R. A. McQUITTY.

APPARATUS FOR COATING THE SURFACES OF FLEXIBLE FOUNDATIONS.

APPLICATION FILED JUNE 20, 1919.

1,388,353. Patented Aug. 23, 1921.

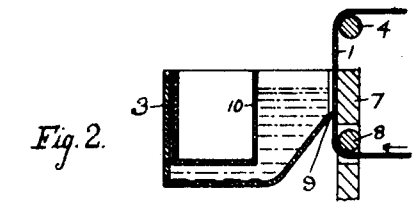


Fig. 2.

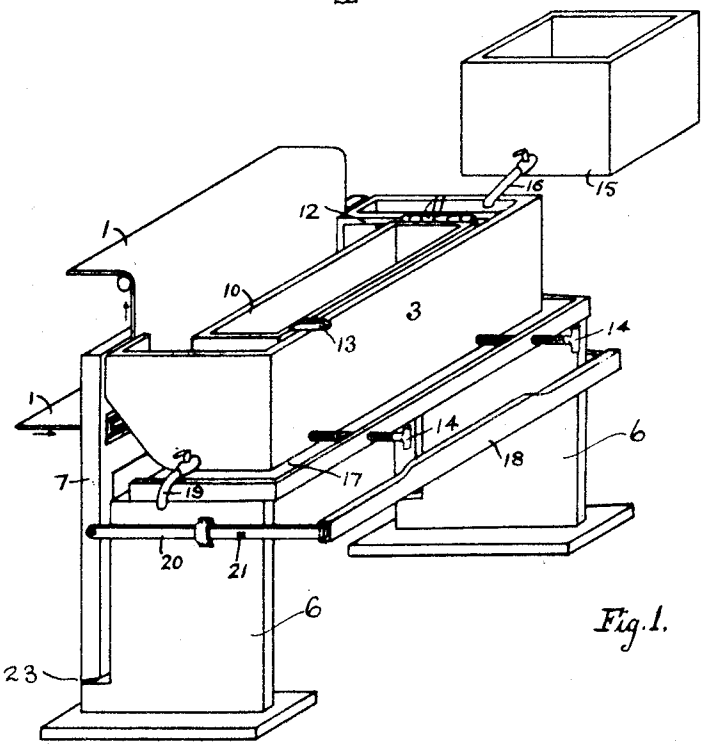


Fig. 1.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR COATING THE SURFACES OF FLEXIBLE FOUNDATIONS.

1,388,353. Specification of Letters Patent. Patented Aug. 23, 1921.

Application filed June 20, 1919. Serial No. 305,653.

To all whom it may concern:

Be it known that I, ROBERT ATKINSON McQUITTY, a subject of the King of Great Britain and Ireland, residing at 10 Parsons Green, London, England, have invented new and useful Improvements in Apparatus for Coating the Surfaces of Flexible Foundations, of which the following is a specification.

The present invention relates to improvements in apparatus for coating the surfaces of flexible foundations and is designed more particularly for use in the manufacture of thin sheets of gelatin such as are used for culinary purposes, wrapping bon-bons, for transparent envelops and for wrappings employed in the tops of boxes of confectionery chocolates and the like. It should be understood, however, that the use of the present apparatus is not limited to the manufacture of gelatin sheets but may be equally well employed for any purposes in which it is desired to evenly spread a liquid over a flexible foundation.

The present invention comprises a tank in close proximity to which the flexible foundation to be covered is passed and which during its passage receives an even coating of a liquid contained by the tank. Means are provided whereby the level of the liquid is raised to a position in which it is above the level of a lip projecting from the tank and is in contact with and adheres to and thus forms a coating upon the surface of the flexible foundation during its passage past the tank. Means are also provided whereby the liquid is run into the tank in such a manner that air bubbles are avoided and an even surface without air holes is spread over the surface of the foundation.

The present invention is illustrated by way of example applied to apparatus for manufacturing sheets of gelatin, in which—

Figure 1 is an isometric view of the tank and its accessories, and

Fig. 2 is a cross section through the tank.

Referring now to the drawings, the flexible foundation 1 is fed by any convenient means off a reel or alternatively in suitable sheet lengths against the tank 3 and passes vertically from thence with the liquid gelatin adhering to its surface to guiding rollers and from thence over said rollers to a drying wheel (not shown) upon which the coated foundation is dried before the gelatin sheet formed upon the surface of the foundation is stripped therefrom. The above apparatus except in so far as the tank is involved does not form part of the present invention.

The tank 3 rests upon a table 17 carried upon a frame 6. A front piece 7 is hinged at 23 to the frame 6. The flexible foundation 1 passes from a reel through an opening in the front piece 7 over the roller 8 and from thence between the front piece 7 and the lip 9 of said tank to the rollers 4. The interior of the tank 3 is provided with a float 10 hinged at 11 to a partition wall 12 and adapted to be pressed down so as to raise the level of the liquid in the tank to a position in which it is above the said lip 9 and covers a portion of the foundation during its passage past the tank. The float 10 is held in the depressed position by means of the button 13 or any other suitable catch or fastening means convenient for the purpose in view.

In order to pass the end of the flexible foundation through the opening in the front piece 7 the side bars 20 are lifted off the stops 21 and the front piece 7 pushed back to a position in which the foundation can be conveniently drawn through the opening to a position in which it is above the top of the tank. The front piece 7 is then moved back through the hand bar 18 to a position in which the lip 9 of the tank is in close proximity to the surface of the foundation. Owing to said tank being slidably mounted upon its supporting table 17, the position of the lip may be more finely adjusted by means of the screws 14. The liquid gelatin or the like is fed into the tank from the bottom of the reservoir 15 through the feeding pipe 16 which carries the liquid to the bottom of said tank underneath the float. Owing to the fact that the gelatin or other liquid is drawn off from the bottom of the reservoir and is led into the bottom of the tank, air bubbles are avoided. When the entire flexible foundation has passed from the reel past the front of the tank the catch holding the float down is released, allowing the float to rise and consequently the level of the liquid gelatin or the like in the tank to fall below the level of the lip. The liquid gelatin or the like can be run off through the waste pipe 19 when the coating process has been completed.

What I claim is:

1. Apparatus for coating the surfaces of

flexible foundations comprising a tank support, a tank with an opening in one wall thereof, a front piece hinged to said tank support and adapted to cover said opening, a roller mounted in an opening in the lower part of said front piece, means for moving said front piece upon its hinges, back from the tank to allow of the end of the flexible foundation being passed over said roller mounted in the opening in the lower part of said front piece and placed in position between the front piece and the tank and for moving said front piece forward to a position in which it is in close proximity to the tank after the position of the flexible foundation has been adjusted, a projecting lip mounted on said tank below said tank opening and adapted to engage the surface of a moving flexible foundation during its passage from said roller between said tank opening and the inner surface of said front piece, a float for raising or lowering the level of the liquid in said tank, and means for adjusting the relation of the tank lip to the surface of said flexible foundation.

2. Apparatus for coating the surfaces of flexible foundations comprising a tank support, a tank with an opening in one wall thereof, a front piece hinged to said tank support and adapted to cover said opening, a roller mounted in an opening in the lower part of said front piece, side bars for moving said front piece upon its hinges back from the tank to allow of the end of the flexible foundation being passed over said roller mounted in the opening in the lower part of said front piece and placed in position between the front piece and the tank and for moving said front piece forward to a position in which it is in close proximity to the tank after the position of the flexible foundation has been adjusted, a hand bar connecting said side bars, a projecting lip mounted on said tank below said opening and adapted to engage the surface of a moving flexible foundation during its passage from said roller between said tank opening and the inner surface of said front piece, a float for raising or lowering the level of the liquid in said tank, and means for adjusting the relation of the tank lip to the surface of said flexible foundation.

3. Apparatus for coating the surfaces of flexible foundations comprising a frame, a front piece pivoted thereon, a table carried upon said frame, a tank resting upon said table, a roller mounted in an opening in said front piece over which a flexible foundation passes and from thence between an opening in the front of said tank and the inner surface of said pivoted front piece, a lip projecting from said tank toward the said flexible foundation beneath its front opening, a partition wall in said tank, a float hinged to said partition wall and adapted to be pressed down into the interior of said tank to raise the level of the liquid contained therein to a position in which it is above the lip and covers a portion of the foundation during its passage past the tank and a catch for holding the float in the depressed position.

4. Apparatus for coating the surfaces of flexible foundations comprising a frame, a front piece pivoted thereon, a table carried upon said frame, a tank slidably resting upon said table, a roller mounted in an opening in said front piece over which a flexible foundation passes and from thence between an opening in the front of said tank and the inner surface of said pivoted front piece, a lip projecting from said tank toward the said flexible foundation beneath its front opening, a partition wall in said tank, a float hinged to said partition wall and adapted to be pressed down into the interior of said tank to raise the level of the liquid contained therein to a position in which it is above the lip and covers a portion of the foundation during its passage past the tank, a catch for holding the float in the depressed position, screws in said frame for moving said tank toward the flexible foundation, a hand bar in the front of said frame for adjusting the relation of the flexible foundation to the tank lip and side bars connecting said hand bar with said pivoted front piece.

5. Apparatus for coating the surfaces of flexible foundations comprising a frame, a front piece pivoted thereon, a table carried upon said frame, a tank slidably resting upon said table, a roller mounted in an opening in said front piece, side bars for moving said front piece upon its hinges back from the tank to allow of the end of the flexible foundation being passed over said roller mounted in the opening in the lower part of said front piece and placed in position between the front piece and the tank and for moving said front piece forward to a position in which it is in close proximity to the tank after the position of the flexible foundation has been adjusted, a hand bar connecting said side bars, a lip projecting from said tank toward the said flexible foundation beneath its front opening, a partition wall in said tank, a float hinged to said partition wall and adapted to be pressed down into the interior of said tank to raise the level of the liquid contained therein to a position in which it is above the lip and covers a portion of the foundation during its passage past the tank, a catch for holding the float in the depressed position, and screw means in said frame for moving the tank upon the table to adjust the relation of the tank lip to the surface of said flexible foundation.

In testimony whereof I sign my name to this specification.

R. A. McQUITTY.