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H. BASTOW

1,843,148

DISPLAY SIGN

Filed May 22, 1929

Fig. 1

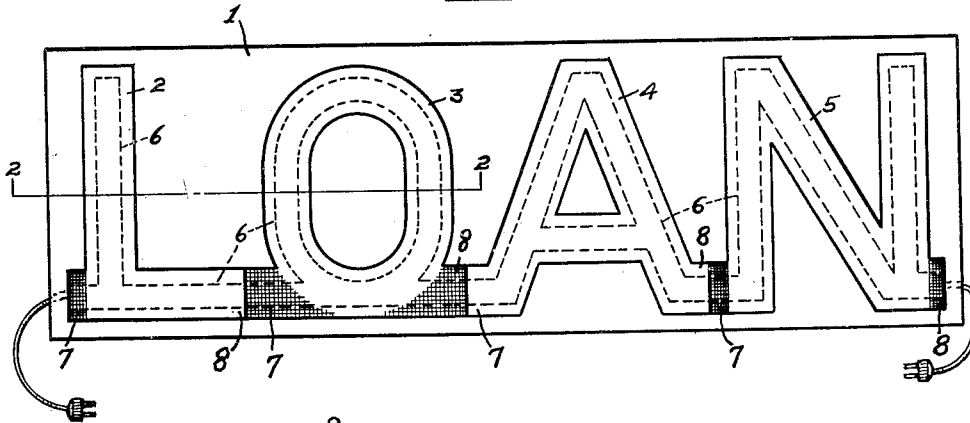


Fig. 2

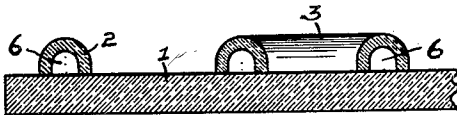


Fig. 3

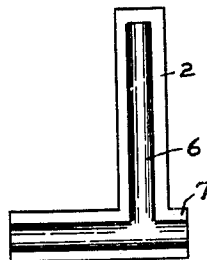


Fig. 6

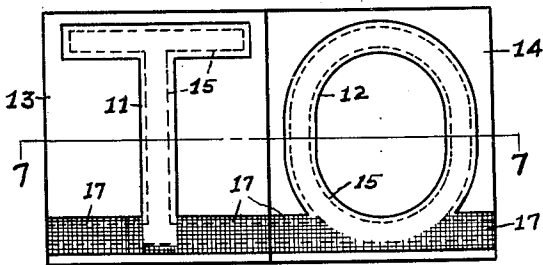


Fig. 7

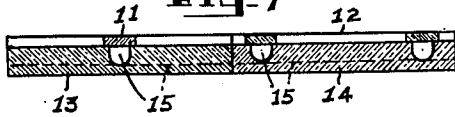


Fig. 4

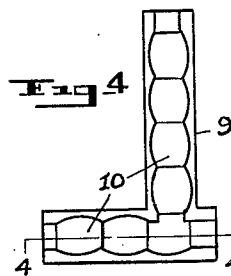
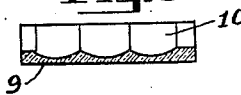


Fig. 5



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DISPLAY SIGN

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My invention relates to certain new and useful improvements in display signs of the type employing rarefied gas, neon, mercury vapor, or any other analogous fluids as the luminous agent.

Important objects of the invention are to provide a sign, of the character described, which is simple in its construction and arrangement, durable and efficient in its use, attractive in appearance and comparatively inexpensive to manufacture, assemble, repair, install, operate and maintain.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention hereinafter disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings wherein like numerals of reference designate corresponding parts throughout the several views:—

Figure 1 is a front view of a display sign constructed in accordance with the invention.

Figure 2 is a sectional view on line 2—2, Figure 1.

Figure 3 is a rear view of a letter illustrated in the embodiment of the invention.

Figure 4 is a rear view of a modified form of the latter.

Figure 5 is a sectional view on line 4—4, Figure 4.

Figure 6 is a front view of a modified form of a sign embodying the invention.

Figure 7 is a sectional view on line 7—7, Figure 6.

Referring in detail to the drawings 1 denotes a flat, rectangularly shaped back plate, which supports the alphabetical symbols or letters, respectively indicated at 2, 3, 4 and 5.

The back of each of the letters is provided with a channel 6, which is continuous and

inter-connecting to depict respective letters.

Each of the letters is provided with a pair of connecting portions 7 and 8, which are disposed laterally at the lower end of the letter, at respective sides of the latter. The connecting portions 7 and 8 extend some distance beyond the vertical plane of the respective outer side edges of the associated letter and abut against the connecting portions of the adjacent letters.

The combined lengths of any pair of abutting connecting portions is such that adjacent letters will be properly spaced from each other. The channel 6, of each of the letters extends through its associated connecting portions 7 and 8, whereby communication is established between the channel 6, of one letter, and the channels 6 of the adjacent letters, and providing a continuous, uninterrupted passage extending throughout all of the letters embodied in the sign structure. The connecting portions 7 and 8 may be blackened or otherwise rendered opaque to obscure the joining of the letters, where ever necessary, to prevent the distortion of the letter associated therewith.

The letters 2, 3, 4 and 5 are positioned against the front face of the back plate 1 and the latter virtually constitutes a continuous back wall for the channels 6 of all of the letters in the sign structure.

The letters 2, 3, 4 and 5 are fixedly secured in position, to the front of the back plate 1, by cementing or preferably by fusing the former to the latter, or in any other suitable manner to render the channel passage through the letters impervious to leakage. It will, of course, be obvious that the ends of abutting connecting portions 7 and 8 must be joined together likewise to prevent leakage therethrough.

The letters 2, 3, 4 and 5 are illuminated by filling the continuous passage, extending through the same, with a luminous fluid, or by circulating the latter through said pas-

sage, in the manner commonly employed in the art to which the invention appertains. The apparatus supplying the luminous fluid, of course, must be communicably joined with both ends of the passage in a circulatory system, or with one end of the passage in a non-circulatory system, in which latter case the other end of the passage is sealed.

The back plate 1 and the letters 2, 3, 4 and 5 are constructed from like material, preferably glass, to assure uniform expansion and contraction of all parts of the structure. The letters are constructed by pressing, molding or otherwise forming the same. Such construction of the letters is relatively inexpensive as compared to the tubular glass lengths now ordinarily used in forming the letters in signs of this type.

In the construction of a sign, in accordance with the present invention, all parts thereof may be carried in stock and need only be assembled to provide the combination of letters desired, thereby expediting and facilitating its manufacture. In this class of sign it is at the present time customary to form the entire sign from a single length of fragile tubular glass, on which all labor must be performed after the same is ordered.

The back plate 1 is preferably opaque so as to prevent the sign from being visible from the rear, and may have its face suitably finished to provide a reflector surface for projecting, diffusing or otherwise intensifying the light from the luminous fluid through the letters 2, 3, 4 and 5.

The letters are ruggedly constructed, and may be of any degree of transparency and diversity of coloring to meet any conditions found in practice. It is evident that in long sign structures it may be feasible to divide the continuous passage through the letters with partitions, thereby providing a plurality of separate passages, each of which would be communicably joined with the luminous fluid supply system.

A modified form of letter 9 is illustrated in Figures 4 and 5. The channel 10 therein varies in width and depth, whereby variable color tones and light diffusion may be effected by such variations in the channel wall thicknesses.

Another modified form of the device is shown in Figures 6 and 7. Each of the letters 11 and 12 is provided with a separate back plate, respectively indicated at 13 and 14. The channels 15, instead of being formed in the letters 11 and 12, as herein illustrated and described relatively to the preferred form, are formed in the backs 13 and 14 and are disposed to provide the configuration of the letters represented. The letters 11 and 12 provide coverings for the channels 15, and are transparent to display the light from the luminous fluid within the channels 15.

The channels 15, in the back plates 13 and

14, also extend to respective side edges of the latter, and such channel extensions are covered by connecting portions 17, which are carried by respective letters 11 and 12. The portions 17 are rendered opaque to prevent distortion of the associated letters 11 and 12.

In the construction of this modified form of the device, it is necessary to cement or fuse the letters 11 and 12 over the channels 15, and further to fixedly secure the back plates 13 and 15 together in proper alignment at adjacent side edges thereof.

It will be noted that instead of using the letters 11 and 12 to cover corresponding letter channels 15, the latter may be covered by uniformly shaped cover members, as only the channel outline is visible therethrough.

While illustrating and describing the present invention as involving alphabetical symbols, it will be obvious that the latter are merely illustrative of an embodiment of the invention and either letters, numerals or any other indicia or symbols, which are complementary parts of a whole combination representation, may be successfully embodied in a sign structure in accordance with the invention. Further, the connecting portions 7 and 8, communicably joining the letters together, may be uniformly disposed at any other part of the letters other than at the lower ends thereof, as such connecting portions are opaque and therefore not discernible.

The transverse cross sectional contour of the letters 2, 3, 4 and 5 and of the channel 6, may be widely varied to provide any ornamental, diffusive and artistic effect desired.

The present invention provides a most substantial sign structure, all parts of which can be readily constructed and assembled by unskilled labor, while similar sign structures, now in use, require the highest skilled labor for their production.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while describing the principle of operation of the invention, together with a construction providing an embodiment thereof, it is to be understood that the device shown is merely illustrative and that various changes in the form, proportions, arrangement and details of construction may be resorted to, without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claim.

What I claim is:

In a luminous fluid display sign, the combination of a flat back plate, a plurality of transparent display elements being fixedly secured to and projecting forward from the front surface of said back plate, each of said

display elements having a flat back face and being shaped to symbolize an alphabetical letter, a continuous channel for the luminous fluid being formed in and opening at the back side of each of said display elements and extending to provide a configuration corresponding to the letter represented by respective display elements, said back wall constituting the back walls for the channels in said display elements, and means carried by each of said display elements for communicably joining the channel thereof with the channels of the adjacent display elements.

In testimony whereof I affix my signature.

HARRY BASTOW.