

Sept. 23, 1958

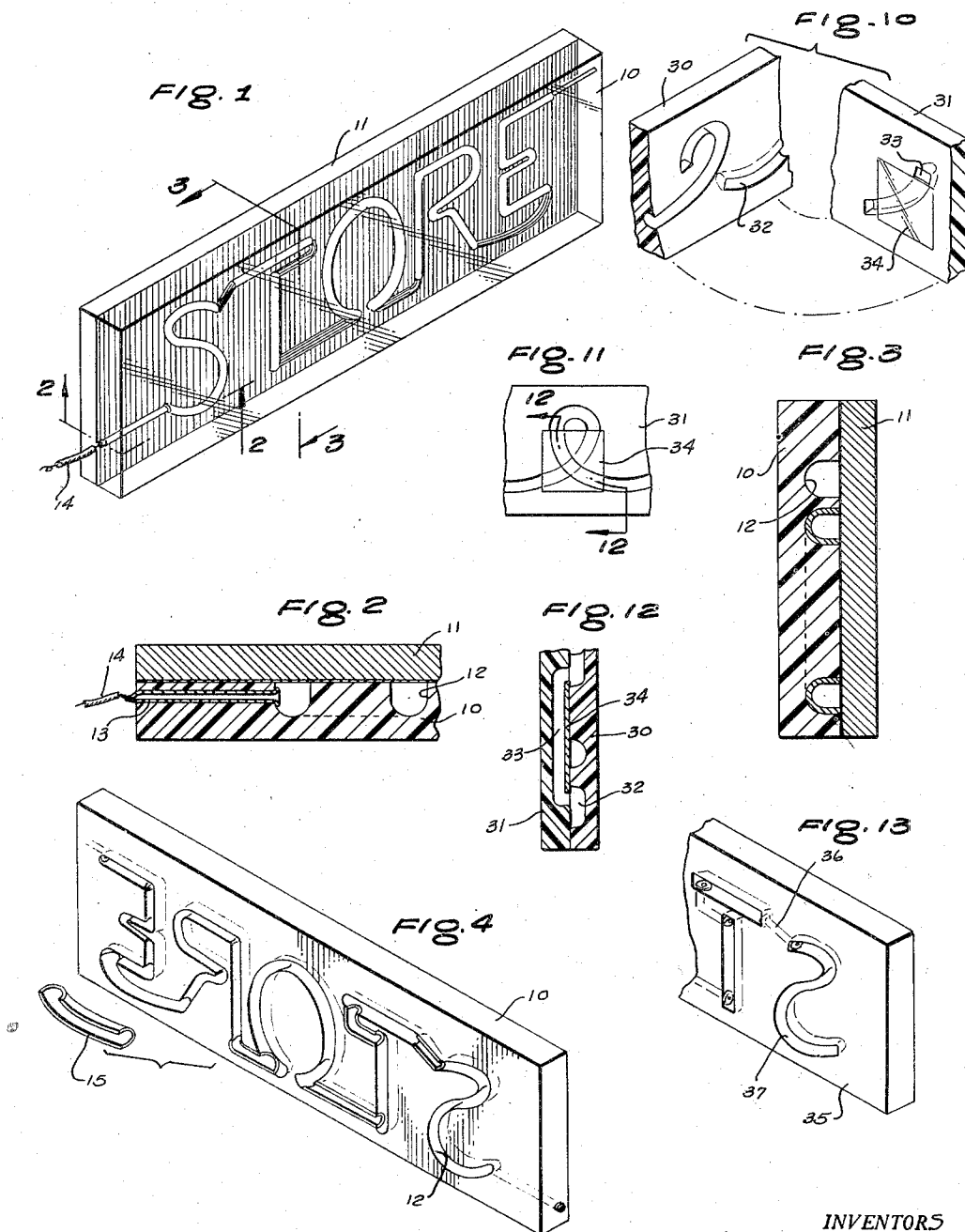
W. A. GOEBEL ET AL

2,852,877

LUMINOUS SIGN

Filed Dec. 10, 1954

2 Sheets-Sheet 1



INVENTORS
WILLIAM A. GOEBEL
ARTHUR C. GIESE
BY

McMorrow, Berman & Davidson
ATTORNEYS

Sept. 23, 1958

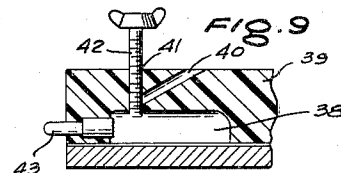
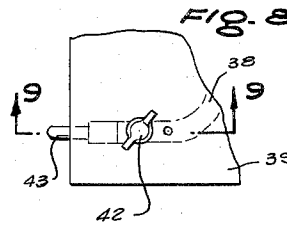
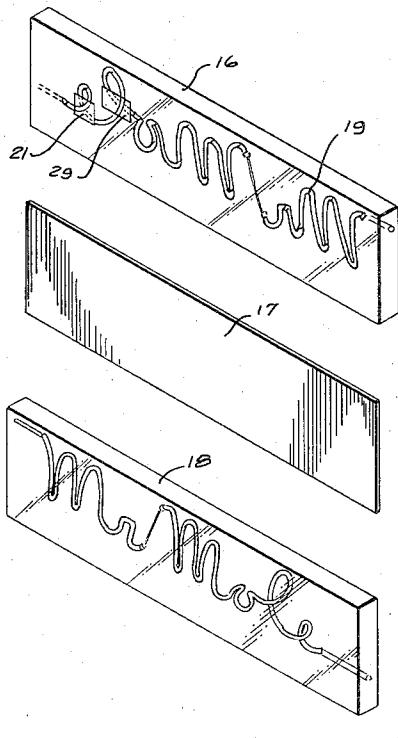
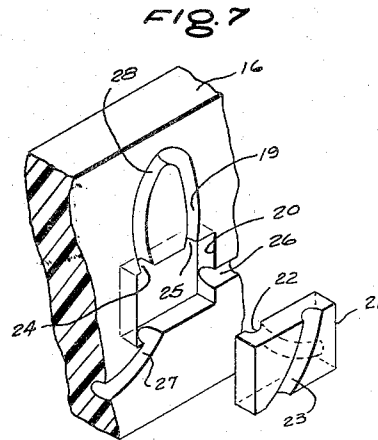
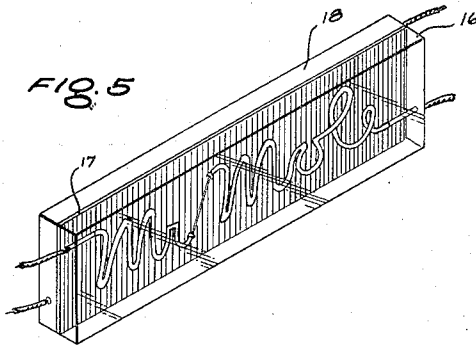
W. A. GOEBEL ET AL

2,852,877

LUMINOUS SIGN

Filed Dec. 10, 1954

2 Sheets-Sheet 2



INVENTORS
WILLIAM A. GOEBEL
ARTHUR C. GIESE
BY

McMorrow, Berman + Davidson
ATTORNEYS

1

2,852,877

LUMINOUS SIGN

William A. Goebel and Arthur C. Giese, Peru, Ill.

Application December 10, 1954, Serial No. 474,391

3 Claims. (Cl. 40—130)

The present invention relates to luminous signs of the gaseous discharge tube type.

The primary object of the present invention is to provide a luminous sign in which the legend is formed by a groove cut in a transparent plate.

Another object of the present invention is to provide a luminous sign having a transparent panel in which is cut a groove including loop formations, each part of the loop formation being luminous and being part of a continuous channel or groove in which flows the gaseous discharge.

A further object of the present invention is to provide means for blocking out the transmission of light through the transparent panel of the luminous sign for those portions of the groove forming the rudders of the sign where it connects letters or punctuation.

A still further object of the present invention is to provide a sturdy luminous sign of the kind having a tortuous path of ionized gas which is made luminous by the passage of a current of electricity therethrough and one providing special means by which loop formation or designs may be included in the legend.

These and other objects and advantages of the present invention will be fully apparent from the following description, when taken in connection with the annexed drawings, in which:

Figure 1 is an isometric view of a sign of the present invention,

Figure 2 is a vertical view in cross-section taken on line 2—2 of Figure 1,

Figure 3 is an end view on line 3—3 of Figure 1,

Figure 4 is a reverse view in perspective of the sign shown at Figure 1, with a portion removed,

Figure 5 is a second sign formed with script letters including loop formations,

Figure 6 is an exploded view of the sign shown in Figure 5,

Figure 7 is a detailed view in perspective of a portion of the present invention,

Figure 8 is a detailed view of a portion of the invention,

Figure 9 is an end view on line 9—9 of Figure 8,

Figure 10 is a second embodiment of the means for closing the loop formation of a legend within a sign,

Figure 11 is an assembled view of the means shown in Figure 10,

Figure 12 is an end view on line 12—12 of Figure 11, also in cross-section, and

Figure 13 is a detailed view of a means for joining two of the letters of the legend of the sign seen in Figures 1 to 4, inclusive.

Referring in greater detail to the drawings in which like numerals indicate like parts throughout the several views, the first embodiment of the present invention consists of a transparent plate 10, seen in Figures 1 to 4, having an opaque backing panel 11 secured to it in face to face relation. A groove 12 is cut into the confronting face of the transparent plate 10 to form the letters

2

of the legend, here shown as the word "Store." The groove 12 extends from one end of the plate 10 to the other with a metallic or glass tube 13 inserted in each end portion and constituting a means by which the gas, such as neon, is introduced to the groove 12 and also forming a means by which a current of electricity is introduced, a wire 14 having one end sealed within the tube 13.

In Figure 4, it will be seen that the groove 12 between the letters may be made non-luminous by a light blocking means or an opaque channel shaped shield 15 which is inserted within the groove before the backing panel 11 seals the groove.

In the second embodiment of the invention, shown in Figures 5 to 7, inclusive, the transparent plate 16 is arranged in confronting face to face relation with the opaque plate or panel 17, and a second transparent plate 18 is affixed in confronting face to face relation with the other side of the panel 17.

A groove 19 is formed in each of the plates 16 and 18 and constitutes the legend of the sign of this embodiment of the invention, the legend being in script, including loop formations for each of the letters "L" and "E."

In this embodiment of the invention, a recess 20 is cut in the confronting face of each of the plates 16 and 18, the former being shown in detail in Figure 7, into which fits a block 21 in which is cut a groove 22 on the side which seats within the recess 20, and a groove 23 is cut on the other side of the block 21, which, when it is inserted within the recess 20, will be contiguous with and coplanar with the confronting surface of the plate 16. This permits the ends of the loop formation indicated by the reference numerals 24 and 25 to be connected to the groove ends 26 and 27, in order that the upper end 28 of the letter become a part of the continuous channel or groove forming a tube-like gaseous discharge device.

As seen in Figure 6, a second block 29 is insertable within a recess formed for the other letter having the loop formation.

Referring to Figure 10, another method of closing or connecting the end portion of a groove to cause the gas to flow continuously through the loop formation of a letter is shown in which the plate 30, likewise constructed of a transparent material, and a plate 31 are joined together with their confronting faces formed with grooves 32 and 33, respectively.

A block 34 is provided and is insertable within a recess formed in the plate 31 to cover and seal a portion of the groove 33 so that only its ends are connected to the ends of the grooves 32 on the plate 30.

Referring to Figure 13, the present invention takes the form of a plate 35 cast from a transparent plastic or resin material and in which the pieces of metallic tubing 36 are positioned before the casting operation, the letters of this form of the invention being routed or grooved from the one face of the plate 35, as indicated by the reference numeral 37, and connected with the open and flared ends of the pieces of tubing 36 to permit the passage of gas from one letter to the other, and to provide an electrode for the ionizing current.

Referring to Figures 8 and 9, a means is shown for filling the groove 38 in the transparent plate 39 and consists of an aperture 40 and a threaded hole 41 into which screws the thumb-screw 42 to block communication between the aperture 40 and the groove 38. In this embodiment, an electrode 43 is provided by means of which the groove 38 is connected to an electrical device producing high tension current for making luminous the ionized gas that has been put into the groove 38.

In each of the embodiments, it is intended that the transparent plate can be constructed of any dielectric

3

material such as plastic, glass, or the like, and may be molded, cast, or otherwise formed in any one of the embodiments of the present invention.

While only preferred embodiments of the present invention are shown and described, other embodiments and modifications may be made and practiced within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed is:

1. A display sign comprising a transparent plate, a backing panel secured to said plate, in confronting face to face relation with respect to said plate, said transparent plate being formed on its confronting face with a continuous groove constituting a series of letters representing a legend, said groove including at least one loop formation, said plate being formed with a recess extending inwardly from the confronting face thereof at a point where the groove would normally intersect itself in a crossover at one end of a loop formation if there were no recess, and a block secured in said recess and being formed on one face with a groove connected in communication with the two ends of said grooves in said plate which normally would be one portion of the cross over and being formed on the other face with a groove connected in communication with the two ends of said grooves in said plate which would normally be the other portion of the cross over.

2. A display sign comprising a transparent plate, a backing panel secured to said plate, in confronting face to face relation with respect to said plate, said transparent plate being formed on its confronting face with a continuous groove constituting a series of letters representing a legend, said groove including at least one loop formation, said plate being formed with a recess extending inwardly from the confronting face thereof at a point where the groove would normally intersect itself in a crossover at one end of a loop formation if there were no recess, a block secured in said recess and being formed on one face with a groove connected in communication with the two ends of said grooves in said plate which normally would be one portion of the cross over and being formed on the other face with a groove connected in communication with the two ends of said grooves in said plate which normally would be the other portion of the cross over.

4

nected in communication with the two ends of said grooves in said plate which normally would be the other portion of the cross over, and a light blocking means received in the portions of said plate groove between adjacent ones of said letters for rendering said plate groove portions non-luminous.

3. A luminous display sign comprising a transparent plate of dielectric material, a backing panel secured to said plate in confronting face to face relation with respect to said plate, said transparent plate being formed on its confronting face with a continuous groove constituting a series of letters representing a legend and forming a gaseous discharge device, said groove including at least one loop formation, said plate being formed with a recess extending inwardly from the confronting face thereof at a point where the groove would normally intersect itself in a cross over at one end of a loop formation if there were no recess, a block secured in said recess and being formed on one face with a groove connected in communication with the two ends of said groove in said plate which would normally be one portion of the cross over and being formed on the other face with a groove connected in communication with the two ends of said groove in said plate which normally would be the other portion of the cross over, and an opaque shield received in the portions of said plate groove between adjacent ones of said letters for rendering said plate groove portions non-luminous.

References Cited in the file of this patent

UNITED STATES PATENTS

1,825,399	Hotchner	Sept. 29, 1931
1,865,253	Hotchner	June 28, 1932
2,156,156	Mahlck	Apr. 25, 1939
2,158,968	Moffat	May 16, 1939
2,296,893	Austin	Sept. 29, 1942
2,621,430	Neville	Dec. 16, 1952

FOREIGN PATENTS

400,646	Great Britain	Oct. 26, 1933
---------	---------------	---------------