Nov. 24, 1936. J. FLAWS, JR 2,062,124

METHOD OF COATING FILAMENTS AND SIMILAR ARTICLES

Filed April 1, 1932

Fig. 1

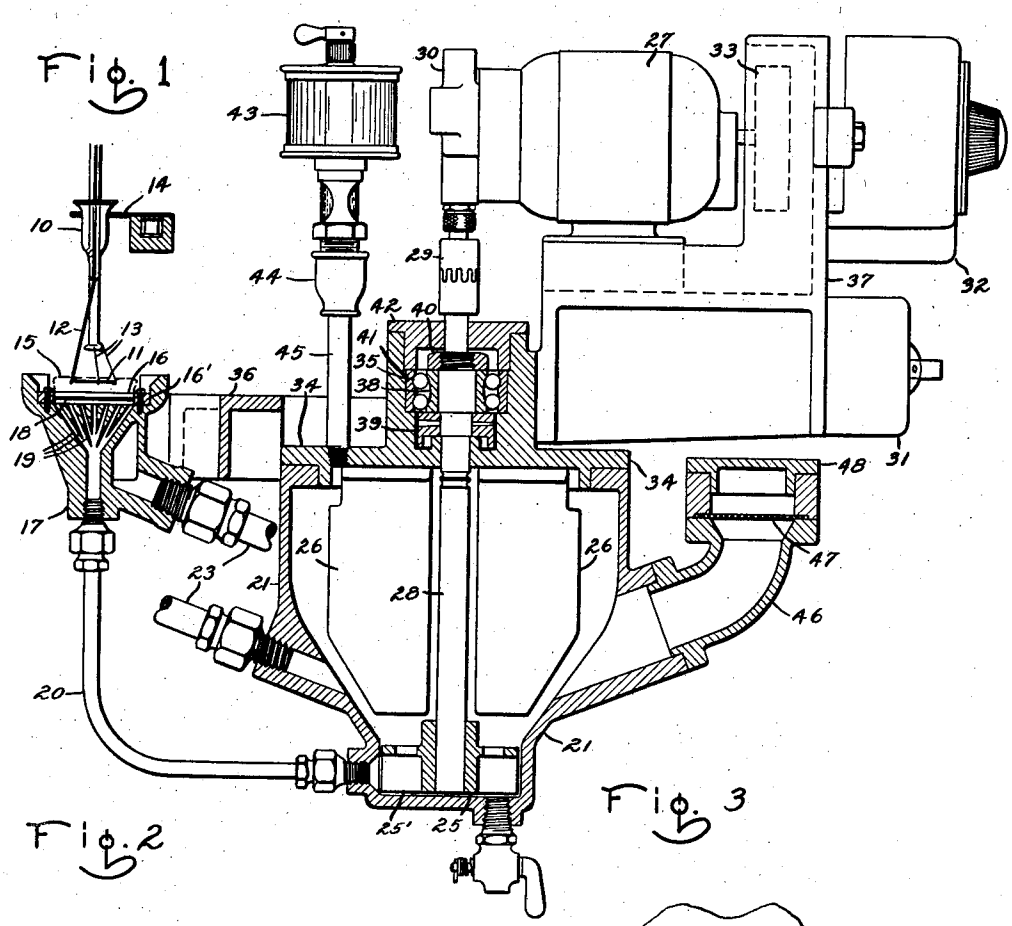


Fig. 2

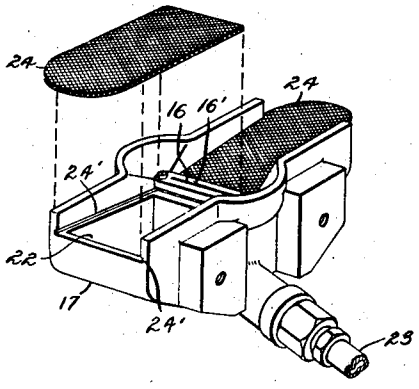
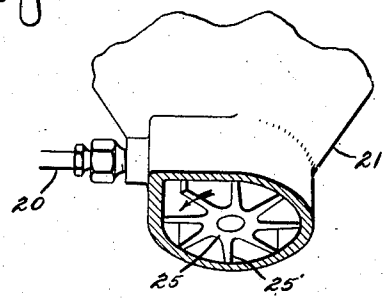


Fig. 3



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METHOD OF COATING FILAMENTS AND SIMILAR ARTICLES

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Application April 1, 1932, Serial No. 602,569

2 Claims. (Cl. 91—68)

My invention relates to methods of and apparatus for coating incandescent lamp filaments and similar articles with materials such as getters. The coating solutions contain materials in suspension known as getters which have the function of improving the performance of the lamp either by combining with oxygen or water vapor or otherwise. One material which is often included is red phosphorus and an alcohol solution with red phosphorus and perhaps other getter materials in suspension is often used as a coating solution. One object of my invention is to provide a method of coating which involves the application of the coating to the mounted filament so as to avoid damage to the coating by handling. More specifically, the coating may take place while the mounts are moving from one lamp-making operation to another and are carried by a suitable conveyor. Another object is to provide for the agitation of the coating solution. Other features and advantages will appear from the description which follows and the accompanying drawing.

As specifically set forth in this specification, my method consists in passing the filament through an upwardly directed jet of liquid in which the getter is held in suspension. This process is performed after the filament is mounted and, preferably, while the mount is being conveyed from one lamp-making operation to another.

Referring now to the drawing, Fig. 1 is a vertical section through the apparatus of my invention: Fig. 2 is a perspective view of the getter jet basin; and Fig. 3 is a perspective view partially in section of the lower end of the getter container.

The lamp mount 10 on which the filament 11 is mounted by lead wires 12 and support wires 13 rests in an inverted position in an opening of plate 14. Said plate is part of a conveyor which carries the mount between lamp making machines and which carries said mount through the jet 15 of getter. It will be apparent from the drawing that the getter solution plays substantially on the filament only and that the rest of the mount is not exposed to said solution. The jet is formed by getter liquid forced upwardly through a slot 16 in nozzle 16' which is fastened to basin 17. Within the said slot is a screen 18 through which the liquid passes on leaving distribution passages 19. The liquid is carried to basin 17 by pipe 20 connected to the base of the container 21. The said container is the main reservoir of liquid and all liquid not held by the filament flows into the container again by way of the wells 22 in basin 17 on either side of the nozzle and pipe 23. The wells are covered by screens 24 which catch all dirt and prevent fire from burning to the liquid within the apparatus. One of these screens has been raised in the drawing to show well 22 and the slots 24' by which said screens are held.

The liquid is forced from container 21 through pipe 20 by a pump 25 which comprises the vanes 25'. Stationary vanes 26 are carried by the top of the container and serve with the pump to cause a stirring and agitation of the liquid which prevents settling of the suspended material. The pump is driven by electric motor 27 through shaft 28, universal joint 29 and speed reducer 30. Switch 31 and rheostat 32 which control the speed of the pump are of conventional design. The motor is of the totally enclosed type and is cooled by air from fan 33. The cover plate 34 of the container 21 in addition to holding the ball bearing 35 for shaft 28, supports basin 17 through bracket 36 and supports the motor 27 through bracket 37. The inner race 38 of the bearing is held between collar 39 and nut 40 on shaft 28 and the outer race 41 is clamped within an aperture in the cover plate 34 by plate 42. As most getter liquids evaporate very readily, a cup 43 with adjustable feed is provided so that alcohol or other liquid which evaporates may be added automatically. The cup 43 is connected to the container by reducer 44 and pipe 45 carried by the cover plate 34. The liquid is poured into the container through an inlet pipe 46 having a screen 47, which may be closed when not in use by lid 48.

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

1. The method of applying getter to a filament for an incandescent electric lamp or similar article which consists in suspending the mount, comprising a stem tube, a filament located in a plane substantially normal to said stem tube and supports extending from said stem to said filament, so that said filament is lowermost and then causing a jet of getter solution to play from below substantially on said filament only.

2. The method of applying getter to a filament for an incandescent electric lamp or similar article which consists in suspending the mount, comprising a stem tube, a filament located in a plane substantially normal to said stem tube and supports extending from said stem to said filament, so that said filament is lowermost and then causing said filament to pass through an upwardly directed jet of getter solution substantially without exposing the rest of said mount to said solution.

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