No. 811,058. PATENTED JAN. 30, 1906.

C. HALLER.

ELECTRIC SIGN.

APPLICATION FILED APR. 29, 1905.

Fig. 1.

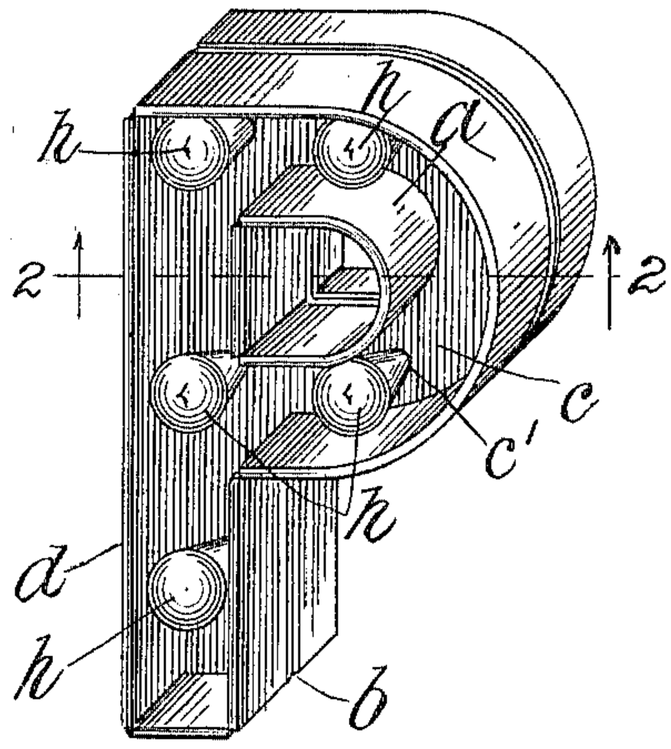


Fig. 5.

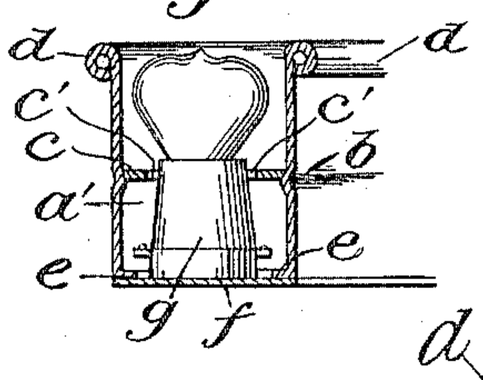


Fig. 6.

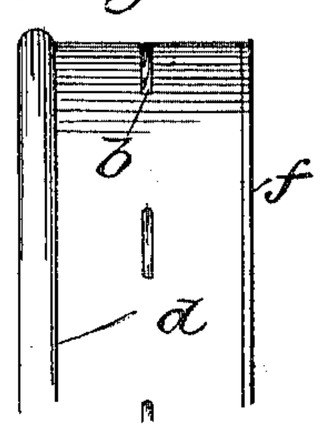


Fig. 2

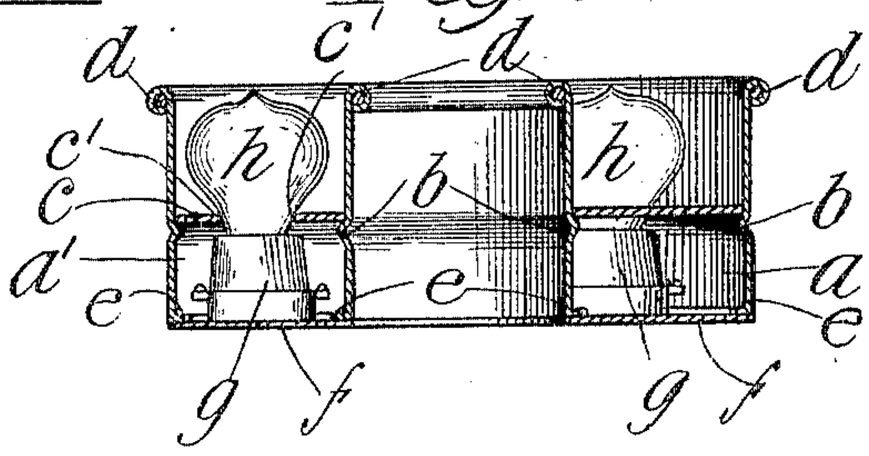


Fig. 3

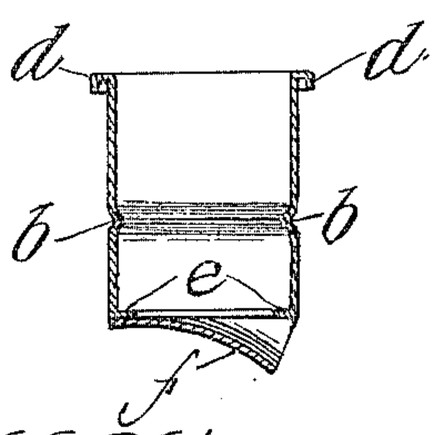
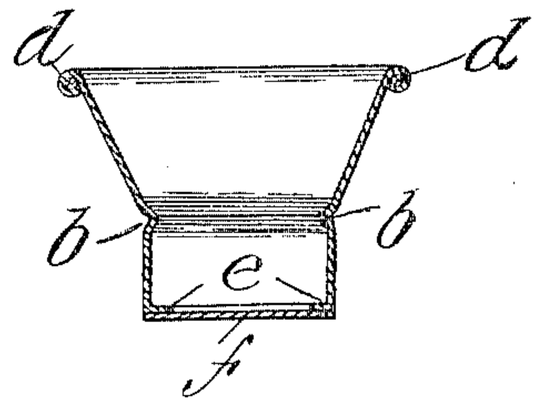


Fig. 4



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UNITED STATES PATENT OFFICE.

CARL HALLER, OF CHICAGO, ILLINOIS.

ELECTRIC SIGN.

No. 811,058. Specification of Letters Patent. Patented Jan. 30, 1906.

Application filed April 29, 1905. Serial No. 257,982

To all whom it may concern:

Be it known that I, CARL HALLER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Electric Signs, of which the following is a specification.

My invention relates to electric signs of the type wherein the sign letters or numerals are illuminated by incandescent electric lamps, and the purpose is to provide an individual sign-letter—that is to say, a letter or numeral which is complete in itself and which need not be secured to any foundation-plate or similar structure in order to be complete.

With this purpose in view the general object of the invention is to produce a letter which is simple in construction, durable, waterproof, capable of exhibiting a sharp outline, and efficient when only a comparatively small number of lamps are employed.

The novelty claimed for this invention resides more especially in the formation of the walls of the letter-shells, the diaphragm and its manner of mounting, and the location of the lamp-sockets upon the back plate.

Referring to the drawings, which illustrate the means by which I accomplish my objects, Figure 1 is a perspective view of a complete letter. Fig. 2 is a sectional view thereof on line 2 2, Fig. 1. Fig. 3 is a sectional view taken transversely through the letter with the diaphragm removed. In this figure a modified form of beading at the front of the letter is shown, and the back plate is shown partially turned back to better illustrate its construction. Fig. 4 is analogous to Fig. 3, but illustrates a type of letter having flaring walls. Fig. 5 is a view of a modification in which the forward extremity of the lamp-sockets are shown to extend a slight distance through the aperture in the diaphragm. Fig. 6 shows a modification in which the ridge in the letter-outline is intermittent instead of continuous, as in Fig. 1.

Similar letters refer to similar parts throughout the several views.

The letter-outline shell consists of walls *a a*, which are composed of single sheets of metal from back to front and have formed therein at a point between the front and rear edges an inwardly-projecting ridge or shoulder *b*, designed to form a support for the diaphragm *c*. In addition to being of a single piece from back to front it is desirable that a wall shall be formed of a continuous sheet or strip along its perimeter, the object being to eliminate joints at the bends of the letter. The formation of certain letters and numerals is such that double walls will be required—that is, an inner and an outer one—for example, at the upper portion of the letter "P" shown in the drawings; but each wall is preferably formed of a single piece of metal for the reason mentioned. In order to stiffen the crown or front rim of the shell, it is desirable to form a beading *d*, which may be round in cross-section, as shown in Figs. 1, 2, and 4, or rectangular, as shown in Fig. 3. It is possible to omit the beading; but such beading is desirable, as it strengthens and stiffens the letter. At the back of the letter are formed flanges *e e*, which are preferably turned inward and are adapted to be soldered or otherwise secured to the back plate *f*. Said back plate consists, preferably, of sheet metal and extends from wall to wall, so as to form a backing or rear part of the letter.

At suitable intervals lamp-sockets *g*, which may be of any suitable type, are rigidly secured to back plate *f* about midway between the walls of the letter-shell and under ordinary circumstances are independent of the diaphragm *c*.

The diaphragm *c* above mentioned has apertures *c'* at points corresponding to each lamp-socket for receiving the base portion of the lamp-bulbs *h*, as shown in Fig. 2, or forward extremity of said lamp-sockets, as shown in Fig. 5.

The ridges *b* above referred to project inwardly and extend around the letter parallel to the back thereof, so that when the diaphragm *c* is soldered or otherwise riveted upon said supporting-ridges the diaphragm will be parallel to the back plate *f* and a chamber will be formed between them for containing the lamp-sockets *g* and hiding the major portion of the latter from view and protecing the wiring from the weather.

The advantages in this form of letter are important, for, in the first place, the ridge *b* may be impressed into the strip of metal before the latter is bent into the form of a letter-outline, and the formation of the ridge is therefore a simple and inexpensive matter. Again, inasmuch as the wall consists of a single piece from front to back the conformation of the shell may be easily produced by merely bending the piece or strip to the outline desired. When the walls have thus been formed, the insertion of the diaphragm *c* is

also a simple matter, for it is merely necessary to drop it into the shell from the front thereof and said diaphragm will be brought to rest in the proper position by the ridge itself, which thus acts as a gage to hold the diaphragm while it is being soldered or otherwise secured in position. Again, in constructing this form of letter, inasmuch as the sockets rest solely upon the back plate *f*, the work of securing said sockets may be done independently, so that the letter may be completed by merely securing the back plate in position.

The chamber *a'* between the diaphragm *c* and the back plate *f* affords a receptacle for the supply-wires, (not shown,) and the complete article of manufacture, excluding the lamps, may be shipped without danger of dislocating the sockets or interior wiring. In other words, the sockets being between the diaphragm and the back plate will be protected and the article may be shipped without danger of breakage. All that remains at the destination is to screw the lamp-bulbs into the sockets from the front, and the device is ready for use.

Although ordinarily the walls of the letter will be parallel from back to front as well as parallel from end to end of the letter, they may be made to flare in front of the ridge *b* in the manner illustrated in Fig. 4. With such form the construction and operation will not be varied from that employed in connection with the previously-described form, but the letter will have a greater apparent width.

Although I have shown the ridge *b* to be continuous and prefer it to be so, it is obvious that it may be intermittent, as shown in Fig. 6, and still come within the spirit of my invention, the broad idea being that the ridge acts as a gage or positioning-stop for the diaphragm and is an integral part of the letter-shell.

I do not herein claim the constructing of the letter-outline shell in a continuous strip of sheet metal for avoiding joints at the corners, taken in connection with the fact that the letter-outline is open back and front and the lamps are mounted within the shell in front of the foundation-plate, as this forms the subject of a companion application filed April 29, 1905, Serial No. 257,981.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an electric sign, the combination of a sheet-metal shell forming the outline of a letter, and a diaphragm extending from wall to wall of the shell, said shell having a ridge formed therein between the front and back edges thereof for supporting said diaphragm substantially as described.

2. In an electric sign, the combination of a sheet-metal shell forming the outline of the letter and having an inwardly-projecting ridge formed between the front and back edges thereof; an aperture-diaphragm adapted to rest against said ridge; and lamp-sockets secured within said shell back of said diaphragm.

3. In an electric sign, the combination of a sheet-metal shell forming the outline of the letter and having an inwardly-projecting ridge formed between the front and back edges thereof, the walls of the letter-shell being formed of a continuous sheet of metal bent to proper form; an apertured diaphragm adapted to rest against said ridge; and lamp-sockets secured within said shell back of said diaphragm.

4. In an electric sign, a one-piece sheet-metal letter-outline shell having a ridge formed therein and stiffened in front by a beading formed therein; in combination with lamp-sockets, and a diaphragm adapted to fit within the shell against the said ridge and substantially cover said sockets.

5. In electric sign, the combination of a sheet-metal shell forming the outline of the letter, and having an inwardly-projecting ridge formed between the front and back edges thereof, the walls of the letter-shell being formed of a continuous sheet of metal bent to proper form and having a stiffening-beading formed integral therewith at the front edge thereof; an apertured diaphragm adapted to rest against said ridge; and lamp-sockets secured within said shell back of said diaphragm, substantially as described.

6. In an electric sign, the combination of a sheet metal forming the outline of the letter and having an inwardly-projecting ridge formed between the front and back edges thereof; an apertured diaphragm adapted to rest against said ridge; lamp-sockets secured within said shell back of said diaphragm; and a back plate secured to the rear edges of the shell for housing said sockets.

7. In an electric sign, the combination of a sheet-metal shell forming the outline of the letter, and having an inwardly-projecting ridge formed between the front and back edges thereof; a diaphragm adapted to rest against said ridge; a back plate; and lamp-sockets mounted on said back plate, the walls of the shell having marginal flanges formed integral therewith at the rear edge thereof for the attachment of said back plate, and said diaphragm having apertures for the penetration of the lamps or sockets.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

CARL HALLER.

Witnesses:
HOWARD M. COX,
CAROLYN RAFTERY.