No. 636,336. Patented Nov. 7, 1899.

G. A. HARTER.

INCANDESCENT LAMP HOLDER OR RECEPTACLE.

(Application filed Mar. 4, 1899.)

(No Model.)

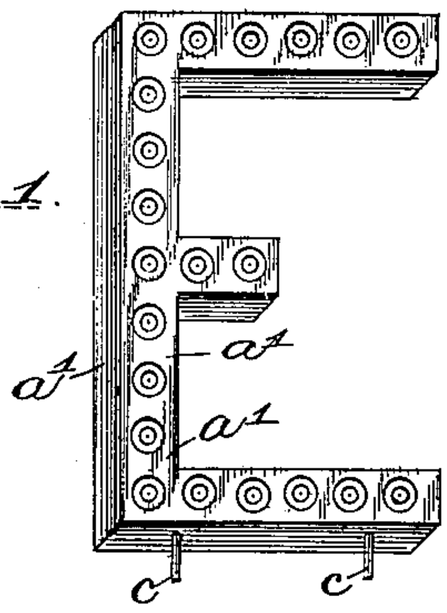


Fig. 1.

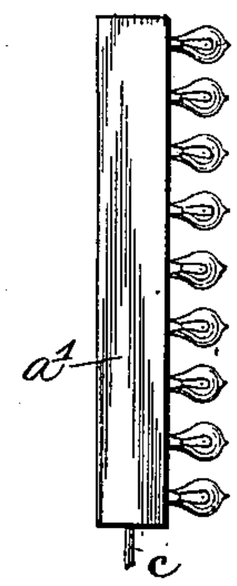


Fig. 2.

Fig. 3.

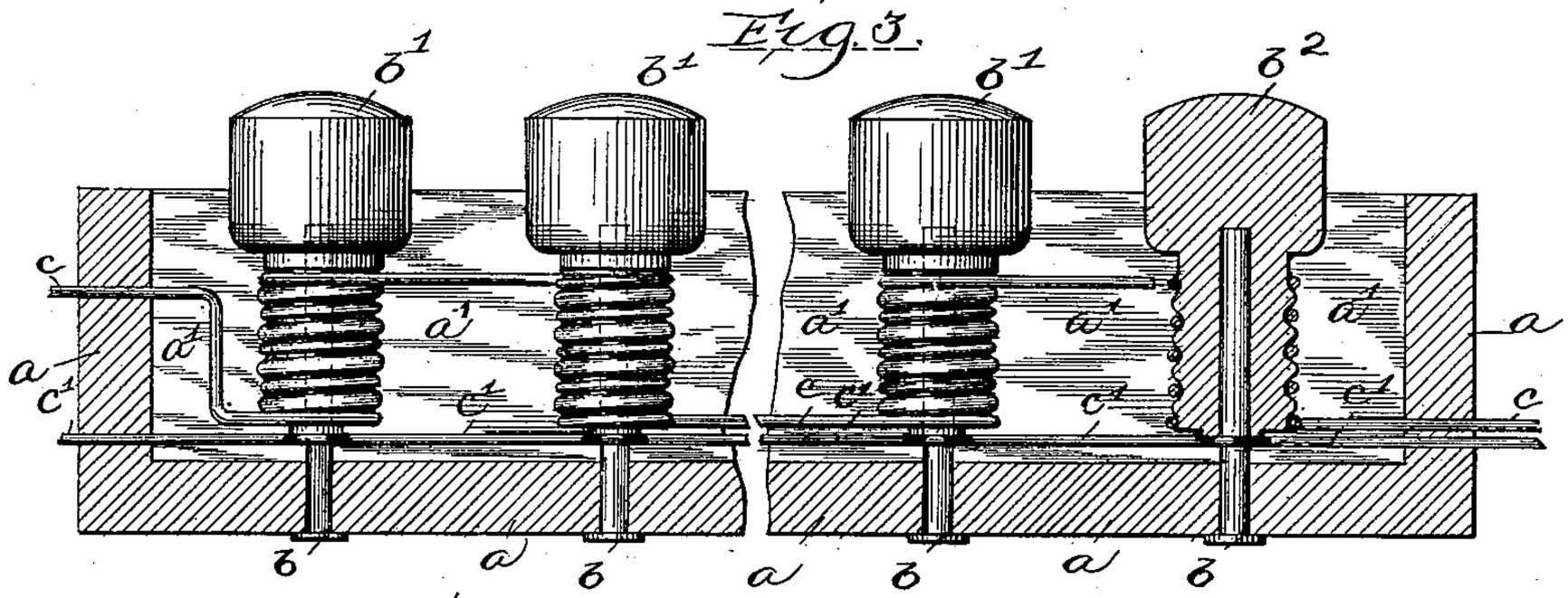


Fig. 6.

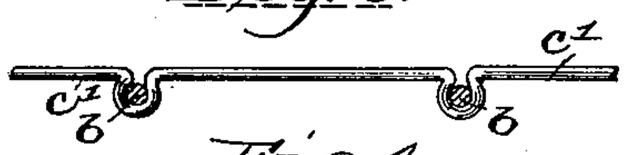


Fig. 4.

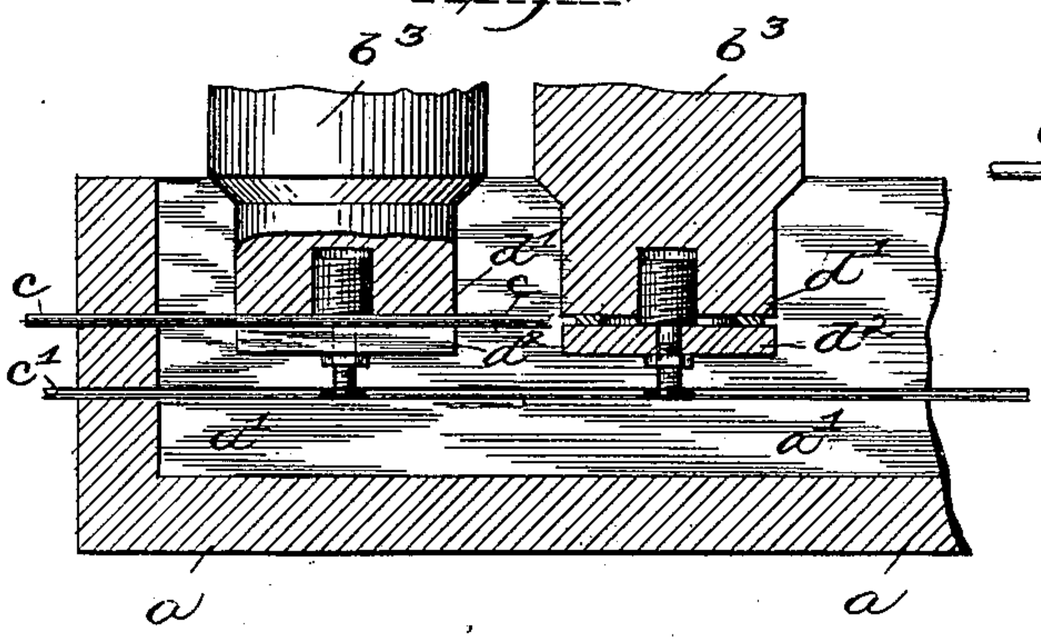
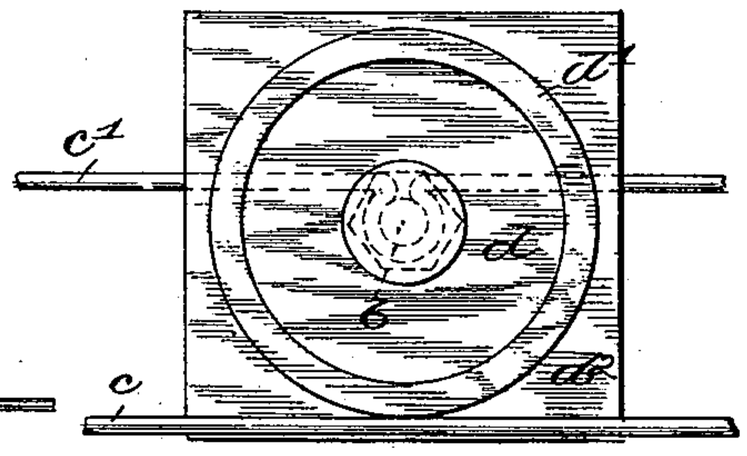


Fig. 5.



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GUSTAV A. HARTER, OF CHICAGO, ILLINOIS.

INCANDESCENT-LAMP HOLDER OR RECEPTACLE.

SPECIFICATION forming part of Letters Patent No. 636,336, dated November 7, 1899.

Application filed March 4, 1899. Serial No. 707,708. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV A. HARTER, a citizen of the United States, residing at the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Incandescent-Lamp Holders or Receptacles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable persons who are skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in incandescent-lamp holders or receptacles.

The object of my invention is to cheapen the construction, to increase the utility, and to protect the holder or receptacle against mechanical and electrical injury by constructing it as an integral part of the object on which it is desirable to mount a number of incandescent lamps. Heretofore sockets, holders, or receptacles have been made as a separate device, and these have been attached to the object upon which it has been desirable to mount a series of incandescent lamps. When the latter method of mounting incandescent lamps is employed, the length of the socket, together with the lamp, produces too much of a projection from the surface upon which they are mounted for the most artistic effect. For decorative purposes this is especially objectionable—as, for instance, where lamps are to be mounted upon the walls, ceilings, or under the coves of a room. If only the glass portion of the lamp is visible, the artistic effect is greatly enhanced. There are a great many places where this effect is desirable, as in signs where the outline of the letter or configuration is produced by a series of lamps, in fixtures, and in groups of lamps. I might mention a great number of other places where the effect produced as a result of my invention would be highly appreciated.

My invention has for its object to produce the effect described and at the same time to cheapen the construction of the lamp-holders and to produce a construction more durable than when separate holders are used and mounted in the manner described.

With these and other objects in view my invention consists in the novel construction, relation, and combination of parts, whereby a new article of manufacture is produced, hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, which form a part hereof, Figure 1 is an elevation of a sign-letter, made of plastic material, wherein the lamp-receptacles are made an integral part of the letter. Fig. 2 is a side view of the same, showing the lamps placed in the receptacles. Fig. 3 is a broken section of a mold, showing my method of placing the receptacle-contacts in the mold and connecting them to circuit-wires therein ready for the plastic material to be molded around them. Fig. 4 is a similar view arranged for a different lamp-base. Fig. 5 is a plan view of the contacts used in Fig. 4. Fig. 6 is a connecting-wire which also forms one of the receptacle-contacts of Fig. 3.

Like letters refer to similar parts in the several figures.

Referring to Fig. 3, *a* is a mold-form into which the plastic material which is to compose the object into which I desire to construct my lamp-receptacles is placed. The spaces *a'* in the mold are all to be filled with such material.

I have illustrated in Fig. 3 one practical cheap method of constructing a series of receptacles adapted for an Edison-base lamp. The bottom of the mold *a* should be pierced with small holes a regular distance apart at as many places as it may be desirable to produce a receptacle. A pin *b* should be inserted in these holes, as shown. Plugs *b'* each have a screw-thread corresponding to the screw-thread on the base of an Edison lamp. One of the said plugs is placed over each of the pins *b*. These plugs do not quite touch the bottom of the mold. A wire *c*, preferably a soft-copper wire about No. 14 in size, is wound around the said plugs within the screw-thread. The terminus of the wire after being wound around all of the plugs, as shown, is then taken outside of the mold and forms one of the terminals for the entire group of holders. Another wire *c'* (shown in plan view in Fig. 6) is wound partially around the pins *b* in succession and forms the other terminals of the group of receptacles. It will be noticed that the plug is larger at its top end. The ob-

ject of this is to leave a depression in the plastic material around the receptacle. After the wires *c* and *c'* have been placed as described, and as shown in Fig. 3, plastic material—such as plaster-of-paris, cement, clay, or any suitable insulating material—is placed or poured into the mold *a*. It may then be baked or burned, if it is of suitable material for such a process, and when it is thoroughly dried or "set" the plugs *b'* are backed out from the screw-thread they have formed in the plastic material. The pins *b* are driven or screwed out through the back of the mold. The holes the pins have left may be closed with some of the material used in forming the object, and I will then have an object—such as a letter, a cove-mold, or the like—containing a series of receptacles and their connecting-wires constructed in one integral part which is waterproof, compact, and cheap to produce. After the plastic material has become hard and dry the wires *c* and *c'* will be held firmly in place. I have shown plug b^2 in section to more plainly illustrate the manner of winding the wires thereon. My letter or the like is now ready for the lamps, and all that is necessary is to screw the lamps into the receptacles that have been formed in the plastic material in the manner described, and when wires *c c'* are connected to a proper circuit the lamps will light.

Fig. 4 shows a similar mold to that shown in Fig. 3 arranged for producing receptacles for lamps having a Thomson-Houston base. In this case the contacts *d* and *d'* are mounted upon a small sheet of insulating-board, such as fiber, d^2. This is preferably rectangular in shape, as shown in plan view, Fig. 5. The wires *c* and *c'* are soldered to the contacts *d* and *d'*. They are then placed into the mold, as shown in Fig. 4, and the plastic material is placed or poured around them, as before described. The plugs b^3 are first screwed down onto studs *d*, as shown.

Contacts for lamps requiring a different socket from those shown may be made in a similar manner, as I desire it understood that I do not limit myself to the specific details of construction herein shown and described, but reserve to myself the right to make such changes in the form and arrangement of the various parts as may fairly come within the spirit of my invention.

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

1. An article of manufacture, a series of lamp-receptacles having their respective electrical contacts properly disposed and partly surrounded with a plastic material common to all, substantially as set forth.

2. An article of manufacture, a series of lamp-receptacles having their respective electrical contacts properly disposed, said contacts being connected in an electric circuit, the contacts partly and circuit-wires entirely surrounded with plastic material common to all, substantially as set forth.

3. An article of manufacture, a series of lamp-receptacles having their respective contacts properly disposed and held in position by a plastic material which surrounds all of the series of receptacles in common, substantially as set forth.

4. An article of manufacture, a series of lamp-receptacles having their contacts properly disposed and held in position by a plastic material, which surrounds all of the series of receptacles in common, and which also forms an attachment, such as a screw-thread, or the like, for retaining the lamp in the said receptacle, substantially as set forth.

5. An article of manufacture, a socket or receptacle having electrical contacts properly disposed, and held in position by a plastic material which partly surrounds them, and an attachment such as a screw-thread, formed into the said plastic material as a means for retaining a lamp in the said socket, substantially as set forth.

6. An article of manufacture, a sign-letter, or the like, composed of plastic material, a series of lamp-receptacles made an integral part of the said letter, and electric wires embedded in the said plastic material extending to the outside surface of the said letter for attaching to an electric circuit, substantially as set forth.

7. The process of making an electric sign, letter or the like, which consists in forming a mold, of the desired shape, placing a number of receptacle-contacts therein, in the manner shown, connecting the said contacts to circuit-wires, leading the circuit-wires outside of the mold for terminals, placing plugs, corresponding to the lamp-bases, in proper relation with the contacts, and filling the mold with an insulating, plastic material, and then drying or baking the plastic material, substantially as set forth.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 27th day of January, 1899.

GUSTAV A. HARTER.

Witnesses:
M. F. ALLEN,
FORÉE BAIN.