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ELECTRIC LAMP

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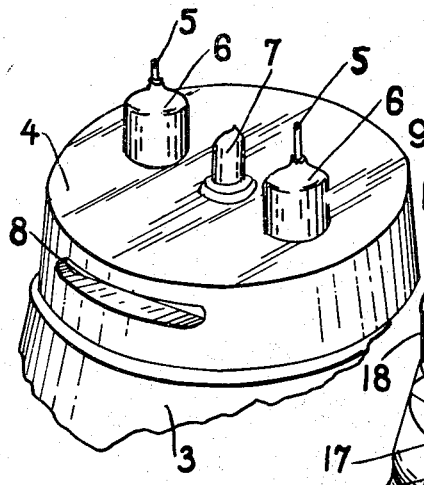

Fig. 1

Fig. 2

Fig. 3

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ELECTRIC LAMP

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12 Claims. (Cl. 176—32)

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This invention relates to electric lamps and more particularly to lamps especially adapted for outdoor lighting, such as street lighting, for example.

An object of this invention is to provide a new type of street lighting lamp.

Another object is to provide a lamp suitable for outdoor lighting in which the light source, the reflector, and the refractor are incorporated in one unit.

A further object is to provide such a lamp with a new and novel base and socket combination which permits the elimination of the conventional adapter.

Further objects, advantages and features will be apparent from the following specification when read in conjunction with the accompanying drawing in which:

Figure 1 is a fragmentary detailed view of the boss which forms the base of the reflector member of the lamp.

Figure 2 is a perspective view of the lamp assembly, shown partly in section.

Figure 3 is a detailed view of one of the clips employed in the lamp assembly.

This invention embodies the idea of a lamp which comprises a reflector, refractor and light source in a single unit. The invention also embodies the idea of providing a cap for the end of the lamp and a series cutout socket of the prong type to permit insertion of the lamp directly into a conventional series receptacle, thereby eliminating the customary intermediate adapter, commonly referred to in the trade as a cut-out socket.

In Figure 2, the lamp 1 comprises a glass refractor member 2 sealed to a glass reflector member 3. The base of the reflector 3 comprises a molded glass boss 4 which is preferably formed integral therewith. A filament (not shown) is mounted within the lamp 1 and is supported by lead wires 5 which extend through the boss 4 and through ferrules 6 (Figure 1) which are sealed to the boss. The boss 4 is also provided with an exhaust tube 7 for lamp evacuation purposes. The periphery of the boss 4 is provided with two depressions 8 (one of which is shown in Figures 1 and 2), the purpose of which is described below.

As mentioned above, one of the features of this invention is the combination of elements which permits the elimination of an adapter. A conventional lamp of this general type usually comprises a bulb with a mogul base, an adapter, one end of which is provided with a socket into which

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the base is screwed, a pair of elongated prongs extending from the other end of the adapter and a receptacle into which the free ends of the prongs are inserted. In this invention the resilient metal prongs 9 directly engage the end of the lamp 1 and a molded cap 10 of insulating material is slipped down over the prongs to encompass the boss 4 and the upper end of the reflector member 3 of the lamp 1.

Engagement of the end of the lamp 1 by the prongs 9 is effected by positioning the lip 11 on an end of the prong 9 in the depression 8 in the boss 4. The lead wires 5 are connected to the prongs 9 by spot welding or soldering for example, one of these connections being shown at 12 in Figure 2. After the lead wires 5 have been connected to the prongs 9, and the lips 11 on an end of the prongs have engaged the depressions 8, the molded cap 10 is slipped down over the prongs and into position as shown in Figure 2.

One of the features of the prongs 9 is the spring tongue 13 with which each is provided. The tongue 13, which is preferably formed integral with the prong, serves as a locking device to prevent detachment of the lamp-prongs-cap assembly. As may be seen in Figure 2, the free end of the tongue 13 engages the base of the cap 10. If at any time during the insertion or withdrawal of the lamp assembly in its receptacle an abnormal force is exerted which might tend to draw the cap 10 from its normal position and cause it to become detached, the free end of the tongue 14 will bite into the base of the cap 10 thereby effectively securing the cap in position.

The lower portion of the prongs 9 are shaped substantially in the form of an inverted L, the leg thereof being designated by the numeral 14 and the base by numeral 15 (Figure 3). The base 15 is cut away at 16 to give more resiliency thereto. As may be seen in Figure 2, the internal contour of the cap is designed to provide a bearing surface at 17 for the prong 9 at the junction of the leg 14 and the base 15. This effects a biasing of the legs 14 to the boss 4 and thus secures the prongs 9 of the lamp.

If desired, the base of the cap 10 may be provided with ears 18 to make the lamp readily adaptable for use with all types of receptacles with which conventional lamps of this general type are customarily employed.

What we claim is:

1. An electric lamp comprising a sealed bulbous envelope having a neck portion; metal prongs, one end of which engage the neck portion of said

envelope; lead wires extending from said envelope and connected to said prongs; and a hollow cap of insulating material mounted on the neck portion of the envelope, said cap being provided with slots in its base through which the metal prongs extend.

2. An electric lamp comprising a sealed bulbous envelope having a neck portion; metal prongs, one end of which engage the neck portion of said envelope; lead wires connected to said prongs; a hollow cap of insulating material mounted on the neck of the envelope, said cap being provided with slots in its base through which the metal prongs extend; and a resilient tongue connected at one end thereof to each of said prongs, the free end of said tongue normally engaging the outer face of the base of said cap.

3. An electric lamp comprising a sealed bulbous envelope having a neck portion; metal prongs, one end of which engage the neck portion of said envelope; lead wires connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the envelope, said cap being provided with slots in its base through which the metal prongs extend; and a resilient tongue formed integral with each of said prongs, the free end of said tongue normally engaging the outer face of the base of said cap.

4. An electric lamp comprising a sealed bulbous envelope having a neck portion; metal prongs, one end of which engage the neck portion of said envelope; lead wires extending from said envelope and connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the envelope, said cap being provided with slots in its base through which the metal prongs extend; said prongs being biased to the neck portion of said envelope.

5. An electric lamp comprising a sealed bulbous envelope having a neck portion; metal prongs, one end of which engage the neck portion of said envelope; lead wires extending from said envelope and connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the envelope, said cap being provided with slots in its base through which the metal prongs extend; the other ends of each of said prongs being biased to each other.

6. An electric lamp comprising a sealed bulbous envelope having a neck portion; metal prongs, one end of which engage the neck portion of said envelope; lead wires extending from said envelope and connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the envelope, said cap being provided with slots in its base through which the metal prongs extend; said ends of said prongs being biased to the neck portion of said envelope and the other end of each of said prongs being biased to each other.

7. An electric lamp comprising a bulbous envelope having a neck portion; a boss sealing the opening defined by said neck portion, the periphery of said boss being provided with at least two depressions; lead wires extending out of said boss; a pair of metal prongs each having a lip portion on an end thereof, said lip portion engaging the depression in said boss, and said lead wires being connected to said prongs; and a hollow cap of insulating material mounted on the neck portion of the bulbous envelope and enclosing the boss, said cap being provided with slots in its base through which the metal prongs extend.

8. An electric lamp comprising a bulbous envelope having a neck portion; a boss sealing the opening defined by said neck portion, the periphery of said boss being provided with at least two depressions; lead wires extending out of said boss; a pair of metal prongs each having a lip portion on an end thereof, said lip portion engaging the depression in said boss, and said lead wires being connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the bulbous envelope and enclosing the boss, said cap being provided with slots in its base through which the metal prongs extend; and a resilient tongue connected at one end thereof to each of said prongs, the free end of said tongue normally engaging the outer face of the base of the said cap.

9. An electric lamp comprising a bulbous envelope having a neck portion; a boss sealing the opening defined by said neck portion, the periphery of said boss being provided with at least two depressions; lead wires extending out of said boss; a pair of metal prongs each having a lip portion on an end thereof, said lip portion engaging the depression in said boss, and said lead wires being connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the bulbous envelope and enclosing the boss, said cap being provided with slots in its base through which the metal prongs extend; and a resilient tongue formed integral with each of said prongs, the free end of said tongue normally engaging the outer face of the base of said cap.

10. An electric lamp comprising a bulbous envelope having a neck portion; a boss sealing the opening defined by said neck portion, the periphery of said boss being provided with at least two depressions; lead wires extending out of said boss; a pair of metal prongs each having a lip portion on an end thereof, said lip portion engaging the depression in said boss, and said lead wires being connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the bulbous envelope and enclosing the boss, said cap benig provided with slots in its base through which the metal prongs extend; said prongs being biased to said boss.

11. An electric lamp comprising a bulbous envelope having a neck portion; a boss sealing the opening defined by said neck portion, the periphery of said boss being provided with at least two depressions; lead wires extending out of said boss; a pair of metal prongs each having a lip portion on an end thereof, said lip portion engaging in the depression in said boss, and said lead wires being connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the bulbous envelope and enclosing the boss, said cap being provided with slots in its base through which the metal prongs extend; the other end of each of said prongs being biased to each other.

12. An electric lamp comprising a bulbous envelope a neck portion; a boss sealing the opening defined by said neck portion, the periphery of said boss being provided with at least two depressions; lead wires extending out of said boss; a pair of metal prongs each having a lip portion on an end thereof, said lip portion engaging the depression in said boss, and said lead wires being connected to said prongs; a hollow cap of insulating material mounted on the neck portion of the bulbous envelope and enclosing the boss, said cap being provided with slots in its base through which the metal prongs extend; said ends of said

prongs being biased to said boss and the other end of each of said prongs being biased to each other.

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