

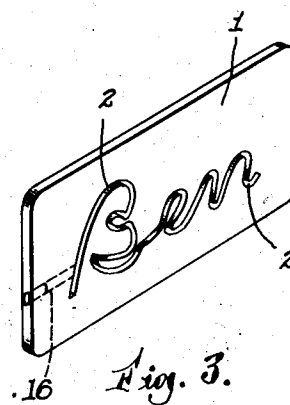
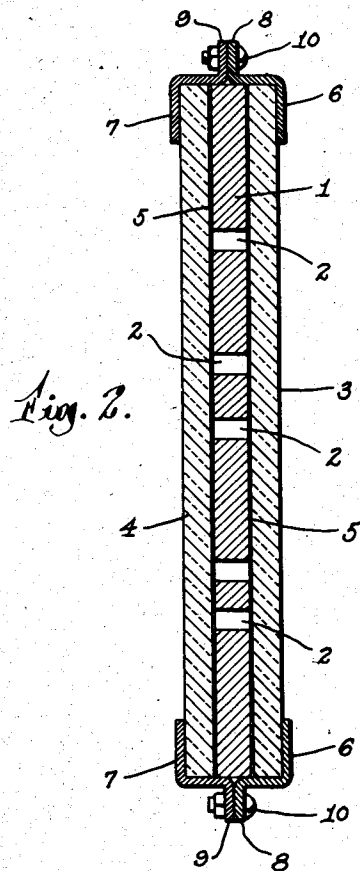
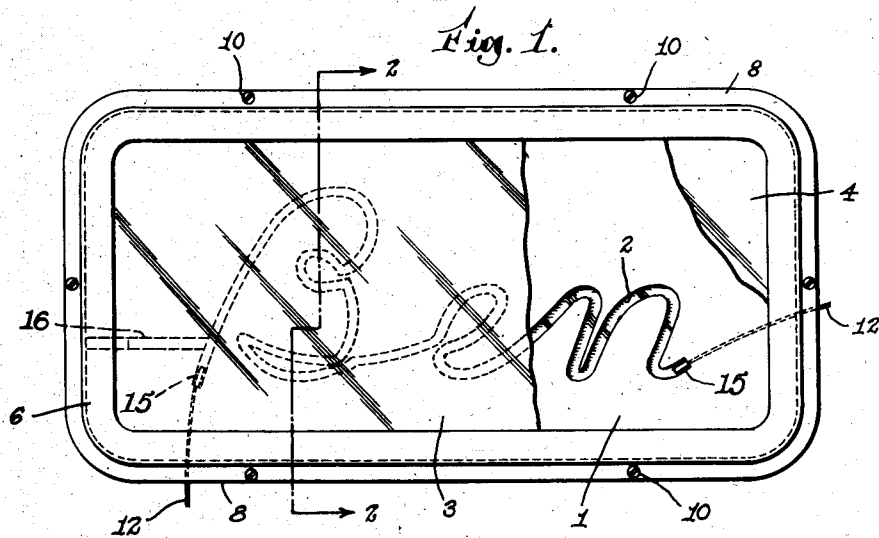
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INCANDESCENT GAS SIGN AND METHOD OF MAKING SAME

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INCANDESCENT GAS SIGN AND METHOD
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2 Claims. (Cl. 176-14)

My present invention is directed to improve and perfect incandescent gas illuminating signs for display, advertising, or the like, and includes a simple and efficient novel method of constructing the same.

As shown and described in my Patent No. 2,089,567, dated August 10, 1937, a method of construction for incandescent gas illuminating devices is disclosed; and in my prior pending application, Ser. No. 203,552, an improvement thereon is also illustrated and claimed. In my present application I have further developed an improved and simple form of construction and method of making the same, which constitutes an additional development in this art.

My invention herein described is peculiarly adapted for use with transparent plastic material although any equivalent means can be employed. In my present development I prepare, mold, cut, or form a layer of material with the lettering, sign, design of matter to be displayed, and which is to contain the gas for the illumination desired, from a sheet of material, which gas-containing channel is formed entirely thru this layer. Thereupon I close these channels or openings by transparent sheets or layers secured to each face or surface of the first formed or intermediate layer. Thus, I prepare three or more sheets or layers, the intermediate containing the openings which are cut entirely therethru and attach to the opposite faces of such intermediate layer imperforate or transparent layers of glass or plastic material, thus closing the opening in the intermediate layer and forming such openings into gas-receiving channels.

Preferably, also, I unite these layers together by heat-resistant cement and, furthermore, enclose the layers firmly in a clamping frame or the like rigid-protecting and securing means.

Such gas-receiving channels formed as briefly outlined above made be in the form of a plurality of separated designs to which the electric current-conducting wires, to render the gas incandescent, are led from appropriate grooves. The subject matter to be displayed may be and often is in the form of a continuous channel, which latter is illustrated in the drawing hereto attached showing one form of the invention.

Referring to the drawing,

Fig. 1 is a typical view of a neon gas sign with portions of the first and intermediate layer broken away;

Fig. 2 is a cross-sectional view on the line 2-2 of Fig. 1 on an enlarged scale, and

Fig. 3 is a perspective view of the intermediate layer containing the cut-out channel extending entirely therethru.

My present method of forming gas-illuminating devices and the arrangement of the same permits a wide range in color schemes, designs, and the like. Thus I can utilize one or more intermediate layers containing the channels or openings in which the gas is contained and rendered incandescent. Also, I can employ different colored gas and produce most attractive results by having the same shine thru the varying colored designs on the enclosing plates. Thus, for example, where white argon gas is employed in one or more intermediate layers and variously colored transparent plastic material is employed for the enclosing plate, the white gas shining therethru produces a most pleasing diffusion of colors and may result in a glow showing all the colors of the rainbow, such as a light shining thru a spectrum.

Similarly, the different colored gases employed shining thru the coloring or design of the plastic material in the enclosing plates would produce a wide variety and range of attractive and distinctive illuminated designs. Thus, my development in this art of utilizing an intermediate layer, or layers, section or sections, with the illuminating element contained therein and enclosing sheets or panels of material thru which the illuminating elements shine enables a very wide and extensive range of desirable combinations, designs, and displays to be effected in an efficient and economical construction as well as in a simple and desirable method of making the same.

As shown in the drawing, the intermediate sheet or layer 1, which may be of transparent plastic material, Bakelite or the like, of sufficient heat-resisting strength to withstand the incandescent gas, has formed therein a channel, or channels, designated at 2. These are cut entirely thru the sheet 1 opening from both surfaces. Closing these channel openings on each side of the intermediate layer 1 are transparent imperforate sheets 3 and 4 of glass or other transparent material thus constituting a gas-receiving chamber. Heat-resisting cement 5 of any suitable kind is utilized to unite the intermediate layer and the covering or face plates 3 and 4 and thus constitute gas-receiving channels of the openings 2.

A binding frame or clamp is fitted in any suitable manner, as herein shown, this frame

consisting of a pair of angle irons 6 and 7 in the shape of a frame, being formed with extending lugs 7 and 9 united by bolts 10 at appropriate spacings around the marginal rim. Current-conducting wires 12—12 are led thru suitable recesses, either formed in an intermediate layer or thru grooves adjacent the cement coatings to electrodes 15—15 in opposite ends of the gas-receiving chamber to render the gas in the channels 2 incandescent for illuminating and display purposes. A suitable gas-filling device is indicated at 16.

The simplicity of my construction will be clearly apparent to those skilled in the art and the efficiency of such a device will be appreciated. The method of forming the openings in the intermediate layer is extremely simple and inexpensive.

While I have herein illustrated and described my improved device consisting of an intermediate layer and two closing plates, it will be appreciated that the intermediate layer may be formed from a plurality of sheets, if desired, with varying openings, whether in register or otherwise, and that either plate 3 or 4 may be opaque as well as transparent. Preferably, however, these signs are desired to be visible from each side and, hence, I show in the preferred form a pair of transparent face plates, as above explained.

Also, varying combinations of color and design can be developed by utilizing my intermediate layer, or layers, containing the illuminating element and which harmonizes, cooperates, or contrasts with the design and coloring of the enclosing plate, or plates, thus producing any combination of resultant colors desired, as well as giving a rainbow effect to the entire display sign.

Thus, my invention permits a display sign, such as shown in the drawing, with white argon gas, for example, in the intermediate layer or layers, and which shines thru a colored plastic panel 3 on one side, producing one color, and simultaneously shining thru a different colored plastic 4 on the opposite side, if desired. A wider

range is thus obtained by my invention than has heretofore been possible in this art.

The use of transparent and vari-colored plastic sheet material is most advantageously employed thru which such lights may shine, although glass may also be used although more difficult and expensive to color than the modern transparent plastics.

I claim:

1. An illuminating display device of the kind described, comprising a panel of three layers, each of transparent plastic material, said layers being secured together with their respective contacting faces in gas-tight relationship, the intermediate layer containing openings entirely therethru constituting a gas-receiving chamber, and adapted to receive neon gas, gas filling means thru one of said plates to said gas-receiving chamber together with electrical current-conducting means thru one of said plastic layers to electrodes at opposite ends of said chamber to render said gas incandescent, the outer plastic plates being of contrasting color to that of the gas when incandescent in the intermediate plate openings.

2. An illuminating display device of the kind described, comprising a panel of three layers, each of transparent plastic material, and adapted for interchangeability with different intermediate plates, said layers being secured together with their respective contacting faces in gas-tight relationship, the intermediate layer containing openings entirely therethru constituting gas-receiving chamber, and adapted to receive neon gas, gas-filling means thru one of the plates to said chambers together with electrical current-conducting means thru one of said plastic layers to electrodes in spaced position to render said gas incandescent, the outer plastic plates being of contrasting color to that of the gas when incandescent in the intermediate plate openings, said panels being united by a removable clamping member surrounding the periphery of said three panels.

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