

Feb. 5, 1935.

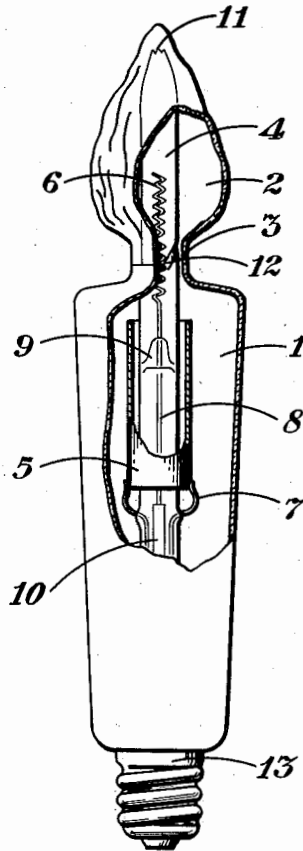
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1,990,146

GASEOUS ELECTRIC DISCHARGE DEVICE

Filed Sept. 29, 1931

Fig. 1



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1,990,146

GASEOUS ELECTRIC DISCHARGE DEVICE

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Application September 29, 1931, Serial No. 565,837
In Japan October 8, 1930

1 Claim. (Cl. 176—14)

The present invention relates to gaseous electric discharge devices generally and more particularly the invention relates to such devices useful for decorative and advertising purposes.

The object of the invention is to provide an electric discharge device in which the luminous column of the gaseous discharge rapidly and eccentrically changes its position in said device during the operation of said device. Still further objects and advantages attaching to the device and to its use and operation will be apparent to those skilled in the art from an inspection of the accompanying drawing and from the following detained description.

In accordance with these objects the invention comprises a container having a discharge conducting gas therein at a pressure higher than normal to said device and having a constricted annular passage therein along the discharge path. Due to the high gas pressure the gaseous discharge assumes the appearance of a thin threadlike luminous stream or column, a so called "stringy" discharge, and due to the annular passage it moves more rapidly and more eccentrically about the interior of the container of the device than it would in the absence of such passage. This rapid and eccentric movement of the luminous threadlike discharge is useful for advertising and other purposes.

In the drawing accompanying and forming part of this specification an embodiment of the invention is shown in front elevation partly in section, but as such illustration is primarily for purposes of disclosure it will be understood, of course, that numerous substitutions, modifications and changes in the form and details of the device and in its use and operation may be made by those skilled in the art without departure from the broad spirit and scope of the invention.

Referring to the drawing the device comprises a container shaped in the form of a lighted candle in which 1 represents the body of a candle and 2 the flame of a candle. A glass tube 4 is fused into said part 1 of said container and extends into and closely approaches the top of said part 4, the exterior walls thereof closely approaching the interior wall of said container at neck 3 thereof to form a narrow annular passage along the discharge path in said container. A spiral electrode 6 is located in said glass tube 4 and is sealed therein at 9. A cylindrical electrode 5 surrounds a

part of said tube 4 located in container 1 and leads 7 and 8 of said electrodes 5 and 6 respectively are lead through said tube 4 and insulated from each other therein by insulation tube 10 surrounding said lead 8. Said leads 7 are connected by means well known in the art to screw base 13, said screw base 13 being adapted to screw into a socket connected to a suitable current source. I have found by experiment that the desired lighting effect is enhanced if a number of inclined grooves such as that shown at 12 are located at that part of tube 4 adjacent part 3 of the container of the device. If desired said part 1 may be coated with a white, opaque substance, and part 2 may be transparent or translucent.

Any suitable discharge conducting gaseous atmosphere may be introduced into the container of the device though I have found that neon is most suitable due to the predominance of red in its spectrum. I have found that a pressure slightly greater than normal to said device, say approximately 18 mm. where the normal pressure is 10 mm., is best for obtaining the stringy gaseous discharge desired.

The device is started into operation by applying a current of a few hundred volts across the electrodes. Due to the high pressure of the gaseous content the gaseous discharge assumes a stringy appearance and due to the constricted annular passage in said container said discharge moves rapidly about in the interior of the container. The discharge is made to revolve either to left or right according to the angle of inclination of the grooves 12 if desired. Part 2 then presents a very realistic representation of a flame. The device is useful for advertising purposes and many other purposes and the form and color of the container may be varied as desired to meet the particular service for which the device may be desired.

What I claim as new and desire to secure by Letters Patent of the United States is:—

A gaseous electric discharge device consisting of a container, electrodes sealed therein, a gaseous filling therein and a constricted passage of annular cross-section along the discharge path in said device, at least one wall of said passage having inclined grooves, the discharge between said electrodes being a stringy discharge.

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