

(No Model.)

F. H. HAWKINS.
ELECTRIC SIGN.

No. 573,088.

Patented Dec. 15, 1896.

Fig. 1.

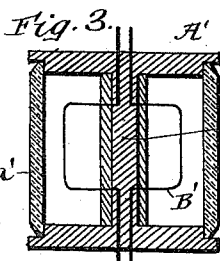
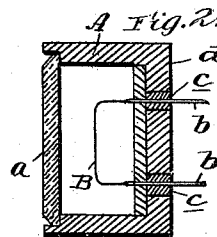
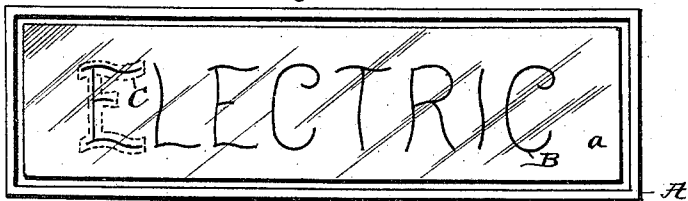


Fig. 4.

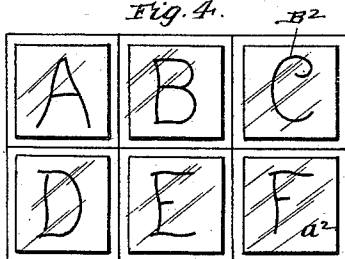


Fig. 6.

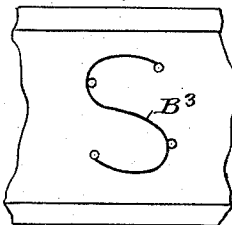


Fig. 5.

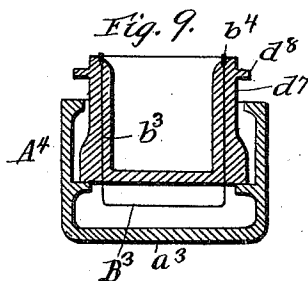
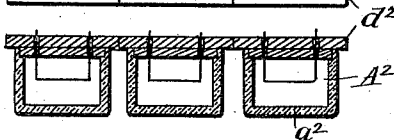


Fig. 7.

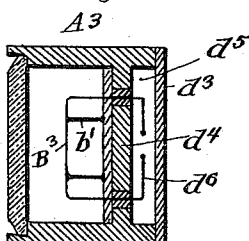


Fig. 8.

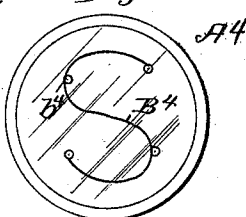
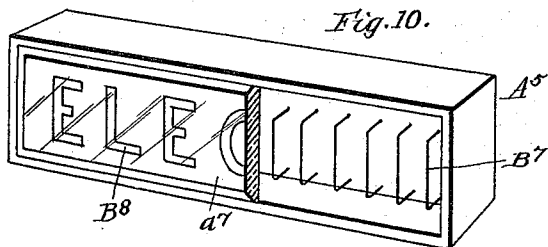


Fig. 10.



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ELECTRIC SIGN.

SPECIFICATION forming part of Letters Patent No. 573,088, dated December 15, 1896.

Application filed January 13, 1896. Serial No. 575,399. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK H. HAWKINS, a citizen of the United States of America, residing at 125 East Fifteenth street, city of New York, county and State of New York, have invented certain new and useful Improvements in Illuminated Signs, of which the following is a specification.

My invention relates to improvements in luminous signs, and it will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1 is a front elevation of a sign embodying my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a transverse section of a modified form of sign which has letters on both of its sides. Fig. 4 is a front elevation, and Fig. 5 is a transverse section, of a modified form of sign which embodies a body and a plurality of chambers arranged on the body and each containing one letter. Fig. 6 is a front elevation of a portion of a modified construction of sign. Fig. 7 is a transverse section of the same. Fig. 8 is a front elevation of a sign-letter designed and adapted to be connected to an ordinary incandescent-electric-light fixture. Fig. 9 is a transverse section of the same; and Fig. 10 is a perspective view, partly in section, of a modified form of sign embodying my invention.

Referring by letter to said drawings and more particularly to Figs. 1 and 2 thereof, A indicates a chamber of rectangular or other suitable form, which may be made of any material suitable to the purposes of my invention and is designed to be exhausted of air for a purpose which will presently appear. This chamber A has a face or front wall *a*, of glass or other suitable transparent material, and in it is arranged one or more letters, figures, or symbols B, formed of filaments of carbon, a plurality of letters forming the word "Electric" being illustrated. The letters may be respectively formed of one or more filaments, as desired, and such filaments may be arranged and supported in the chambers A in any suitable manner. I prefer, however, to connect them to suitable conductors *b*, which extend through insulating material

c in the rear wall *d* of the chamber and are designed to be electrically connected in a suitable manner (not illustrated) with a suitable electric generator, which is also not illustrated. When the electrical circuit or circuits in which the letter-forming filaments B are arranged are closed and the current is sent through said filaments, they will be heated to an incandescent heat and will form a highly-luminous and resplendent sign, which will be very prominent and readable in the dark, and which will serve the additional function of a lamp, inasmuch as it sheds considerable light.

The sign described is readily readable in the daytime, but in order to render it more so I may, when desired, paint or otherwise form each letter in black or other suitable color upon the front side of the rear wall *d* of the chamber A in rear of the filament-formed letters B, as indicated by C.

In Fig. 3 I have shown a pendent or hanging sign embodying my invention. This sign has an air-tight chamber A', a longitudinal central partition *d'* therein, the two faces *a'*, of glass or other suitable transparent material, and the letters B', formed of carbon filaments and arranged on opposite sides of the partition *d'*, and also arranged in an electric circuit or circuits, as before described. Such sign may have the painted letters C in rear of the filament-formed letters, and as will be readily observed it may be read from two sides, and in addition will serve the functions of a lamp to light the place where it is hung or placed.

In Figs. 4 and 5 of the drawings I have shown a modified construction in which each filament-formed letter B² is arranged in a separate vacuum-chamber A². These vacuum-chambers A² preferably have their faces and also their side walls formed of glass or other transparent material, although, when desired, only their faces *a*² need be transparent, and they are designed and adapted to be arranged in a series upon a board or frame *d*² and suitably connected to form a sign.

In Figs. 6 and 7 of the drawings I have shown a modified construction of chamber A³, which, in addition to a rear wall *d*³, has a partition-wall *d*⁴, which serves, in conjunction

with the wall d^3 , to form a space d^5 for the reception of the circuit-wires d^6 , connected to the filament-formed letters B^3 . In this construction I have also shown non-conducting supports b^1 , which are connected to the wall d^4 , and are also connected to the letter B^3 at intermediate points in the length thereof to assist in supporting the same.

In Figs. 8 and 9 is illustrated a chamber A^4 , which is designed for connection to an ordinary incandescent-electric-lamp fixture. This chamber A^4 has the body d^7 , of glass or other suitable material, which is equipped with lugs d^8 or other suitable means for connecting it to a lamp-fixture, the portion a^3 , which is designed to be hermetically connected to the body portion d^7 and has a transparent face, the conductors b^3 , which extend through the body portion d^7 , and the filament letter B^4 , which is connected to the conductors b^3 , as shown. Non-conducting supports b^4 , connected to the body d^7 and to the letter B^4 , may also be employed, as illustrated.

The chamber A^4 is designed to be connected to a fixture like those to which the ordinary incandescent lamps are connected, and a series of said chambers containing different letters will, when properly grouped, form a neat and attractive sign and one which will give out considerable light.

In Fig. 10 I have shown a modified construction of vacuum A^5 , which contains one or more carbon filaments B^7 , of any suitable shape designed for electrical connection with an electric generator, and is provided with a face-plate a^7 , which is painted or otherwise rendered opaque or partially opaque and has transparent portions B^8 , shaped to form letters. This sign will be easily readable in the daytime, and at night, when the electric current is sent through the carbon filament, the light afforded thereby will bring out the letters in strong contrast to the darkness and will render the sign very noticeable and attractive.

With all of its advantages it will be appreciated that my improved sign is not costly, and it will also be appreciated that it is designed to serve the twofold function of a sign

and lamp and yet does not cost any more to maintain it than a lamp.

I desire it understood that filaments other than carbon filaments which are suitable to the purposes of my invention may, if desired, be used in lieu of carbon filament, and I therefore do not desire to be understood as confining myself to carbon filaments.

Having described my invention, what I claim is—

1. A luminous sign comprising a vacuum-chamber having a transparent face and also having a back wall and a partition-wall between the back wall and face, a filament or plurality of filaments of carbon or other suitable material arranged in said chamber between the partition-wall and face thereof and shaped to form a letter, figure or symbol and conductors arranged between the partition and back walls and connected to the filaments and adapted to be electrically connected with an electric generator, substantially as and for the purpose specified.

2. A luminous sign comprising a vacuum-chamber having a transparent face, a filament or plurality of filaments of carbon or other suitable material arranged in said chamber and adapted to be electrically connected with an electric generator and shaped to form a letter, figure or symbol, and a corresponding letter, figure or symbol formed on a background in rear of the filament letter, figure or symbol, substantially as specified.

3. A luminous sign comprising a vacuum-chamber having two transparent faces and also having a longitudinal central partition-wall, filaments of carbon or other suitable material arranged in said chamber on opposite sides of the partition-wall and shaped to form a letter, figure or symbol and conductors connected to the filaments and arranged in the partition and adapted to be electrically connected with an electric generator, substantially as specified.

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Witnesses:

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