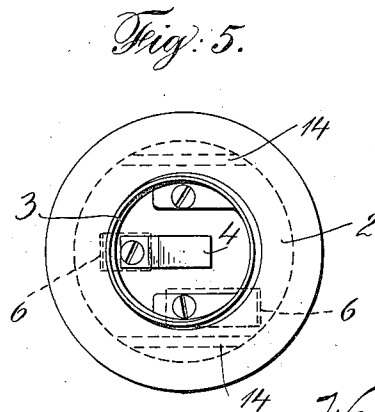
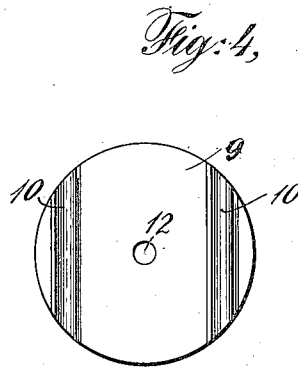
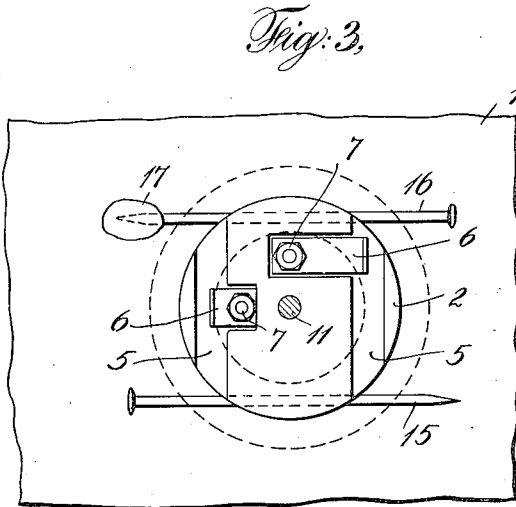
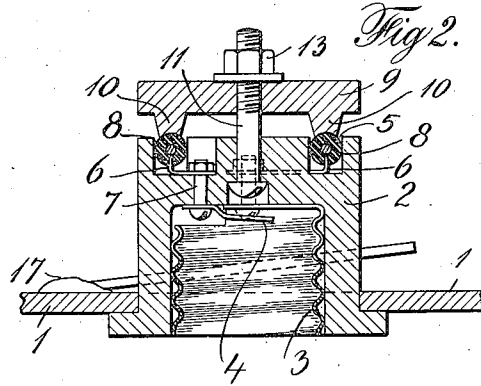
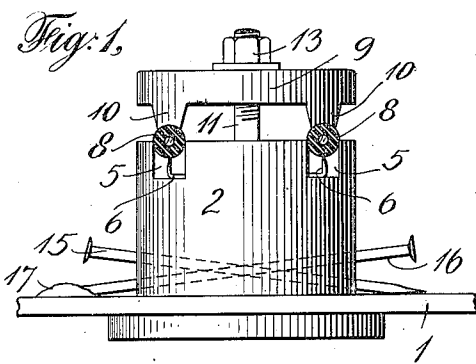


W. S. RYAN.
 RECEPTACLE OR SOCKET FOR ELECTRIC LAMPS.
 APPLICATION FILED AUG. 21, 1909.

962,589.

Patented June 28, 1910.



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UNITED STATES PATENT OFFICE.

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RECEPTACLE OR SOCKET FOR ELECTRIC LAMPS.

962,589.

Specification of Letters Patent. Patented June 28, 1910.

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To all whom it may concern:

Be it known that I, WALTER S. RYAN, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Receptacles or Sockets for Electric Lamps, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 illustrates an elevation of the invention; Fig. 2 illustrates a vertical sectional view of that which is shown in Fig. 1; Fig. 3 illustrates a plan view from the upper side as shown in Fig. 1, the clamp plate and conducting wires being removed; Fig. 4 illustrates a view of the under side of the clamp plate; Fig. 5 illustrates a view of the under side of the socket as illustrated in Fig. 2.

In recent years incandescent electric lamps are very extensively used for advertising, decorating and exhibition purposes. A considerable part of such use is intended to be more or less permanent, in which event the cost of original installation is not a serious matter; but a very large part, and a continually increasing part, of such use is temporary in character, or subject to continual change, and for such use the methods now employed of connecting the lamp sockets to the frames, or structures which support them, is expensive, both in time and money.

It is the purpose of this present invention, therefore, to so construct the receptacle and its co-acting parts that the installation of such work may be quickly and inexpensively performed and to this end the receptacles are so constructed and are provided with such appliances that they may be rigidly attached to the frame or structure which supports them in an extremely inexpensive and speedy manner, and yet with unusual solidity and reliability, and also with devices whereby the electrical connections between the lamp and the line wires may be quickly and inexpensively because automatically made.

Referring now to the drawings, 1 represents the support for the receptacle. In the case illustrated it is supposed to be the front piece of a sign board, or frame, which may be made as heretofore customary, in the form of a plate of galvanized iron, through which holes are made in proper arrangement to produce the desired lettering or figure or decoration which the lamps when lighted are to show.

2 is the receptacle of the lamp. It is made of porcelain, or other preferred insulated material. The receptacle is provided with the usual internal threaded sleeve 3, which is electrically connected with the appropriate line wire, and also with the usual central contact piece 4, likewise connected with its appropriate line wire. The rear side of the socket body is supplied with two transverse grooves 5, 5, in the bottom of each of which are arranged upwardly presented cutting edges 6, 6, preferably made in the form of sharpened steel blades. They are embedded in the insulating material of the socket and are held in place by screws or equivalent devices 7, 7, which likewise convey the current from them to the threaded lining 8 and to the central terminal 4 respectively, of the socket. The grooves 5, 5, are made so deep that the upper edges of the knives 6, 6, extend through them only about half way and they are made of such size that the insulated conductors 8, 8, will somewhat snugly fit within them at their outer parts, and they are made so deep that when the conductors are introduced within them and pressed down until they engage with the upper edges of the knives 6, 6, the conductors will be inclosed about half their diameter within the grooves 5, 5, so that they cannot be deflected or turned aside during the operation of pressing them down upon the cutters and effecting the penetration of the insulating material and the completion of the electrical contacts which are about to be described. 9 represents a clamp plate made likewise of insulating material and preferably provided with two outwardly extending ribs 10, 10, which are preferably

made concave upon their under side, so as to fit the cylindrical outline of the insulation of the conductors, and these ribs 10, 10, extend transversely across the clamp plate 9, as shown in Fig. 4, and in a manner to coincide with the location and direction of the grooves 5, 5.

11 is a threaded stem which is embedded and rigidly held in the material of the socket, projecting upwardly or rearwardly therefrom and it passes through a hole 12 (see Fig. 4) made in the clamp plate and is provided with a clamping nut 13 which, if desired, may be made in the form of a thumb nut.

In order to hold the socket firmly in the support 1, it is provided with two diagonally arranged openings or holes 14, 14, (see Fig. 5) one of them slanting from right to left, and the other on the opposite side of the socket slanting from left to right; and these openings or holes are made preferably of such size as to receive an ordinary wire finishing nail 15, 16, of the appropriate size.

The operation of the apparatus is as follows: The socket being introduced through the hole in the support 1, the finish nails 15, 16, or their equivalent are passed through the holes 14, 14 respectively, until their points rest against the surface of the support 1. If this support, as is usually the case, be made of metal, all that will be necessary will be to tap these nails lightly upon their heads with a hammer and the point of the nail impinging upon the metal support, will be deflected or bent and in so doing rigidly clamp the back plate to the support. If the support is made of wood, or other material that the nail will penetrate, then it will equally hold the socket in place; or, if desired, the extreme point of the nail may be turned up somewhat, and then the crowding action above referred to will likewise take place. If it is desired to hold the socket to its support with reliability against jar or other influence likely to displace it, then if the support be metallic in character, a drop of solder, shown at 17, may be deposited on the nail end, or if the support be of wood or other similar material, then an ordinary double pointed tack being driven into the support straddling the finish nail, will serve the same purpose. Now to effect the electrical connections, the clamp plate 9 is removed by unscrewing the nut 13, the insulated conductors are then one on one side, and the other on the other side; laid along in the grooves 5, 5, and pressed into them until the cutting edges of the knives rest against the insulation, as shown in Fig. 1. Thereupon the clamp plate is placed in position, care being taken that the ribs 10, 10 thereof conform in direction with the direction of the grooves 5, 5, and then the nut 13 being threaded onto the stem 11, and

turned by a wrench or pincers, or otherwise, the clamp plate will smoothly and with power crowd the insulated conductors down farther into the grooves 5, 5, during which operation the knives will penetrate the insulated material and finally come in contact with the wire of the conductor and thus quickly, accurately and inexpensively effect the electrical connections desired, the parts being then substantially as shown in Fig. 2. The current coming from these conductors will, as above suggested, flow through the knives, through the screws, or other fastenings 7, which confine them in part at least and thence to the threaded socket lining 3 and to the central contact piece 4, in a manner well understood.

I call particular attention to the fact that owing to the extended area of the edges of the knives which I prefer to make from a quarter to a half inch broad, there is sufficient extent of metal contact between the edges of the knives and the wires to effect good and efficient transmission of the current.

I wish it distinctly understood that the particular construction and arrangement of the parts which I have illustrated in the drawings hereof and described above form no essential part of this invention. They illustrate one form only, although a desirable form, in which the parts may be constructed and arranged. It will at once be obvious to those who are familiar with such matters that the details of construction and arrangement may be very extensively altered and still the essentials of the invention be retained. I therefore do not limit myself to that which I have above described and illustrated.

I claim:

1. An electric lamp socket having diagonally disposed holes adapted to receive a holding device, and means to connect and disconnect the electric conductors therewith at will without severing the conductors.

2. An electric lamp socket having diagonally disposed holes on different sides of the socket adapted to receive holding devices, the several holes being arranged at differing angles, for the purpose set forth.

3. An electric lamp socket having grooves for the reception of the conductors, blade-like devices for puncturing the insulation of the conductors located within the grooves, electrical connections between the respective blade-like devices and the respective socket terminals, a threaded stem projecting from the socket, a clamp plate provided with an opening adapted to receive the stem, projecting ribs on the clamp plate to engage with the conductors and a nut adapted to thread onto the stem and to force the plate against the conductors.

4. An electric lamp socket having blade-

like devices for puncturing the insulation of the conductors the cutting edges of the blades being arranged parallel with the axis of the conductors and means to press
5 the puncturing devices and the conductors together whereby the insulation will be punctured.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER S. RYAN.

Witnesses:

PHILLIPS ABBOTT,
JOSEPH N. PATCH.