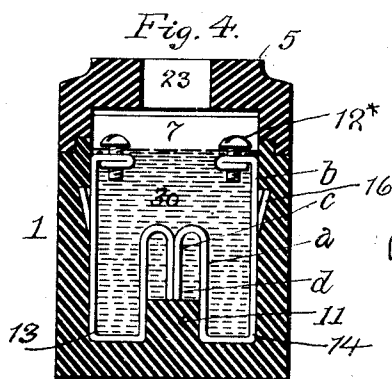
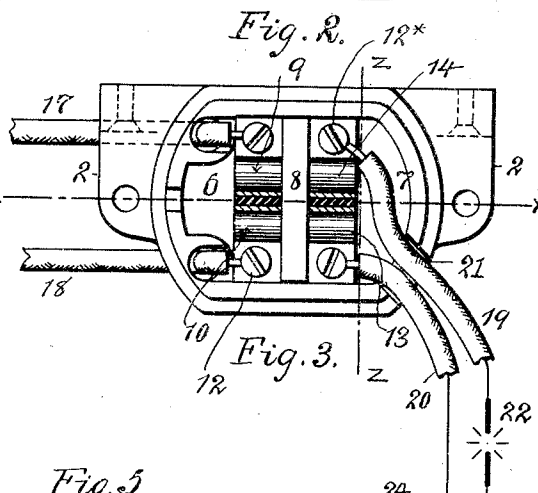
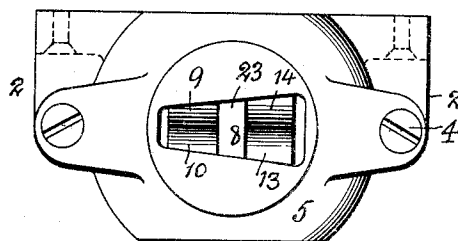
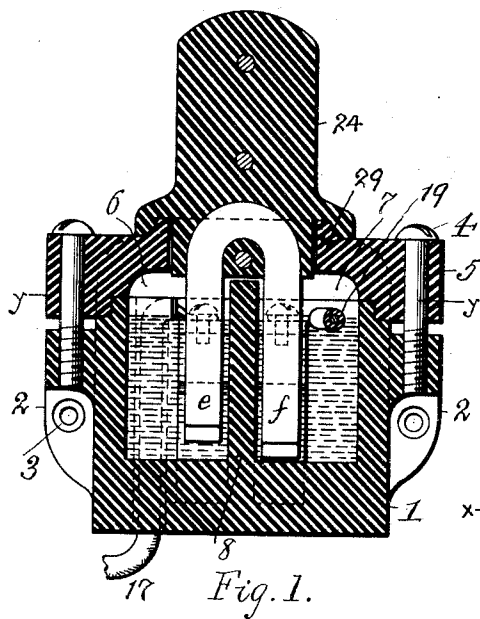


T. E. MURRAY & W. T. DEMPSEY.
ELECTRIC SWITCH.

APPLICATION FILED JULY 1, 1911.

1,011,639.

Patented Dec. 12, 1911.



Witnesses:
Bernard J. Porter
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UNITED STATES PATENT OFFICE.

THOMAS E. MURRAY AND WILLIAM T. DEMPSEY, OF NEW YORK, N. Y.

ELECTRIC SWITCH.

1,011,639.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed July 1, 1911. Serial No. 636,343.

To all whom it may concern:

Be it known that we, THOMAS E. MURRAY and WILLIAM T. DEMPSEY, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Electric Switches, of which the following is a specification.

The invention is an electric switch designed more particularly for heavy currents, and for use with arc lamps in series. The construction is such as to secure, first, the formation of a conducting path for the current to the lamp, and then the closing of circuit through said path, thus insuring the proper cutting of the lamp into circuit, and out of same. This is effected by means of a simple gang plug, which can be handled with perfect safety, without skilled manipulation, and which can be inserted only in the proper position.

In the accompanying drawings—Figure 1 is a vertical section of our switch, on the line *x, x* of Fig. 3, showing the gang plug in place. Fig. 2 is a top view with the cover in place and gang plug removed. Fig. 3 is a section on the line *y, y* of Fig. 1. Fig. 4 is a section on the line *z, z* of Fig. 3, the gang plug being removed. Fig. 5 is a side elevation, and Fig. 6 an edge elevation, of the gang plug.

Similar numbers of reference indicate like parts.

The cup-shaped base 1 of the device is preferably made of refractory insulating material, and is provided with side brackets 2, through the vertical portions of which are formed openings 3, to receive bolts (not shown) by which said base may be secured to a post or other suitable support. In the horizontal portions of the brackets 2 are openings which receive the bolts 4, by means of which the cover 5, also of refractory insulating material, is secured to the base 1.

The base is internally divided into two compartments 6, 7, by means of the partition 8. In compartment 6 are two contact clips 9, 10, and in compartment 7 are two similar clips 13, 14. Each clip at its lower portion is bent twice on itself at right angles, so that a vertical portion *a* stands parallel to the vertical portion *b*. The end *c* of the portion *a* is curved over and downwardly, parallel to portion *b*, and the free extremity *d* of said end rests on a projection 11 on the bottom of the compartment. The

corresponding end portions *e* of the clips are normally in contact. The upper end of each clip 9, 10 is bent at right angles inwardly and then folded back on itself, and through both parts a threaded opening is formed, to receive a binding screw 12. The clips 13, 14 are provided with similar binding screws 12 at their upper ends. In the portion *b* of each clip is formed a tongue 16, Fig. 4, which, when the clip is seated in the base, is forced outwardly to engage in a notch made in the wall of the base, these tongues then holding the clips in place.

The main circuit conductors 17, 18 extend up through openings formed in the wall of the base 1, and are connected to contact clips 9, 10, by means of the binding screws 12. The local conductors 19, 20 are connected to the contact clips 13, 14 by binding screws 12*, and pass out of the base through a notch 21 formed in the upper edge thereof. Said local conductors may be connected to a translating device, such as an arc-lamp, symbolically indicated at 22, Fig. 3.

The gang plug, Figs. 5 and 6, is inserted through an opening 23 in the cover 5. The handle 24 is formed of two plates of insulating material connected by screws 25, and receiving between them two bifurcated plates of metal, 26, 27, separated by a plate of insulating material 28. One leg *e* of the double plug thus produced is made shorter than the other leg *f*. The cross section of the handle, where it enters the opening 23, is made wedge-shaped, to suit the shape of said opening, and is provided with a flange which extends over the cover and receives in a suitable groove a rib 29 surrounding said opening. The rib serves as a dam to prevent the entrance of water around the joint between handle and base.

The gang plug is inserted, so as to bring the long leg *f* between the clips 14, 13 and the short leg *e* between the clips 9, 10. The object of making the cover opening 23 and the handle wedge-shaped, is to insure the proper placing of the plug in this respect. Circuit then proceeds from main conductor 18, to clip 10, plate 27, clip 13, by local conductor 20, to lamp 22, and return by local conductor 19, to clip 14, plate 26, clip 9 and main conductor 17.

It will be obvious that when the plug is inserted, the long leg *f* enters the clips 13, 14, and so establishes a path for the current from said clips to the lamp, before the short

leg *e* enters clips 9, 10, and so closes circuit through said path.

The base may be filled with oil, as shown at 30, Fig. 4, in order to protect the contacts therein in the usual way. The partition 8 being of insulating material, forms a barrier preventing leakage or sparking across from one pair of contact clips to the other.

10 We claim:

1. An electric switch, comprising a base, two pairs of contacts therein, circuit terminals respectively connected to the members of said pairs of contacts, and a bifurcated gang plug, having legs of unequal length, entering said pairs of contacts and connecting one member of each pair of contacts with the corresponding member of the other pair.
- 20 2. An electric switch, comprising a base, two pairs of contacts therein, circuit terminals respectively connected to the members of said pairs of contacts, a bifurcated gang plug, having legs of unequal length, entering said pairs of contacts and connecting one member of each pair of contacts with the corresponding member of the other pair, and means for determining the insertion of the longer leg only in a selected pair of said
- 30 contacts.

3. An electric switch, comprising a cup-

shaped base, a partition dividing the same into two compartments, a pair of contact clips in each compartment, circuit terminals respectively connected to the members of said pairs of clips, and a bifurcated gang plug, having legs of unequal length, entering said pairs of clips and connecting one member of each pair of clips with the corresponding member of the other pair.

4. An electric switch, comprising a cup-shaped base, two pairs of contacts therein, circuit terminals respectively connected to the members of said pairs of contacts, a bifurcated gang plug, having a handle of insulating material, bifurcated arms entering said pairs of contacts and connecting one member of each pair of contacts with the corresponding member of the other pair, and a cover having an opening receiving said handle; the said cover opening and handle being of corresponding cross section, and of a shape preventing the insertion of said handle in said opening otherwise than in one position.

In testimony whereof we have affixed our signatures in presence of two witnesses.

THOMAS E. MURRAY.
WILLIAM T. DEMPSEY.

Witnesses:

GERTRUDE T. PORTER,
MAY T. MCGARRY.