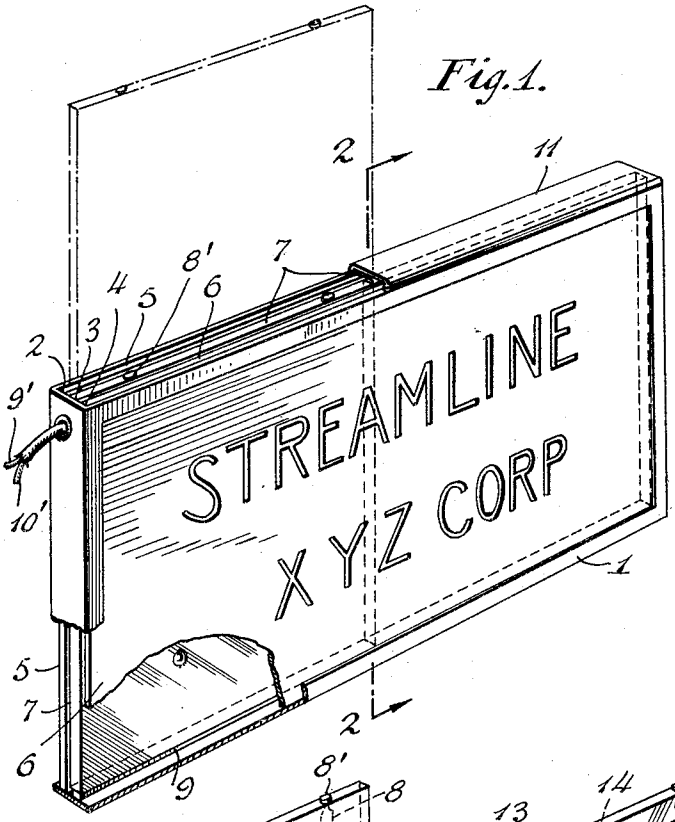
May 2, 1933. M. B. BENSON 1,906,516

ELECTRIC SIGN

Filed Feb. 5, 1930

Fig. 1.



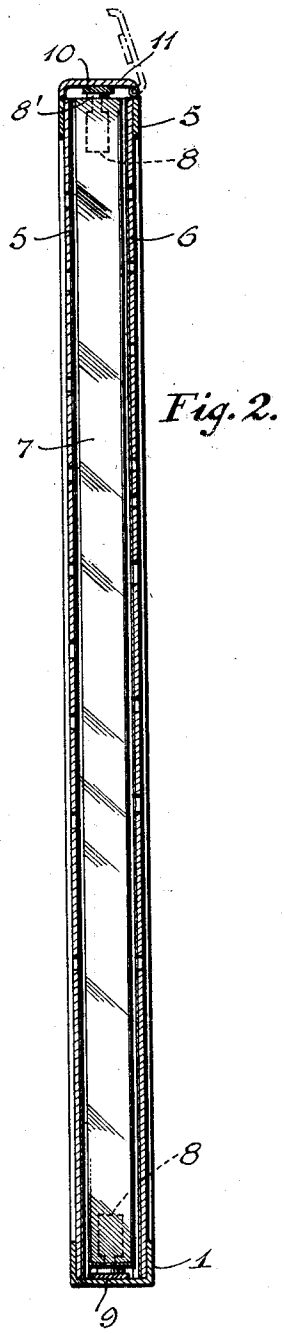


Fig. 2.

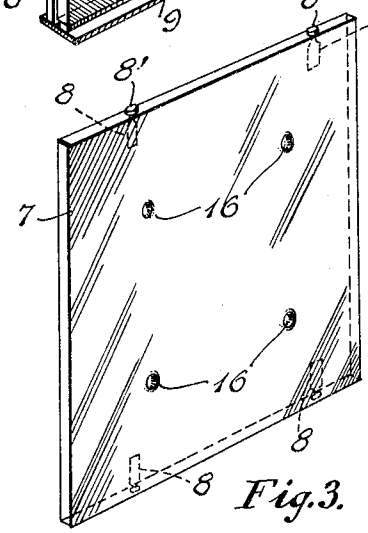


Fig. 3.

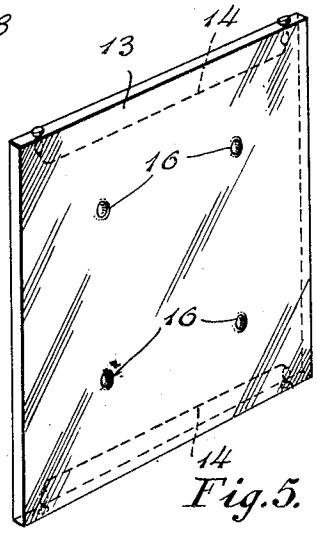


Fig. 5.

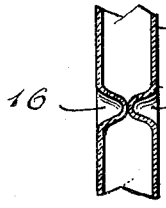


Fig. 4.

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Patented May 2, 1933 1,906,516

UNITED STATES PATENT OFFICE

MELVIN B. BENSON, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO MELVIN B. BENSON CORPORATION, A CORPORATION OF NEW YORK, AND MELVIN B. BENSON, OF JACKSON HEIGHTS, NEW YORK

ELECTRIC SIGN

Application filed February 5, 1930. Serial No. 425,941.

This invention relates to electric signs.

The object of the invention generally is an electric sign which is capable of efficient service through both day and night and particularly a sign which is characterized by the clearness and distinctness of the characters or letters when observed at angles as well as from directly in front, by its simplicity in construction and by its economy in manufacture and maintenance. More specifically the invention resides in a specially constructed and correlated stencilled plate frame and gaseous lighting element. The latter is in the form of a flat flask and the desired gas, as for example neon, contained therein being energized by suitable and suitably positioned electrodes and giving off light of the desired color, while the specially constructed frame is open and corresponds generally to the shape of the gaseous lighting element and includes a slot for the reception of one or more of said gaseous lighting elements with plates stencilled with the desired message or messages disposed closely adjacent to and on both sides of said element, said stencilled plates forming distinct and sharp illuminated outlines of those portions of the gaseous lighting element or elements corresponding to the stencilled openings of the stencilled plate. In the preferred embodiment the gaseous lighting elements and the stencilled plates are readily replaceable by similar elements and other plates respectively.

For a better understanding of the above indicated features of the invention and others which will hereinafter appear reference may be had to the accompanying drawing wherein:

Fig. 1 is a perspective view more or less diagrammatic of a sign embodying my invention:

Fig. 2 is a sectional view along the line 2—2 thereof;

Fig. 3 is a perspective view of one of the lighting elements;

Fig. 4 is a sectional view along the line 4—4 thereof; and

Fig. 5 is a perspective view of a modified form of lighting element.

Referring to the drawing I have indicated my invention as embodied in a sign including an open rectangular frame unit 1, this unit being preferably of rectangular shape for convenience in construction, assembly and mounting. This frame may be of sheet metal construction having the parts thereof formed and secured together in any ordinary or suitable manner. The top of the frame is provided with a slot or slots for the accommodation of stencilled plates 5 and 6 and the lighting element or elements 7, and in the particular embodiment shown there is only one common slot for all three elements. The side members of the frame have three juxtaposed guide paths or grooves 2, 3, 4 formed on one side thereof, two of these guide paths 2, 4 being disposed near the front and the back for the reception of stencilled plates 5 and 6 and one, the intermediate path 3, being adapted to receive the lighting element or elements 7 therein. The lighting elements 7 are of rectangular flask or pancake form and contain any suitable lighting gas, such for example as neon or the like, this gas of the required purity being introduced into the device in any suitable or standard manner. These lighting elements or units are, as indicated, of very shallow depth, as for example three-eighths of an inch or smaller and while any suitable contour may be used I prefer the substantially rectangular form indicated. Lighting elements of this construction may be practically constructed to withstand the severe service conditions to which signs are subjected and uniform lighting thereof throughout their width may be effected by suitably constructing or positioning the electrodes. In the particular embodiment shown in Figs. 1 to 4 the electrodes are indicated at 8 there being two of such electrodes 8 for each end of the lighting unit. These electrodes must, as indicated above, be properly distributed along the flask to obtain the uniform illumination throughout the element desired and I have shown each pair of electrodes 8 uniformly spaced along the end of the element, as indicated. With a lighting element 7″ wide and 9″ long and approximately ⅜″ deep it is important that at least

two of such distributing electrodes be employed at either end. These electrodes are indicated diagrammatically and it is understood that the usual and standard practice is followed in both construction and dimensions. In the particular embodiment shown I have indicated two lighting elements 7 which are disposed side by side in the intermediate slot or guide path 3 of the frame, although, of course, one or more may be utilized depending upon the capacity of the sign and the size of the lighting elements. If desired an additional guide or centering means may be provided intermediate the sides to center the innermost edges of the elements as they are slid downwardly into position but ordinarily such intermediate centering means is not necessary because no harm is done by the element 7 engaging the stencilled plates. In some cases it may be desirable to place the plates 5 and 6 and the elements 7 flat against each other throughout. Preferably the circuit is automatically completed for lighting the lighting elements when they are inserted in position. For this purpose I have indicated diagrammatically a contact strip 9 on the bottom side upon which the lighting elements 7 rest with the exterior buttons or contact points 8′ engaging the strip. A similar strip 10 is carried by a cover 11 indicated in the embodiment shown as being hinged to the frame, this contact strip 10 forming an electrical contact with the upper exterior buttons or electrodes 8′ of the lighting elements in the normal or operating position. The contact strips 9 and 10 are connected with the lead wires 9′, 10′ leading to a suitable connecting plug or similar device. The stencilled plates are preferably constructed of sheet metal. Each is stencilled out to convey the desired message or announcement. The operation of the sign is clear from the above description, the lighting elements having been inserted in position and the stencilled plates of the desired stencilling having been inserted in position the sign is ready for operation.

In Fig. 5 I have shown a modified form of lighting element 13 wherein the electrodes 14 are elongated and extend across the whole width or substantially the whole width of the device. In the particular embodiment shown these electrodes 14 are diagrammatically indicated as of ordinary wire, but it is understood that the character or dimensions thereof shall be such as to give the desired low evaporation. This construction assures a uniform distribution of lighting throughout the device.

It is understood that with a view to utilizing a glass wall as thin as possible, it is desirable to form reinforcing bridgework throughout the lighting containers 7 and 13 as indicated diagrammatically at 16 in Figs. 3, 4, and 5. This bridgework may be formed by indenting one or both sides of the container at opposite points so that the indentations meet to form the bridgework, or it may be formed in any other suitable manner.

With this sign the letters are sharp, clear and distinct, not only directly in front but also at large angles, there being no tendency for the letters to merge or become confused. The lighting elements or sources of lighting are in very close proximity to the plates and the letters stand out through the stencilled openings like attenuated tubular light sources. The sign is very compact and of small dimensions, even in the duplex construction indicated where both the front and back of the sign are utilized. Both the frame and the stencilled plate may be economically constructed and the lighting elements 7 need not be any more expensive than the specially shaped letter tubes now on the market. Both the lighting elements and the stencilled plates are readily interchangeable and in view of the rugger character of the lighting elements their life under ordinary circumstances and usage is very long.

I claim:

An electric sign including a frame, a plate on one side stencilled in accordance with the message to be conveyed and a flat or flask-like gaseous electric lighting device disposed back of but closely adjacent to said plate to illuminate the stencilled letters thereof, the frame being provided with two juxtaposed guide paths one back of the other for guiding and retaining the stencilled plate and the lighting device in a readily removable manner.

In testimony whereof, I have signed my name to this specification.

MELVIN B. BENSON.