Aug. 13, 1946. P. O. CARTUN 2,405,815

LAMP HOLDER

Filed Jan. 22, 1945

Fig. 1.

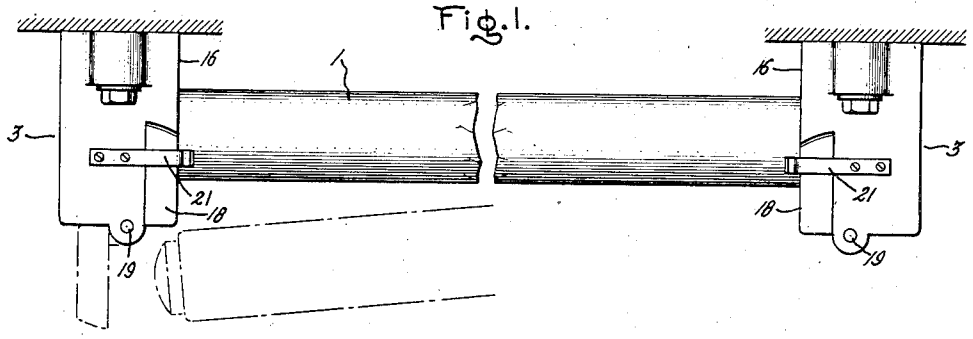


Fig. 2.

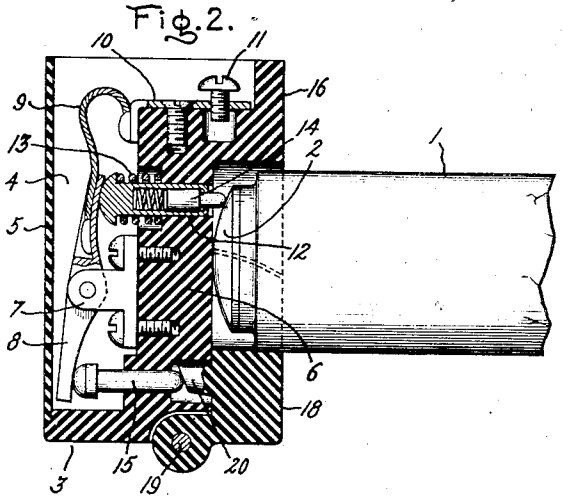


Fig. 3.

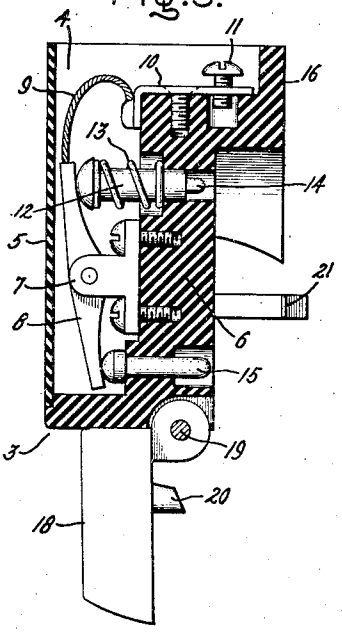
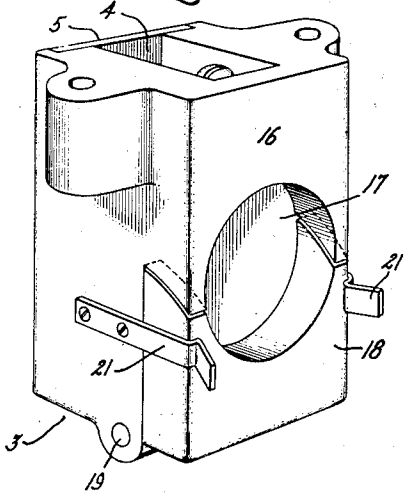


Fig. 4.



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2,405,815

LAMP HOLDER

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5 Claims. (Cl. 200—50)

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The present invention relates to lamp holders and especially to lamp holders for tubular lamps, such as fluorescent lamps. It is especially useful in connection with tubular lamps requiring relatively high open circuit voltages, for example, voltages of the order of 500 volts or higher, although it is not limited thereto necessarily.

The primary object of my invention is to provide an improved construction and arrangement of lamp holder which affords a high degree of safety from an electrical standpoint. It embodies an improved arrangement wherein locking means are provided for locking the lamp end in the holder, which locking means controls the circuit for the lamp, the arrangement being such that the circuit through the lamp is closed only after the lamp ends are correctly positioned in the lamp holders and locked therein.

A further object of the invention is to provide an improved lamp holder which is simple in structure and capable of being manufactured at low cost.

Other objects and advantages of my invention will appear more fully from the following specification.

For a consideration of what I believe to be novel and my invention, attention is directed to the following specification and to the claims appended thereto.

In the drawing, Fig. 1 is a side elevation of a tubular lamp mounted in lamp holders embodying my invention; Fig. 2 is a vertical sectional view through one of the lamp holders with a lamp end positioned therein and locked in place; Fig. 3 is a view similar to Fig. 2 with the lamp end removed from the holder, and Fig. 4 is a perspective view of the lamp holder.

Referring to the drawing, 1 indicates a tubular lamp which may be a lamp of the fluorescent type. At its ends, it is provided with lamp terminal contacts 2 which may be in the form of metal caps suitably attached thereto and connected to the cathodes inside the lamp envelope. This lamp structure is to be taken as typical of any suitable tubular lamp having metal contacts at its two ends through which the lamp is connected in the circuit.

The lamp holder comprises walls which define a casing 3 having a recess 4 at its rear which is closed by a cover plate 5. Attached to wall 6 of recess 4 by suitable screws is a pivot arm 7 on the end of which is pivoted a lever 8. One end of lever 8 is connected by a flexible conductor 9 to a terminal plate 10 provided with a screw 11 for connecting a lead wire to the lamp holder.

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In wall 6 is an opening in which is positioned a sliding contact 12, the head of which engages the one end of lever 8. It is biased to a position in engagement with the lever by a suitable spring 13. Preferably sliding contact 12 is provided with a recess in which is positioned a spring pressed pin 14 which forms the contact proper, it being the part of the sliding contact which engages the lamp contact 2. This provides yielding means for the sliding contact so as to insure proper engagement with a lamp end. Also, in wall 6 is a second opening in which is positioned an actuating pin 15 adapted to engage the other end of lever 8. Pin 15 is formed, at least in part, of insulating material. It is provided with a head with which the end of lever 8 engages and which serves to prevent the pin from sliding out of the wall opening in which it is located.

The front wall 16 of the casing is shaped to define an opening 17 in which a lamp end is positioned when in the holder. The upper half of end wall 16 is an integral part of the casing. The lower half comprises a cover or door 18 hinged to the casing as indicated at 19 and adapted to move from the closed position shown in Figs. 1, 2 and 4 to the open position shown in Fig. 3. The cover or door 18 carries on its inner side a projection 20 adapted to engage the actuating pin 15. It may be held in closed position by any suitable means. In the present instance, it is indicated as being held in closed position by a pair of spring catches 21 the inner ends of which are suitably fixed to casing 3 and the outer ends of which are reversely bent to engage over the outside edges of the cover.

When cover 18 is in open position, as is shown in Fig. 3, spring 13 forces contact 12 to the left as shown in Fig. 3 to bring the end of the contact within the confines of the opening in which it slides and to force the actuating pin 15 toward the right, bringing its head into engagement with wall 6, the head serving as a stop to limit the movement of lever 8 by spring 13. When the cover 18 is in open position, a lamp end may be positioned in recess 17 by passing it sidewise into the upper half of the opening. It can then be fastened in position by closing cover 18, i. e., by moving it from the position shown in Fig. 3 to the position shown in Figs. 1, 2 and 4. When a lamp end is positoned in the holder initially, the cover being open, a circuit through it is not closed since the end of contact 14 is within the confines of the opening in wall 6 in which it slides. When cover 18 is closed, projection 20 engages actuating pin 15 to turn lever 8 on its pivot to move it

from the position shown in Fig. 3 to that shown in Fig. 2 and when thus moved sliding contact 14 is brought into engagement with the lamp terminal contact 2.

Viewed from another aspect, it may be considered that I have a lamp holder having an opening for the introduction of a lamp end into the holder and a cover 18 for closing the opening to lock the lamp end in the lamp holder, the cover in being positioned to lock the lamp end in the holder serving also to close a circuit for the lamp. And while in the present instance the cover is shown as being hinged to the casing, it will be understood that other arrangements may be used.

In accordance with the provisions of the patent statutes, I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the apparatus shown is only illustrative and that the invention may be carried out by other means.

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

1. A lamp holder for an end of a tubular lamp comprising a casing having an opening through which a lamp end may be positioned in the holder, a contact in the lamp holder biased to a position away from the region occupied by a lamp end when in the holder, a cover for the opening for locking a lamp end in the holder, and means whereby the positioning of the cover in locking position moves the contact to a position where it may engage a lamp end contact.

2. A lamp holder for an end of a tubular lamp comprising a casing having an opening through which a lamp end may be positioned in the holder, a sliding contact in the lamp holder, means biasing the sliding contact to a position away from the region occupied by a lamp end when in the holder, a cover for the opening for locking a lamp end in the holder, and means actuated by closing movement of the cover for moving said contact to a position where it may engage a lamp end contact.

3. A lamp holder for a tubular lamp having an end contact comprising a casing having a lateral opening through which a lamp end may be positioned in the holder, a cover for the opening pivoted on the casing, an axially movable contact pin in a casing wall, and means whereby movement of the cover from open to closed position effects movement of the pin from non-engaging position to engaging position with the contact on a lamp end positioned in the holder.

4. A lamp holder for a tubular lamp having an end contact comprising, in combination, a casing having an opening through which the lamp end may be positioned in the holder, a cover for the opening movable on the casing to hold the lamp in position in the opening, an axially movable contact pin in the wall of the casing, a pivoted member carried by said casing, one end of the member engaging the contact pin, a second axially movable pin carried by said casing for engaging the other end of said member, and means carried by said cover for engaging the second-mentioned pin upon movement of the cover from open to closed position whereby said pin moves the pivoted member to force the contact pin into engagement with the lamp contact to make an electrical connection therewith.

5. A lamp holder for a tubular lamp having an end contact comprising, in combination, a casing having an opening for receiving the lamp end, a cover for the opening movable from open to closed position to hold the lamp in the opening, an axially movable contact pin carried by the casing and adapted to extend into the opening, a pivoted conducting member carried by said casing, one end of the conducting member engaging the contact pin, terminal means carried by the casing and being electrically connected to said conducting member, and means cooperating with said cover for moving the pivoted conducting member upon movement of the cover from open to closed position whereby said contact pin is moved into engagement with the lamp contact.

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