Oct. 2, 1923. 1,469,208

E. A. BOHLMAN

SWITCHBOARD LAMP

Filed Feb. 14, 1921

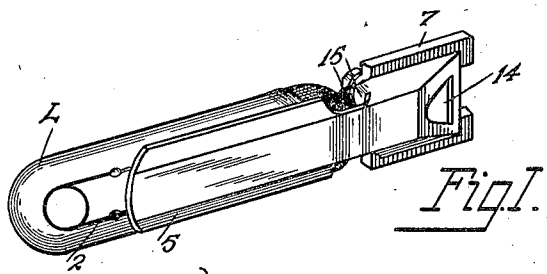


Fig. 1.

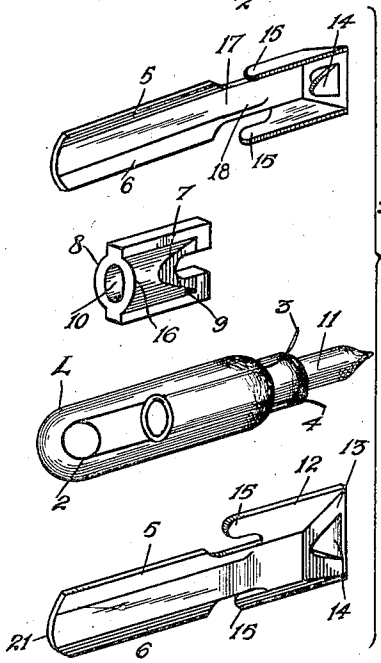


Fig. 2.

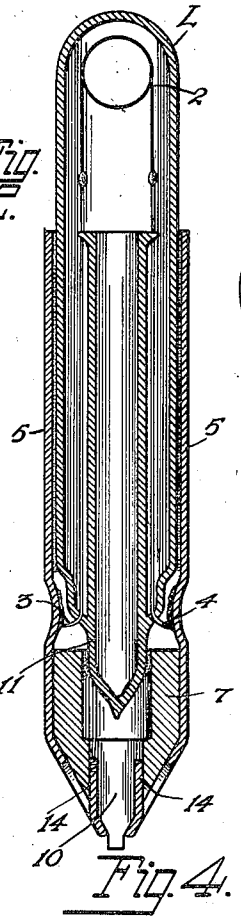


Fig. 4.

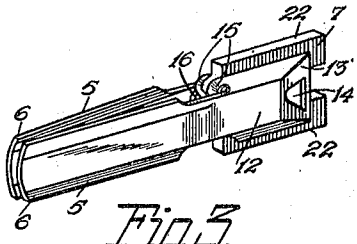


Fig. 3.

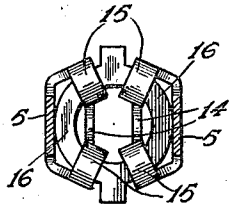


Fig. 5.

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UNITED STATES PATENT OFFICE.

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SWITCHBOARD LAMP.

Application filed February 14, 1921. Serial No. 444,772.

To all whom it may concern:

Be it known that I, ERNEST A. BOHLMAN, a citizen of the United States of America, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Switchboard Lamps, of which the following is a specification.

My invention relates to switchboard lamps which are small in size and adapted to be mounted within small confined spaces. These lamps are used to a large extent for telephone switchboards and are mounted in banks. Switchboard lamps of the above type are provided with terminal strips to which the lead-in wires of the lamps are soldered, and these terminal strips contact with springs in the lamp jacks when a lamp is inserted therein to connect a lamp in the circuit in which it is desired to include it.

An object of my invention is the provision of an improved terminal strip for a switchboard lamp and means for mounting the same, which is very economical to manufacture, very simple in construction and the use of it greatly facilitates the assembly of the lamp, thus materially decreasing manufacturing cost.

For a more complete understanding of my invention, reference may be had to the accompanying drawing, in which like reference characters in the several views denote like parts, and in which

Fig. 1 is a perspective view of a switchboard lamp embodying the improved terminal strip of my invention;

Fig. 2 is a disassembled perspective view of the lamp bulb, the lamp terminal strips and the base for the said lamp;

Fig. 3 is a perspective view of the terminal strips secured to the base of the said lamp, and before the lamp bulb is inserted between the terminal strips;

Fig. 4 is an enlarged sectional view of the lamp, illustrating the terminal strips securing means; and

Fig. 5 is a sectional view along the line 5—5 of Fig. 4.

Referring now more in detail to my invention as illustrated, I show the terminal strip of my invention associated with a lamp bulb L, which is preferably of the form shown in which the end of the bulb is round. The usual filament 2 is provided and is connected to and carried out through the side walls of the lamp bulb L in the usual manner by means of platinum wires, the ends 3 and 4 of said wires being soldered to the terminal strips 5—5. The metallic contact strips or terminal strips 5—5 forming terminals of the lamp are preferably of the form shown—that is, they extend along the sides of the bulb L for some distance and are suitably shaped for a portion of their length to cause them to closely fit the contour of the lamp bulb L. The terminal strips 5—5 are suitably cut and stamped of sheet brass, and as both terminal strips are similarly constructed, a description of one will be sufficient.

A wooden base 7 is provided, whose body portion 8 is cylindrical in shape, and its end 9 is beveled for purposes as will presently be described. The base 7 is provided with a central opening 10 extending the length of the base 7 and is of a size to receive the reduced end portion 11 of the bulb L; the said base 7 also serves as a mounting means for the terminal strips 5—5. The terminal strip 5 comprises a forwardly extending portion 6, suitable in shape to cause it to fit closely to the lamp bulb L, and its rearward end portion 12 is suitably shaped to engage the cylindrical portion 8 and beveled portion 9 of the base 7. The face of the beveled portion 13 of the terminal strip 5 has a tongue 14, integrally formed therewith by means of a shearing operation, which places the tongue 14 in angular relation with the beveled portion 13 of the terminal strip 5. The terminal strip 5 is also provided with a pair of clips 15, integrally formed therewith, the said clips 15 being intermediate of the ends of the terminal strip 5 and being for purposes as will presently be described.

To secure the terminal strip 5 to the base 7, the rearward portion 12 of the terminal strip 5 is placed over the cylindrical and beveled portions 8 and 9 of the base 7 and slipped forward to cause the tongue 14 of the beveled portion 13 of the terminal strip 5 to enter the central opening 10 of the base 7. When in this position, as illustrated clearly in Fig. 4, the clips 15 extend beyond the end of the base 7 and the clips 15 are bent over the edge of and into the hollow base 7 and firmly engage the circumferential edge 16 of the cylindrical portion of the base 7, as clearly illustrated in Figs. 4 and 5. The said clips 15, in association

with the tongue 14, prevent longitudinal movement of the terminal strip 5 in relation to the base 7, and this method of securing also prevents side movement of the terminal strip, thus producing a rigid mounting of the said terminal strip to the base 7. The terminal strip 5 is also provided with an intermediate reduced portion 17, and the inner face 18 of the reduced portion 17 forms a soldering face to which the platinum terminals 3 and 4 of the lamp filament are soldered. The terminals 3 and 4 are soldered to the face 18 and near the edge of the respective terminal strips, there being sufficient space between the reduced end of the lamp bulb L and terminal strips 5—5 to permit the soldering of said terminals to said terminal strips.

When the terminal strips 5—5 are secured to the base 7, as just described, the forward end portions 6—6 converge, as clearly illustrated in Fig. 3, and when the terminal strips 5—5 are thus assembled to the base 7 they are ready to receive a lamp bulb L. A lamp bulb L is inserted between the end portions 6—6 of the terminal strips 5—5 with reduced end portion 11 of the bulb L resting in the central opening 10 of the base 7. A suitable cement is placed on the end 11 of the lamp bulb L to secure said bulb to the base 7. Cement is also placed on the inner surfaces of the forwardly extending portions 6 of the terminal strips 5 to secure a lamp bulb L to the terminal strips. In the former methods clamping means are provided to hold the bulbs in place between the terminals between the time that the cement is placed thereon until it has hardened by means of a drying operation, but with a terminal of my construction this clamping means is eliminated, as the bulb L when inserted between the two terminal strip ends 6 forces the free ends against their normal tension, and this tension of the terminal strip ends holds the bulb L in place without any holding means during the drying operation.

The ends 6 of the terminal strips 5 of the assembled lamp are adapted to be engaged by contact springs of the lamp sockets, the latter being usually in the form of lamp jacks comprising a pair of springs as is well understood in the art, and a portion of this end 6 of the terminal strip 5 is provided with a flattened surface 21 to provide a good contact surface between the said terminal strips 5—5 of the lamp and the contact springs of lamp sockets, and this flatness tends to prevent the lamps from being turned out of their proper position during their insertion, or thereafter. The beveled portions 13 of the terminal strips 5, form wedge faces so that when the lamp as a whole is inserted between the spring terminals of the lamp jacks, it causes the said contact springs of the jack to be spread apart to permit the ready insertion of the said lamp. The base 7 is provided with a pair of ribs 22 diametrically opposed, for the usual purposes of separation between the two terminal strips 5—5 secured to the base 7.

From the foregoing it is apparent that I have provided a terminal strip which is simple, complete and efficient in association with a switchboard lamp, and it has been described with reference to a particular lamp construction, but it is readily seen it is applicable for other forms of lamps, and that changes will readily suggest themselves, and I, therefore, do not wish to be limited to the exact structure as shown and described, but aim to cover all such changes and modifications as come within the spirit and scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. A terminal strip of the class described comprising a forwardly extending portion and an enlarged rear portion, a tongue integrally formed with the rear portion of and parallel to said terminal strip, a base provided with a central orifice for receiving the tongue to position said terminal upon said base, a pair of clips integrally formed with said rear portion whereby said terminal strip engages the other end of said base, said clips engaging said orifice in said other end in the same plane with said tongue.

2. A terminal strip of the class described comprising a forwardly extending portion and an enlarged rear portion, a tongue sheared out of the rear portion of said terminal strip, a base provided with a central orifice for receiving said tongue to position said terminal strip upon said base, a pair of means integrally formed with said enlarged rear portion and intermediate of said terminal strip ends, said pair of means turned back to engage said orifice for securing said terminal strip upon said base.

3. A terminal strip of the class described comprising a forwardly extending portion and a rear portion, an angularly disposed tongue sheared out of the rear portion of said terminal strip, a base provided with a central orifice into which said tongue extends for positioning said terminal strip upon said base, and clips integrally formed with said rear portion intermediate of said terminal strip ends, said clips being turned back over the end of said base to engage the orifice in said base for securing said terminal strip to said base, another terminal strip mounted on said base like the first, and a pair of non-conducting flanges on said base separating said terminal strips.

4. A terminal strip of the class described comprising a forwardly extending portion

and a rear portion, an angularly disposed tongue integrally formed on said rear portion, a base provided with a central orifice into which the said tongue extends, and a pair of clips integrally formed intermediate of the ends of said terminal strip bent to engage said forward end of said base to secure said terminal strip to said base, said base having a pair of non-conducting flanges and said terminal strip having its rear portion shaped to substantially conform with the contour of said base whereby said terminal strip engages said flanges to align said terminal strip, and to prevent said terminal strip from rotating on said base.

5. A terminal strip of the class described comprising a forwardly extending and a rear portion, said rear portion having beveled portions, a tongue integrally formed with one of said beveled portions and a pair of clips integrally formed with the other beveled portions intermediate of the ends of said terminal strip, a base having its one end beveled and provided with a central orifice for receiving said tongue to position the said terminal strip upon said base and said clips bent to engage the circumferential edge of the forward end of said base to secure said terminal strip upon the base against lineal movement, and a pair of flanges for said base, said beveled portions carrying said clips engaging said flanges to prevent rotation of said terminal strip upon said base.

6. In an electric lamp terminal strip, a base element, said terminal strip having a tongue sheared out of its body near its rear end for extending into said base member, a pair of flanges integrally formed with said rear end of said terminal strip for engaging said base element to prevent rotation of said terminal strip on said base element, and a pair of clips between its ends turned over to clamp said base member.

7. In a pair of electric lamp terminal strips provided with flanged portions, a non-conducting cylindrical base provided with an orifice and also having flanges to engage said flange portions of said terminal strips to insulate and align the said terminal strips, and three clips on each terminal strip to engage the orifice in said base on opposite sides of the flanges, part of said clips at the end of the terminal strips and part at intermediate points thereof, said clips securing said terminal strips to said base against lineal movement and said flanges engaging said flange portions to also prevent rotatable movement of said terminal strip.

8. In an electric lamp, a base of non-conducting material in the form of a flanged cylinder beveled on both sides at the rear end, and terminal strips each having beveled side portions and a beveled end portion for engaging the flanged beveled portions of said base, and mounted thereon each beveled end portion of said terminal strips having one clip to engage the rear end of the base and each beveled side portion of said terminal strips having a clip to engage the forward end.

Signed by me at Chicago, in the county of Cook and State of Illinois, this 11th day of February, 1921.

ERNEST A. BOHLMAN.