

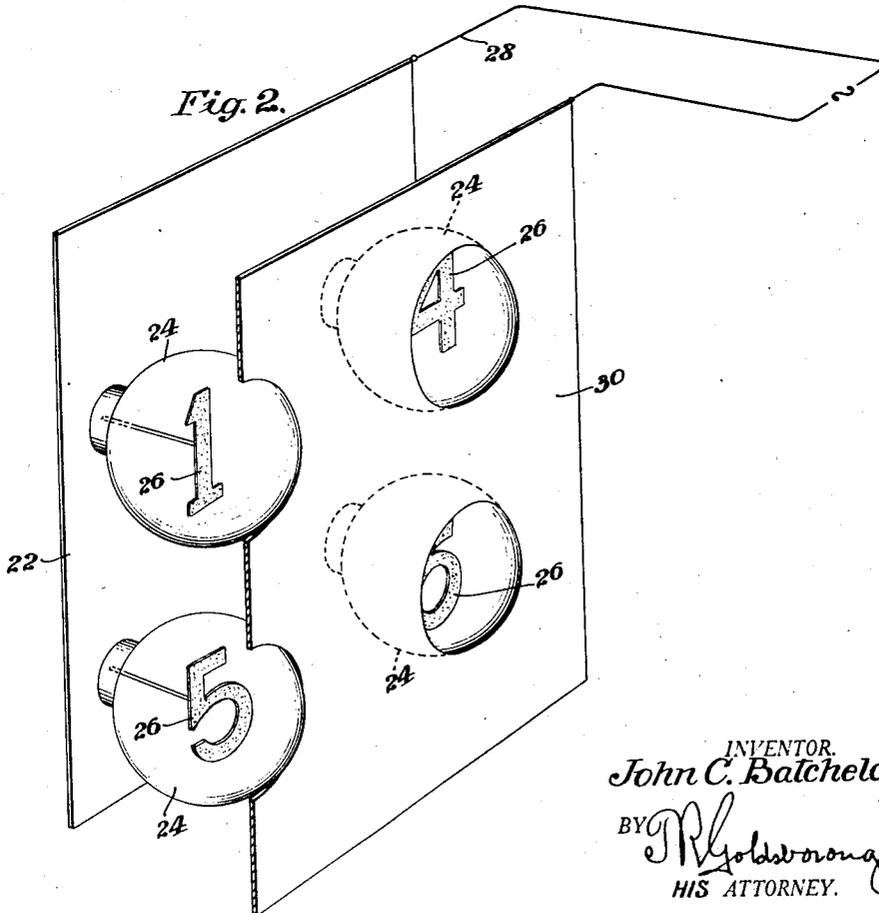
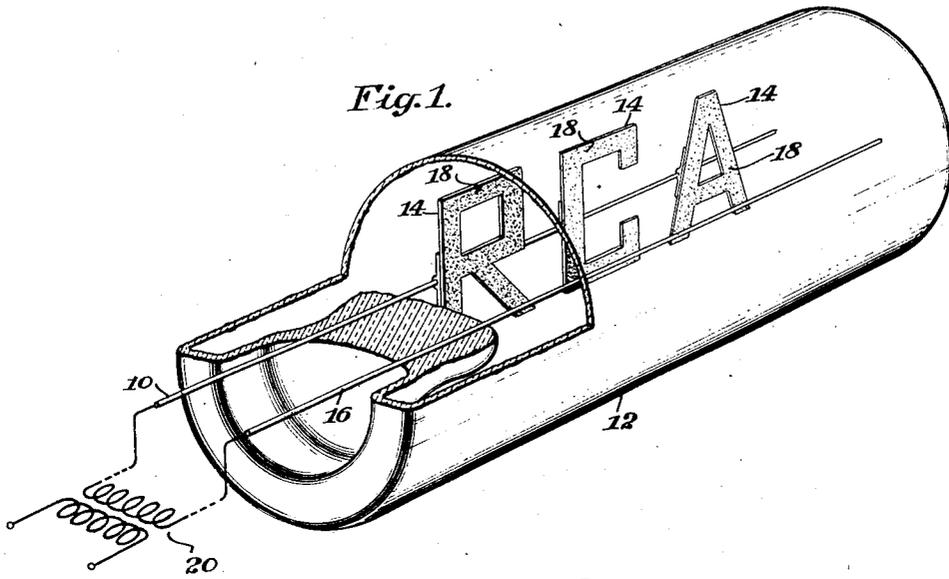
Sept. 26, 1933.

J. C. BATCHELOR

1,928,407

LUMINOUS SIGN

Filed Jan. 12, 1932



INVENTOR.
John C. Batchelor.
BY *J. R. Goldsworthy*
HIS ATTORNEY.

UNITED STATES PATENT OFFICE

1,928,407

LUMINOUS SIGN

John C. Batchelor, Edgewater Park, N. J., assignor to Radio Corporation of America, a corporation of Delaware

Application January 12, 1932. Serial No. 586,130

3 Claims. (Cl. 40-130)

My invention relates to improvements in luminous signs.

One of the objects of my invention is to provide an improved luminous sign of simple construction and manner of operation which produces attractive effects, particularly useful for advertising purposes.

Other objects and advantages will hereinafter appear.

In one embodiment of my invention, metal letters coated on one side with fluorescent material are secured to a wire electrode sealed in a partially-evacuated tube. A high voltage is applied to a second electrode which is either sealed within the tube or is disposed on the outside thereof, to cause an electrical discharge between the two electrodes. The fluorescent material on the metal letters is thereby made to glow.

My invention resides in the construction of luminous signs hereinafter described and claimed.

For the purpose of illustrating my invention, several embodiments thereof are shown in the drawing, wherein

Figure 1 is a perspective view, partly broken away, of a luminous sign embodying my invention; and

Fig. 2 is a similar view, showing a proposed modification.

With reference to Fig. 1, a wire electrode 10 is sealed in a partially-evacuated tube 12, and carries, for example, a number of metal letters 14.

A second electrode 16 is also sealed in the tube and is disposed in proximity to the metal letters or base members on one side thereof, and on which side there is suitable fluorescent material 18, such as willemite or zinc sulphide.

In operation, the electrode 16 and the electrode structure comprising the wire 10 and the attached metal base members 14, are connected across a suitable voltage supply 20 to cause an electric discharge between the electrodes, whereby the fluorescent material is caused to glow. The letters thereby become luminous and produce a pleasing effect, particularly at night.

It is proposed to use different color fluorescent material for the different letters or parts of the sign to produce pleasing color effects. While the metal base members 14 have been shown in the shape of letters, it will be understood that these members may be given any desired shape to represent various figures, trade-marks, or the like. Furthermore, the base member may be a single piece to which the fluorescent material is applied except where the letters or figures are to appear. In this case, the letters or figures appear as black silhouettes against a glowing fluorescent background.

Weird and novel shadow effects may be obtained by varying the gas pressure in the tube or

by changing the position of the electrode 16.

In Fig. 2, the sign comprises a panel 22 and a plurality of bulbs 24 each having a plug-and-socket connection with the panel. Each bulb is provided with fluorescent electrode structure 26 in the shape of a letter, a number, or any desired figure, and which is electrically connected to the bulb part of the plug-and-socket connection. The connection 28 is electrically connected to each of the electrodes 26 by way of the plug-and-socket connections.

A second electrode is provided, and is in the form of a metal cover plate 30 fitted on the bulbs and provided with openings for exposing the outer end wall structure of each bulb as shown.

In operation, the electrodes 26 and 30 are connected across a high frequency supply, as indicated, to induce an electric discharge in each bulb whereby the letter or figure is caused to glow.

The cover plate 30 serves the additional purpose of protecting the bulbs against breakage, and protecting the panel 22 and the plug-and-socket connections from exposure to the elements.

While only several embodiments of my invention have been disclosed, various modifications within the conception of those skilled in the art may be made without departing from the spirit of my invention or the scope of the claims.

I claim as my invention:

1. In a sign, a panel, a plurality of bulbs each having a plug-and-socket connection with said panel, each bulb provided with fluorescent electrode structure electrically connected to the bulb part of said plug-and-socket connection, and a second electrode structure in the form of a cover plate provided with openings for exposing the outer end wall structure of each bulb.
2. In a sign, a plurality of bulbs each provided with fluorescent electrode structure, an electrical connection common to the respective electrode structures, electrode means exterior of said tubes and disposed in proximity thereto, and a second electrical connection to said electrode means for causing, with said first-named electrical connection, an electrical discharge in said tubes.
3. In a sign, a plurality of fluorescent electrodes supported for observation as a group, and an electrode common to said fluorescent electrodes for impressing thereon an electric potential and shaped to expose at least the greater part of the respective fluorescent electrodes for observation.

JOHN C. BATCHELOR.