Dec. 29, 1942. W. CHEGWIDDEN 2,306,686

COLD CATHODE HOUSING

Filed May 29, 1940

Fig. 4.

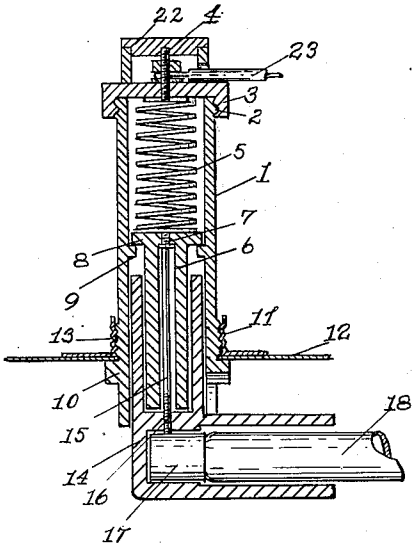


Fig. 5.

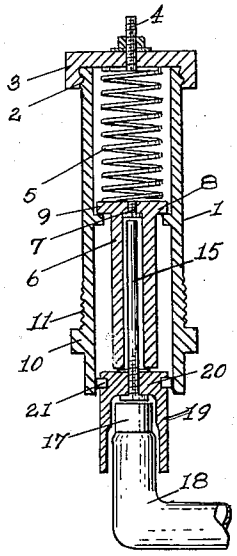


Fig. 1.

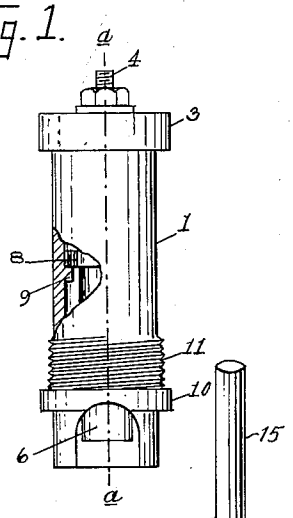


Fig. 3.

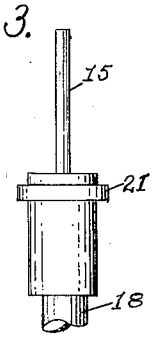
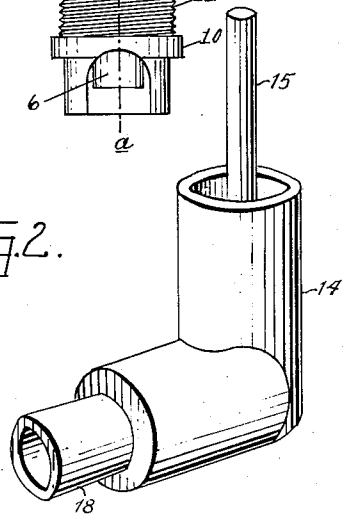


Fig. 2.



Inventor
Willard Chegwidden
by Fred B. Seeberger
Atty

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COLD CATHODE HOUSING

Willard Chegwidden, Sussex, N. J.

Application May 29, 1940, Serial No. 337,783

2 Claims. (Cl. 173—328)

This invention relates to housings for high voltage fluorescent neon tube electrodes such as may be accurately described as cold cathode housings.

The present art does not provide approved cathode housings that may be used with safety against accidental injury to the user or individuals servicing such lighting apparatus which involves the use of high tension currents.

Housings predicated upon the present art might be used for the purpose with modifications that would make their structure too cumbersome for use with interior lighting systems, and therefore useless in the largest field wherein such high tension lighting is most desirable and needed.

The present invention provides the means by which high tension cold cathode fluorescent neon tubes may be installed in combination with suitable reflecting means now known in the art. The object of this invention is to provide a cold cathode high tension fluorescent tube electrode housing that is absolutely safe to handle and to service, that will not permit accidental injury, and that will provide an efficient and safe practical means for extending the use of the high tension fluorescent tube for interior lighting.

In the accompanying drawing,

Figure 1 is a perspective elevation of the invention; and

Fig. 2, a perspective view of an angle electrode connector adapted for use with the housing shown in Figure 1, and

Fig. 3, a perspective view of a straight line electrode connector; and

Fig. 4, a sectional elevation of the invention taken on line *a—a* in Figure 1, and showing an angle electrode connector therein; and

Fig. 5, a sectional elevation of the invention showing a straight line connector therein.

Reference numerals indicate the same parts in the drawing.

In the practice of the invention which is hereinafter fully described, the hollow or tubular body portion of the housing 1 is made from glass or approved ceramic materials well known in the art. The body portion 1 has an outside thread member at its upper end and a cap closure member 3, and has mounted in said cap a bolt member 4 to suitably engage a spring member 5 to hold such spring in position. The lower end of the spring member 5 is secured to a tubular plug member 6, by means of a bolt member 7. A flange member 8 which is integral with the plug member 6, rests upon an annular member 9 integral with the housing body portion 1 to limit the reciprocal movement of said plug 6 in the housing 1.

The lower outside portion of the housing body portion 1 is provided with a laterally extending flange member 10, and a threaded portion 11 immediately above and adjacent to said flange member, the flange 10 and threaded portion being provided to enable the mounting of the cathode housing in a reflector member 12, a fragmental portion of which is shown in Fig. 4, the assembly being held in fixed position by a threaded flange member 13.

An angle electrode connector 14 has mounted therein a stud member 15 thereby providing a conducting means for current to the neon tube electrode, the lower end of said stud 15 being threaded and said threaded portion 16 passing through a threaded opening in the housing 14 to act as set screw means for securing the metal end cap 17 of a high tension fluorescent neon tube electrode 18 in operative engagement with the electrode connector 14.

Fig. 5 shows an identical structure, it is however, a straight line electrode connector and the portion 19 acts as a guard for the electrode, the cap 17 being held in operative engagement with the stud 15 by the spring 5 in the housing 1. Straight line electrode connectors of this type may be provided with a groove 20 into which an annular cork or other resilient member may be inserted to prevent the entrance of insects and other undesirable elements into the body portion of the cathode housing 1.

The stud 15 in the connectors, and the spring member 5 and its supporting bolt members 4 and 7 are the current conducting means between the neon tube electrode and the power conducting means 23 connected to the bolt member 4. The power line terminal bolt 4 is protected by a suitable glass or ceramic cover member 22 which is well known in the art.

It will be obvious from the disclosure that accidental contact with the current source through the spring member 5 would be impossible excepting by deliberate placing of current conducting means into the small opening in the plug 6. The plug 6 may be varied in length to be adapted for high tension currents varying from 5,000 to 15,000 volts.

What is claimed as the invention and desired to be secured by Letters Patent, is:

1. A cold cathode housing comprising; a hollow body portion having an integral annular shelf member therein, a body closure member, a plug member having a constricted connector stud receiving opening therein and slidably mounted in the body portion, a resilient power conducting

means interposed between the plug member and the body closure, a power conducting means mounted in the body closure, means on the body portion for mounting said housing in a panel, an electrode connecting means comprising a closed end tubular member having a power conducting means rigidly mounted therein, said conducting means being adapted to enter the cathode housing plug member portion to effect connection with the housing conducting means and a neon tube electrode.

2. A cold cathode housing comprising; a hollow body portion having an integral annular shelf member therein, a body closure member, a plug member having a constricted connector stud receiving opening therein and slidably mounted in the body portion, a resilient power conducting means interposed between the plug member and the body closure, a power conducting means mounted in the body closure, an electrode connecting means comprising an angular tubular member having individual openings separated by a wall therebetween and a power conducting means mounted in said wall and passing therethrough to operatively engage a neon tube electrode, the power conducting end of the connector being adapted to enter the cathode housing body portion to effect connection with the conducting means and to close the housing opening against foreign material, and means on the body portion for mounting said housing in a panel.

WILLARD CHEGWIDDEN.