

O. S. SCHAIRER.
ELECTRICAL TERMINAL DEVICE.

APPLICATION FILED AUG. 6, 1910. RENEWED SEPT. 13, 1912.

1,059,397.

Patented Apr. 22, 1913.

Fig. 1.

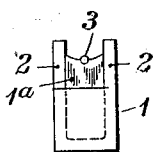


Fig. 3.

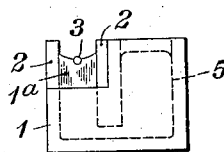


Fig. 2.

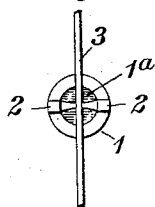


Fig. 4.

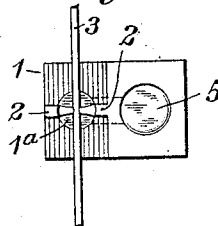


Fig. 5.

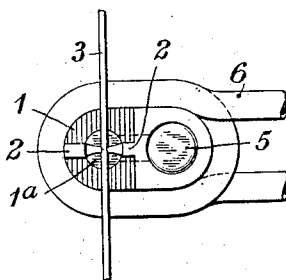
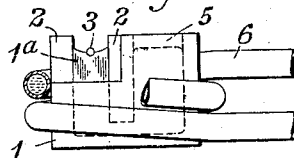


Fig. 6.



WITNESSES:

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OTTO S. SCHAIRER, OF EDGEWOOD PARK, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE LAMP COMPANY, A CORPORATION OF PENNSYLVANIA.

ELECTRICAL TERMINAL DEVICE.

1,059,397.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed August 6, 1911, Serial No. 576,003. Renewed September 13, 1912. Serial No. 720,275.

To all whom it may concern:

Be it known that I, OTTO S. SCHAIRER, a citizen of the United States, and a resident of Edgewood Park, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electrical Terminal Devices, of which the following is a specification.

My invention relates to electrical terminal devices, and particularly to devices whereby current may be conducted to and from longitudinally moving filaments or other conductors.

The object of my invention is to provide a device of the character indicated by means of which current may be conducted to a horizontally and longitudinally moving conductor without subjecting the same to undue strains, and it may be readily and conveniently applied to the conductor.

It has heretofore been proposed to treat or prepare filaments for incandescent lamps by applying different amounts of current to a longitudinally moving filament in different stages of its movement, the means for effecting this result comprising a series of terminal members having aligned apertures through which the filament passes, the portions of the terminal members surrounding the apertures being amalgamated, so that bodies of mercury may be suspended across the apertures by capillary action and surface tension. However, these devices do not readily permit of horizontal movement of the filament, and require threading of the filament therethrough in order to start the treating process. The present device is primarily intended for use when the filament is moved horizontally, and it is also so constructed that threading of the filament therethrough is unnecessary, and so that the device may be readily applied to the filament.

Figures 1 and 2 of the accompanying drawing are a side and a plan view, respectively, of the simplest form of the terminal device constituting the present invention. Figs. 3 and 4 are a side and a plan view, respectively, of a modified form of the device, and Figs. 5 and 6 are similar views of another modification of the device.

In its simplest form, the device comprises a recessed member or receptacle 1, having opposing prongs or projections 2 extending upwardly from its sides. The receptacle 1

contains a body 1^a of mercury and the prongs 2 are amalgamated, in order that they may possess a positive degree of capillary attraction for the mercury, which, if a sufficient amount thereof is placed in the receptacle, will rise between the prongs somewhat above the sides of the receptacle, as the result of capillary action. A sheet or wall of mercury is thus provided between the prongs the upper edge of which is concave, and the filament or conductor 3, to or from which the device is adapted to conduct current, is placed between the prongs upon the upper concave surface of the mercury, the weight of the filament serving to partially or wholly embed it in the mercury. The filament is maintained substantially midway between, and out of engagement with, the prongs, because of the concave form of the upper edge of the wall or sheet of mercury which makes good electrical connection with the filament, and also maintains it out of engagement with the sides of the receptacle.

In order that the wall or sheet of mercury between the prongs may be automatically maintained at a suitable height above the sides of the receptacle, the terminal member may be provided with an auxiliary recess or receptacle 5 (Figs. 3 and 4) that communicates, at its bottom, with the main receptacle, and contains a relatively large supply of mercury for the main receptacle.

The walls of the auxiliary receptacle 5 are preferably not amalgamated, in order that the full weight of the mercury therein may be utilized for assisting in maintaining the wall of mercury between the prongs. Otherwise, the operation of the device of Figs. 3 and 4 is, of course, similar to that of Figs. 1 and 2.

When the terminal device is used continuously and the current which is conducted to the filament is sufficient to heat the filament to incandescence, it may be desirable to provide means for cooling the terminal member, and, to this end, the device of Figs. 5 and 6, which is constructed in other respects like that of Figs. 3 and 4, is surrounded by a pipe 6 through which water may be conducted for conveying away the heat.

I claim as my invention:

1. A device of the character described comprising a receptacle having upwardly

projecting prongs, and a body of mercury within the receptacle and partially suspended between the prongs.

2. A device of the character described
5 comprising a receptacle having upwardly projecting amalgamated prongs, and a body of mercury contained within the receptacle and partially suspended between the prongs.

3. A device of the character described
10 comprising communicating receptacles of different depths, opposing prongs projecting above the sides of the receptacle of less depth, and mercury within the said receptacle and partially suspended between the
15 prongs.

4. A device of the character described comprising communicating receptacles, opposing prongs projecting above the sides of one of the receptacles, and mercury within the said receptacles and partially suspended between the prongs.
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5. A device of the character described comprising communicating receptacles, opposing amalgamated prongs projecting
25 above the sides of one of the receptacles, the sides of the other receptacle being unamalgamated, and mercury within the said receptacles and partially suspended between the prongs.

30 6. A device of the character described comprising communicating receptacles of

different depths, opposing amalgamated prongs projecting above the sides of the receptacle of less depth, the sides of the deeper receptacle being unamalgamated, and mercury within the said receptacles and partially suspended between the prongs.
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7. A device of the character described comprising a receptacle having opposing prongs projecting above the sides of the
40 receptacle, a body of mercury within the receptacle and partially suspended between the prongs, and means for cooling the receptacle.

8. A device of the character described
45 comprising a receptacle having opposing prongs projecting above the sides of the receptacle, a body of mercury within the receptacle and partially suspended between the prongs, and a conductor for a cooling
50 medium disposed adjacent to the receptacle.

9. A device of the character described comprising a member having upwardly projecting prongs and a body of mercury suspended between the prongs.
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In testimony whereof, I have hereunto subscribed my name this 3rd day of August, 1910.

OTTO S. SCHAIRER.

Witnesses:

B. B. HINES,

R. J. DEARBORN.