June 23, 1931. J. A. KENNEDY 1,811,505

COATING APPARATUS

Filed May 19, 1930

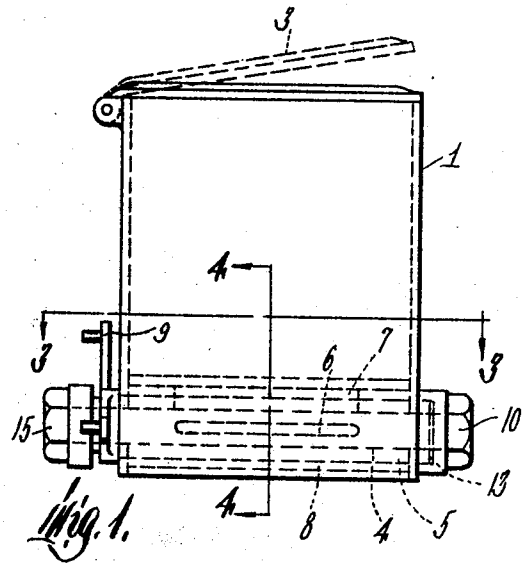


Fig. 1.

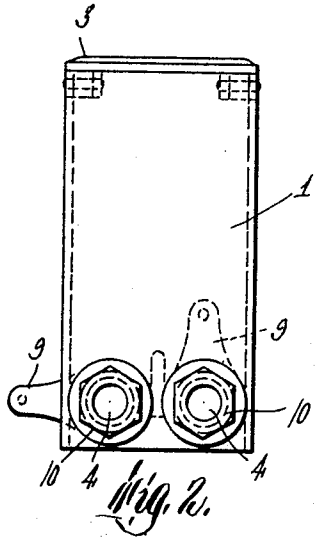


Fig. 2.

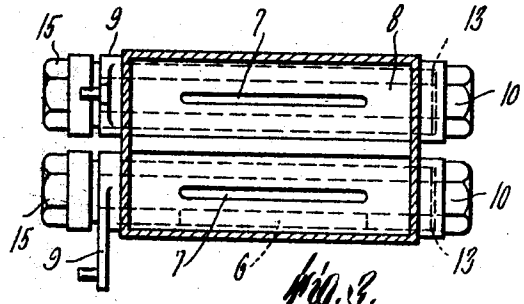


Fig. 3.

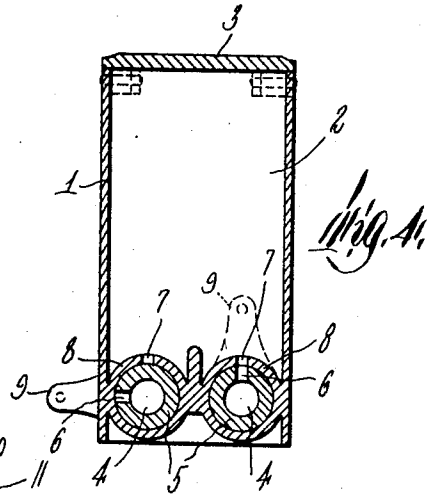


Fig. 4.

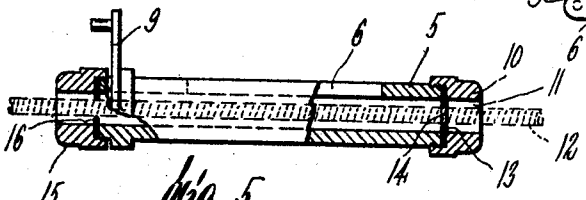


Fig. 5.

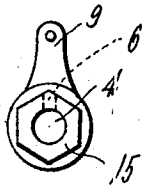


Fig. 6.

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Attys.

Patented June 23, 1931 1,811,505

UNITED STATES PATENT OFFICE

JOSEPH A. KENNEDY, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO ANACONDA WIRE AND CABLE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE

COATING APPARATUS

Application filed May 19, 1930. Serial No. 453,719.

This invention relates to coating apparatus adapted to be used for applying an outer coat of fluid matter to long and slender articles or manufactures in the nature of tubing, cable, wires and the like. It is more particularly adapted to apply to such articles solutions of normally solid matter in volatile solvents, such as cellulosic lacquers and the like, and with this use in view, my object in devising the invention has been to provide means for limiting to the minimum the volume and surface area of the lacquer which is exposed to the air and is thereby subject to evaporation, while providing at the same time means for flooding with lacquer the goods being coated and maintaining an adequate supply of the lacquer for continuously coating goods over long periods, and for immediately resuming the coating action after interruption thereof. Difficulty is encountered in the commercial application of lacquers, particularly those consisting of cellulose compounds dissolved in volatile solvents, to tubing and similar goods, when the conditions of manufacture are such that continuous and uninterrupted passage of the goods being coated through the lacquer is not possible; as when interruptions over night or for other purposes are required. Under such conditions the lacquer is liable to dry and solidify to a greater or less extent and necessitate expenditure of time and labor before the coating action can be resumed after a temporary shut down. It has been my object to reduce such difficulties to the minimum.

In the accompanying drawings, I have illustrated certain specific embodiments of my invention, but it will be understood that the invention can be otherwise embodied and that the drawing is not to be construed as defining or limiting the scope of the invention, the claims appended hereto being relied upon for that purpose.

Referring to the figures of the drawings,—

Fig. 1 is a side elevation of my improved coating apparatus;

Fig. 2 is a rear elevation thereof;

Fig. 3 is a plan sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is a horizontal sectional view taken on line 4—4 of Fig. 1;

Fig. 5 is an elevation of the tube receiving member, partially in section;

Fig. 6 is a front end elevation thereof.

Referring more specifically to the drawings by reference characters, 1 indicates the body portion of the apparatus, made as a box or tank, the interior of which constitutes a reservoir 2 normally closed by a pivoted cover 3. The bottom of the box herein illustrated is provided with two passages 4 open from end to end, it being understood that any desired number of such passages may be provided. Each of these passages is formed by the bore of a tube or sleeve 5 which fits rotatably in the bottom wall of the box, such wall being suitably enlarged or swelled for the purpose. Rotation of the sleeve enables a port 6 in its side to be brought into and out of register with a complemental port 7 in the box bottom 8 leading to the interior reservoir thereof, whereby flow of the lacquer from the reservoir to the passage is permitted or prevented. These sleeves extend beyond the end walls of the box, and on one end of each is an arm 9 by which it may be so rotated.

The passage 4 extends from end to end of the sleeve and is enough larger in diameter than the tube, cable or other goods being coated to permit of complete envelopment of such goods by the lacquer. Loss of the lacquer from the ends of the passage is prevented, and centering of the goods being coated within the passage is effected by the following means. A clamp 10 having a central passage through it is screwed upon one protruding end of the sleeve and clamps against such end a plate or die 13 having a central orifice 14 of approximately the same diameter as the goods 12 being coated. On the other end of the sleeve is a similar clamp 15 securing an apertured plate or die 16. Dies or plates having apertures of different diameters may be substituted for one another as needed to fit tubes, etc. of different diameters.

It will be readily understood that so long as the ports 6 and 7 are in register a constant supply of lacquer is provided to each passage, which envelops and coats the tubing

or other goods traveling through the passage, the thickness of the coating being regulated by the closeness with which the die aperture fits the outside of the tubing. When the operation is interrupted for any reason, as by shut down of the plant over night, the coming to an end of a piece of goods being coated, etc., flow of lacquer to the goods passage is shut off by turning the sleeve. The quantity of lacquer then exposed to the air and liable to be dried is reduced to the minimum, and may be negligible, if the flow is shut off shortly before the travel of the goods ceases. But whatever lacquer may remain and dry in the passage may be very easily removed before operation is resumed. The cover 3 closes the main tank at all times except when the supply of lacquer is replenished, and prevents surface evaporation therein.

What I claim and desire to secure by Letters Patent is:

1. A lacquering box, comprising a body portion forming a lacquer reservoir, a member adjacent the reservoir and having a tube receiving passage and a connecting port through which lacquer flows from the reservoir to the first said passage, and means whereby the said member can be moved to a position closing said port.

2. A lacquering box comprising a body portion forming a lacquer reservoir, a rotatably mounted member adjacent the reservoir and having a tube receiving passage and a connecting port through which lacquer flows from the reservoir to the passage, and means whereby rotation of said member will control the flow of lacquer through said port.

3. A lacquering box, comprising a body portion having a lacquer reservoir, a member adjacent the reservoir and having a tube receiving passage and a connecting port communicating with the reservoir for supplying lacquer from the reservoir to said passage, the said member being mounted for rotary movement about the longitudinal axis of said first passage, and means whereby rotation of said member to a predetermined position about said axis will close the second named passage.

4. An apparatus of the character described comprising a body portion forming a reservoir for coating material, said body portion having a bearing portion formed with a port opening into said reservoir, a member rotatably mounted in said bearing portion and having a longitudinally extending passage through which the work to be coated is adapted to travel, said member having a port adapted to be moved relatively to the port in said bearing portion so as to control the flow of coating material from the reservoir to said passage.

5. The apparatus of claim 4, having a die member secured to one end of said rotatable member and said die member having an opening therein of smaller diameter than the diameter of the passage in the rotatable member.

In testimony whereof I have affixed my signature.

JOSEPH A. KENNEDY.