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TUBULAR INCANDESCENT LAMP
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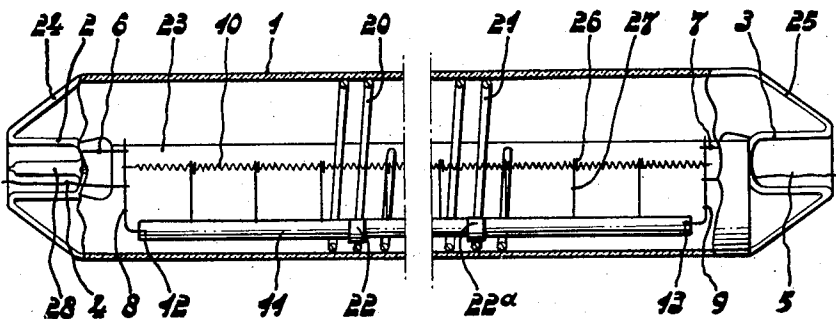


Fig. 1.

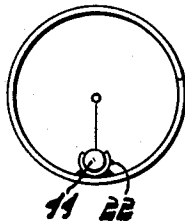


Fig. 2.

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METHOD OF MANUFACTURING A PARTLY SILVERED TUBULAR INCANDESCENT LAMP

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2 Claims. (Cl. 313—279)

There is known a tubular incandescent lamp comprising a longitudinal support extending in the direction of length of the lamp and supporting the filament, which also extends in the direction of length of the tube, by means of supporting wires sealed in the support. The longitudinal support is held by detachable straps at a few areas on the inner side of the bulb. In the manufacture of these lamps first the complete mount of the lamp with the associated straps is built up outside the tube, this structure being then introduced via one of the ends of the lamp bulb until the correct position of the mount relative to the bulb is attained.

However, if such a lamp is to be provided with an internal mirror, the silver layer on the inner side of the bulb may be damaged when the mount is inserted into the bulb, so that the product obtained is of minor quality.

The method according to the invention has for its object to obviate this disadvantage by using supports which are detachable from the longitudinal support of the filament. Particularly with lamps of a length exceeding 50 cms. it is advisable to support the longitudinal support not only at the ends of the lamp but also at a few intermediate areas.

The method according to the invention has the feature that first the supporting straps for the longitudinal support are positioned in the bulb, then the inner side of bulb is silverplated and the longitudinal support with the filament arranged thereon is introduced into the bulb and secured in the supporting straps, the lamp being then worked up in the conventional manner. In this method the risk of damage to the mirror layer already applied is eliminated, since during the silvering operation those parts of the lamp mount which could give rise to damage during their movement over the silver layer, already occupy their final positions in the lamp bulb. If, in accordance with a preferred embodiment of the lamp according to the invention, the supporting straps are constituted by helically wound metal wires or strips, the outer diameter of which corresponds substantially to the inner diameter of the bulb, a further advantage is obtained in that the support of the apparatus for silvering the inner side of the bulb and the masks for the bulb parts to be left uncoated can be moved freely in the bulb.

The invention will be described more fully with reference to the drawing.

Fig. 1 is a lateral view of the lamp according to the invention: part of the front side of the bulb is broken away to show the interior of the lamp.

Fig. 2 is a front view of one of the stay straps.

The tubular incandescent lamp shown in Fig. 1 has a bulb 1.

In each of the stems 2 and 3, provided each on one side of the bulb, is sealed a current supply wire 4 and 5 respectively, which can be connected electrically to the contact on the unipolar lamp caps (not shown) to be secured to the vessel of the lamp.

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In each of the stems 2 and 3 is sealed furthermore a stay wire 6 and 7 respectively. To the current supply wire 4 and 5 and to the stay wire 6 and 7 respectively is secured a yoke 8 and 9 respectively. Between the yokes 8 and 9 the filament 10 is stretched in the direction of length of the bulb.

The bulb furthermore contains the longitudinal support 11, extending in the direction of length of the bulb and constituted by a glass rod. The longitudinal support 11 is kept in its place with the aid of the ends 12 and 13 of the yokes 8 and 9.

In practice it is found that, if this longitudinal support is supported only by the stems 6 and 7, there is a great risk that, if the lamp is exposed to a shock, the longitudinal support breaks down. Therefore, it has been suggested to provide an additional support for this longitudinal support at a few areas in the bulb on the inner side thereof.

In the embodiment shown of the lamp according to the invention the longitudinal support 11 is supported by two resilient, helically wound supports constituted by wire, 20 and 21, of which Fig. 2 shows a front view. To the inner side of one of the turns of such a support is secured, as is particularly evident from Fig. 2, a U-shaped, resilient clamp 22 and 22a respectively, for example by soldering. The inner shape of such a clamp corresponds primarily to the outer diameter of the longitudinal support 11. The outer diameter of the straps 20 and 21 is chosen to be such that these straps engage the inner side of the bulb 1 in a slightly resilient manner.

From Fig. 1 it is evident that the lamp is provided for approximately half of its periphery with a reflecting layer 23 on the inner side of the bulb.

During the manufacture of such a lamp the procedure is as follows: before sealing the stems 2 and 3 in the bulb 1, which is then completely cylindrical, the two supporting straps 20 and 21 are secured in place in the bulb via one of the ends of the bulb. Owing to the shape of these straps substantially the whole cross-section of the bulb remains free. Consequently, the apparatus for applying the silver layer to the inner side of the bulb can be introduced into the bulb and displaced therein without being hindered. This also applies to the masks for screening the part of the bulb not to be silvered. This operation being performed and the silvering apparatus being removed from the bulb, the lamp structure comprising the stems 2 and 3, the longitudinal support 11, the supporting wires 27 with eyelets and the filament 10 support by these eyelets can be introduced into bulb via one of the ends in a manner such that the longitudinal support 11 engages the resilient clamps 22. Consequently, during this operation the straps 20 and 21 are not displaced along the silver layer 23 already provided, so that damage of this layer need not be feared. When the filament occupies its final position, the stems 2 and 3 can be sealed in the bulb, the conical ends 24 and 25 being thus formed. After the lamp has been evacuated via the exhaust tube 28 and, if required, filled with gas and after the exhaust tube has been sealed off, the lamp caps can be applied to the bulb. If afterwards the supports 20 and 21 are displaced slightly along the inner side of the bulb, a narrow, non-silvered part remains in the silver layer 23 where the supporting straps were initially situated.

What is claimed is:

1. A tubular incandescent lamp comprising an elongated glass envelope being at least partly silvered internally, a plurality of detachable, resilient helical straps engaging at least a portion of the inner periphery of said glass envelope, an elongated support in said glass envelope extending parallel to the longitudinal axis of said envelope, a U-shaped resilient clamp secured to one of said

helical straps and fixed to said elongated support, a filament, and means for securing said filament to said elongated support.

2. A tubular incandescent lamp comprising an elongated glass envelope being at least partly silvered internally, a plurality of detachable, helical, resilient straps having an outer diameter corresponding approximately to the inner diameter of said elongated glass envelope, an elongated support in said glass envelope extending parallel to the longitudinal axis of said envelope, a substantially U-shaped clamp affixed to a bottom portion of one of said helical straps and substantially embracing said support to

thereby secure said support to said glass envelope, a filament, and means for securing said filament to said elongated support.

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