E. G. SMITH.

ELECTRICAL CONNECTION.

APPLICATION FILED JAN. 8, 1914.

1,212,699. Patented Jan. 16, 1917.

Fig. 1.

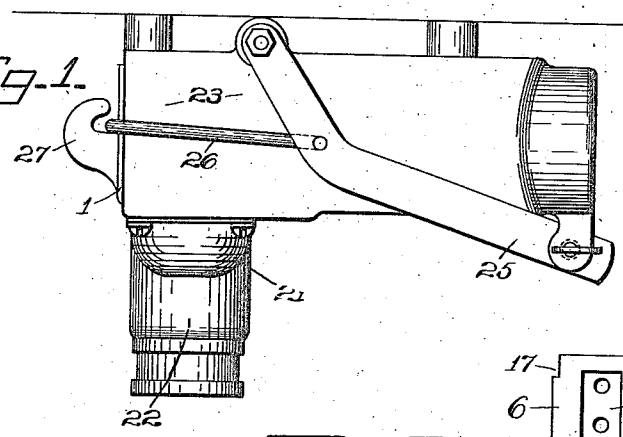


Fig. 7.

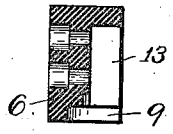


Fig. 6.

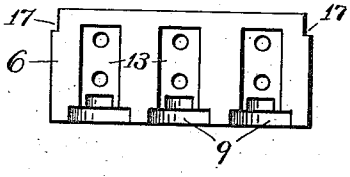


Fig. 2.

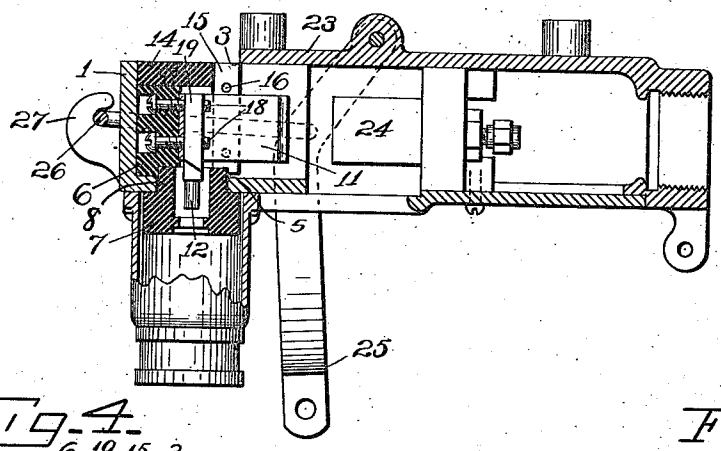


Fig. 8.

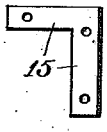


Fig. 4.

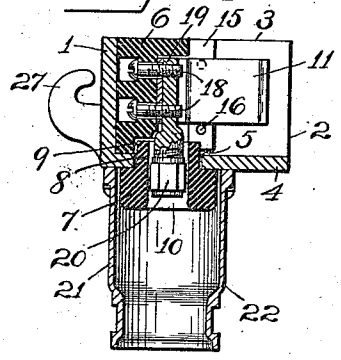


Fig. 3.

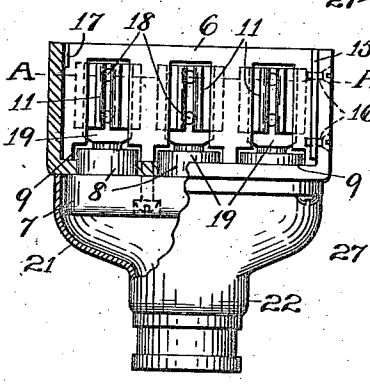
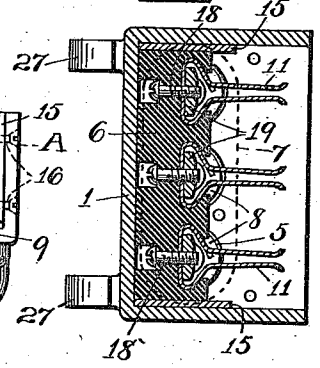


Fig. 5.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONNECTION.

1,212,699. Specification of Letters Patent. Patented Jan. 16, 1917.

Original application filed October 28, 1911, Serial No. 787,207. Divided and this application filed January 8, 1914. Serial No. 810,998.

To all whom it may concern:

Be it known that I, ELDA G. SMITH, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Electrical Connection, of which the following is a specification.

This invention has for its object the production of an electric connection particularly applicable to be used as a plug in conjunction with a terminal box, and it consists in the novel features of construction hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is an elevation of the terminal box and its electric connection or plug inserted therein. Fig. 2 is a longitudinal vertical sectional view of parts seen in Fig. 1, the terminal connection or plug being shown as moved partly out of the box. Fig. 3 is a front elevation of this electric connection, partly in section. Fig. 4 is a vertical sectional view taken centrally on Fig. 3. Fig. 5 is a sectional view on line A—A, Fig. 3. Figs. 6 and 7 are, respectively, an elevation and a sectional view of the block of insulation located within the box of this electric connection. Fig. 8 is a detail view of one of the retaining members.

This electric connection comprises, generally, a support including a wall having an opening therethrough, blocks of insulation mounted on opposite sides of said wall, one of the blocks having a hollow nipple extending into the opening and meeting the other block of insulation, a terminal mounted on one of the blocks and having a stem extending in the hollow nipple for connection with a wire, and a housing mounted on said wall in position to inclose the wire connected to the stem and one of the blocks of insulation.

1 is the support in the form of a box open at 2 at one end and at 3 at one side, the box including a wall 4 which is here shown as disposed opposite to the open side 3, the wall 4 being formed with a plurality of openings or perforations as 5 therethrough.

6 and 7 are blocks of insulation mounted on opposite sides of the wall 4 inside and outside of the box, one of these blocks being formed with hollow nipples 8 for entering the perforations 5, and the other of the blocks preferably being formed with recesses for receiving said nipples. As here shown, the block 7 is formed with the nipples 8 and the block 6 with the recesses 9, the block 7 having openings or passages 10 therethrough which extend through the nipples 8.

11 are terminals mounted on the block 6 and 12 are stems connected to the terminals 11 and depending into passages 10 for connection with electric wires, not shown. The block 6, located inside of the box, is here shown as formed with a plurality of grooves 13 in one side thereof, as the front side, which grooves open through the side of the block 6 opposed to the wall 4 and are alined with the passages 10 of the block 7. The lower ends of these grooves open into the recesses 9 which are countersunk relatively to the grooves 13. The block 6 is preferably made of one piece, but may be formed of two pieces, as seen in Fig. 2, in which the upper portion or strip 14 is separate from the main body thereof and secured thereto in any suitable manner.

In the form shown in Figs. 3 to 7 inclusive, the grooves 13 terminate short of the upper face of the block, and in the form shown in Fig. 2, these grooves extend through the upper and lower faces of the main body of the block 6 and are closed at their upper ends by a strip of insulation 14. The block 6 is located in a corner of the box, is extended the full width of the box and is held in position by retaining members 15 right angular in form and secured to the sides of the box by screws 16, corresponding arms of the retaining members engaging the front face of the block 6 and the other arms lying in recesses 17 formed in opposite end faces of the blocks 6, Fig. 6.

The terminals 11 include bases located in the grooves 13 and held therein by screws 18 extending through the block 6 into said bases and also contacts 19 having their bases fitted to the bases of the terminals. The grooves 13 are formed with their sides undercut so that the grooves have contracted entrances, and the bases of the contacts 19 are shaped to conform to said grooves.

The block 7 is here shown as elongated

and having the nipples 8 projecting therefrom at intervals. The stems 12 may be of any suitable construction and provided with any binding devices, such as 20, Fig. 4. The binding devices are omitted in Fig. 2.

21 is the housing mounted on the outer face of the wall 4 and inclosing the block 7, the housing being elongated and terminating in a centrally depending tubular nipple 22 through which the wires enter which are attached to the stems 12 of the terminals 11.

This electric connection is designed to move into and out of a box 23 having terminals 24 therein for engaging the terminals or contacts 19, and this connection or plug is moved into the box 23 by means of a lever 25 having bifurcations extending on opposite sides of the box 23 and means as a bail 26 extending around the end of the support or the box 1 of this connection and having detachable engagement with hooks 27 provided thereon.

The means for effecting the movement of the plug forms the subject matter of my copending application Sr. No. 787,207, filed Oct. 28, 1911, of which application this is a division, said application, Sr. No. 787,207 resulting in Patent No. 1,188,568, June 27, 1916, and the terminal box 23 forms the subject matter of my co-pending application Sr. No. 811,181, filed Jan. 9, 1914.

What I claim is:—

1. An electrical connection comprising a support including a wall having an opening therethrough, a block of insulation mounted on one side of said wall and having a socket alined with the opening, and also having a groove opening through a face thereof, the groove being alined in a lengthwise direction with the socket and with said opening, a block of insulation mounted on the other side of the wall and having a nipple extending through the opening and into the socket, and also having a passage extending through the nipple in line with the groove, a terminal mounted on the first-mentioned block and having its base lying in the groove, the terminal projecting beyond said face of the block in which the groove is formed, and a stem connected to the terminal and extending lengthwise of the groove and into the nipple, substantially as and for the purpose specified.

2. The combination with a socket, of an electrical connection movable into the socket and comprising a support in the form of a box open at its top and one end, means on the closed end of the box by which the box is moved into and out of the socket, insulation mounted in the corner of the block formed by the closed end and the bottom of the box and said bottom being formed with openings therethrough, terminals supported by the insulation on the side thereof toward the open end of the box, stems connected to the terminals and extending toward the openings in the bottom of the box, insulation mounted on the bottom of the box, and a housing mounted on the bottom of the box and inclosing the insulation and the wires connected to the stems, substantially as and for the purpose set forth.

3. An electrical connection comprising a support including a box open at its top and at one end and having openings in its bottom, insulation extending crosswise of the box and located in the corner formed by the closed end of the box and the bottom thereof, the insulation being formed with grooves in its front face toward the open end of the box, the grooves being alined in a lengthwise direction with the openings in the bottom of the box, terminals having their bases extending into the grooves, the terminals extending beyond the face of the insulation in which the grooves are formed, stems connected to the terminals and extending lengthwise of the grooves toward the openings in the bottom of the box, and insulation mounted on the outer side of the box and having perforations alined with the holes in the bottom of the box, substantially as and for the purpose described.

4. The combination with a socket, of an electrical connection movable into the socket and comprising a box open at one end and having perforations in its bottom, means at the closed end of the box by which the box is moved into and out of the socket, and a housing mounted on the box over the perforations, insulation mounted in the box, terminals mounted on the insulation, stems connected to the terminals and extending through the bottom, and a block of insulation mounted on the bottom within the housing, substantially as and for the purpose set forth.

In testimony whereof, I have hereunto signed my name in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 22nd day of December, 1913.

ELDA G. SMITH.

Witnesses:
C. C. SCHOENECK,
K. KIMMAN.