C. I. DAYTON.

COATING APPARÁTUS.

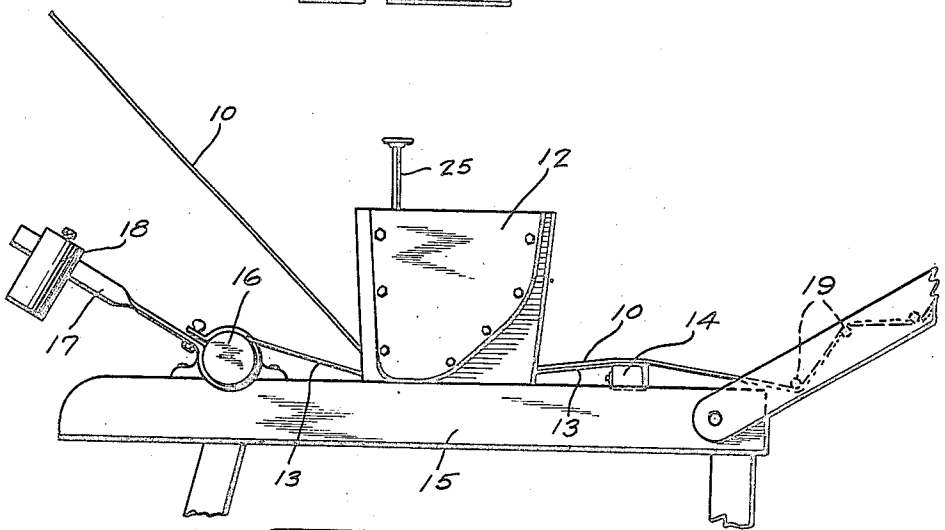
APPLICATION FILED JUNE 1, 1920.

1,422,545.

Patented July 11, 1922.

2 SHEETS—SHEET 1.

Fig. 1.



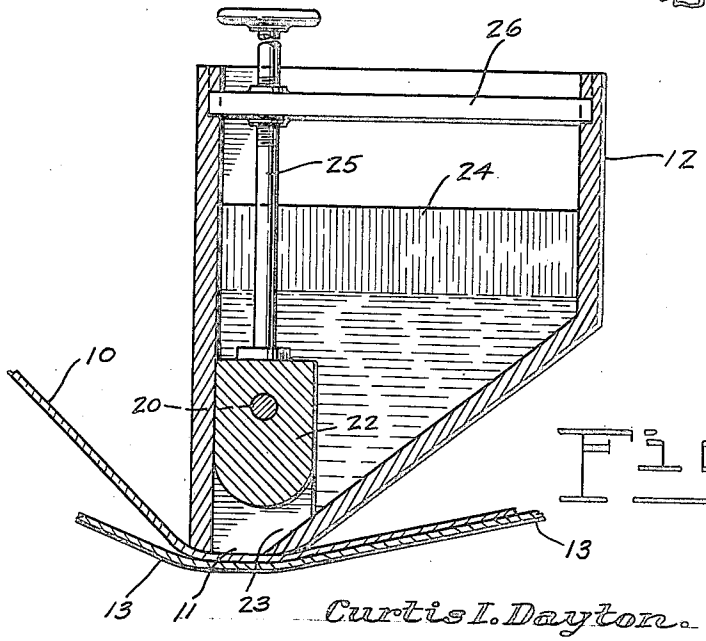


Fig. 2.

Curtis I. Dayton. INVENTOR.

BY

Miller & Thomas Co.

ATTORNEYS.

C. I. DAYTON.

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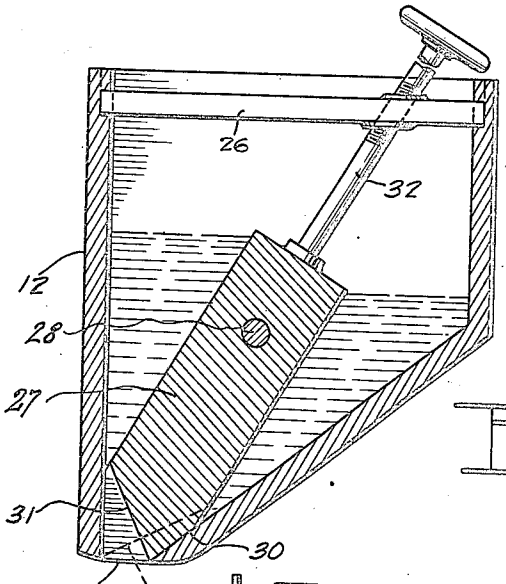


Fig. 4.

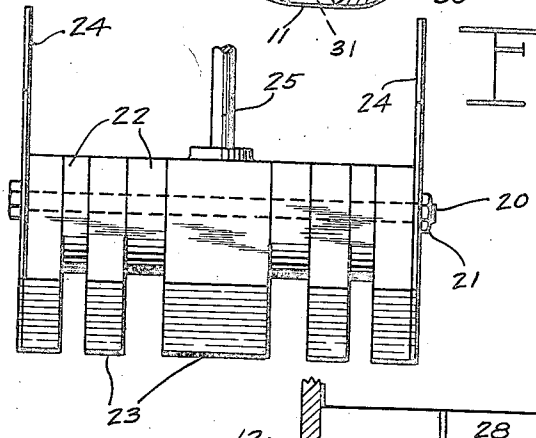


Fig. 3.

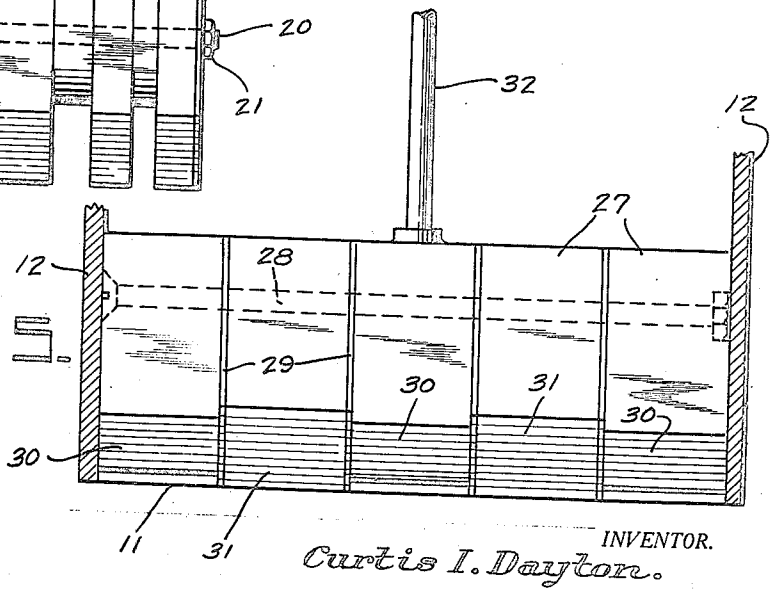


Fig. 5.

INVENTOR.

Curtis I. Dayton.

BY

Mitchell Stevens & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CURTIS I. DAYTON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO ERNEST L. DAYTON, OF DETROIT, MICHIGAN.

COATING APPARATUS.

1,422,545. Specification of Letters Patent. Patented July 11, 1922.

Application filed June 1, 1920. Serial No. 385,707.

To all whom it may concern:

Be it known that I, CURTIS I. DAYTON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Coating Apparatus, of which the following is a specification.

The apparatus which is the subject matter of the present application for patent has been designed for applying a liquid coating material to textile fabrics, such as awning cloth and the like, and the invention has for its object to provide a very simple, economical and efficient apparatus of this kind.

A further object of the invention is to provide a coating apparatus which can be used to completely cover the fabric with a coating of material to render the same mill-dew-proof, fire-proof and water-proof, and also to provide novel and improved means for enabling the fabric to be striped, said means being adjustable to produce stripes of different widths and spacings, and also of different colors.

With the objects stated in view, the invention consists in a novel combination and arrangement of parts to be hereinafter described and claimed, and in order that the same may be better understood, reference is had to the accompanying drawings forming a part of this specification.

The preferred embodiment of the invention has been illustrated, but it will be understood that various changes and modifications may be made without a departure from the spirit and scope of the invention as claimed hereinafter.

In the drawings,

Figure 1 is a side elevation of the apparatus;

Fig. 2 is a cross section thereof showing a fountain which contains the liquid coating material;

Fig. 3 is an elevation of a stripe-forming member associated with the fountain;

Fig. 4 is a cross-section showing the fountain equipped with a member for applying stripes of two different colors, and

Fig. 5 is an elevation of said member, with a fragment of the fountain in section.

In carrying out the invention, the strip 10 of fabric to be coated is made to travel lengthwise beneath the discharge opening or outlet 11 of a fountain 12 containing the liquid coating material. The fountain outlet is at the bottom thereof, and it is in the form of a slot of a length conforming to the width of the fabric to be treated. The coating material is merely allowed to flow on the fabric as it is drawn past the outlet 11, it being held pressed there-against by a fabric or other flexible strip 13 fastened at one end to a cross bar 14 on a frame 15 supporting the fountain 12, the other end of the strip being fastened to a roller 16 supported by said frame and having a radially projecting arm 17 carrying an adjustable weight 18, whereby the roller is given a tendency to turn in a direction to wind the strip 13 thereon, with the result that it is tensioned to hold the strip 10 firmly pressed against the fountain outlet 11, said outlet being below the plane of the fastened ends of the strip 13.

Before passing to the fountain 12, the strip 10 is threaded over and under a series of cross bars 19 in alternation, as shown in Fig. 1, which takes out all curls and leaves the strip perfectly smooth transversely. From the fountain 12, the strip goes to a take-up roller which draws the strip along, and a suitable drying means, these not having been illustrated as they are immaterial.

If the fabric is to be striped, the device shown more particularly in Figs. 2 and 3 is placed in the fountain 12. This device serves to so control the flow of coloring material from the fountain, that it is flowed or laid on the fabric in stripes. The device consists of a series of blocks of wood or other material assembled side-by-side on a long bolt 20 and held clamped together to form a rigid structure, by a nut 21 screwed on the bolt. The blocks vary in heights the short ones 22 being positioned between the long ones 23. The cross section of the blocks is such that they fit snugly in the bottom of the fountain 12 over the outlet 11 thereof. The long blocks 23 extend down far enough to completely close the outlet, whereas the short blocks 22 terminate a short distance above the outlet, as clearly shown in Fig. 2. It will therefore be seen that the liquid coating material can flow only under the blocks 22 and hence it issues from the outlet in a number of spaced streams of a width corresponding to the width of said blocks, and spaced according to the width of the blocks 23. It will be noted in Fig. 2 that the blocks seat snugly

against the rear wall of the fountain 12, and the opposite wall is sloped and spaced from the blocks so that the coating liquid can flow beneath the blocks 22 into the spaces between the blocks 23.

It will be obvious from the foregoing that various designs may be applied to the strip 10 by varying the width of the blocks 23 and the spacing thereof. The entire assembly of blocks may be given any width according to the width of the fabric strip 10. If said fabric strip is shorter than the length of the fountain outlet 11, the plates 24 shown in Figs. 2 and 3 may be applied to the ends of the series of blocks 22 and 23. These end plates are shaped to extend entirely across the fountain 12 from the front to the rear, and they thus form a compartment to receive the liquid coating composition. The blocks 22 and 23 seat between the end plates 24, and distribute the coating as hereinbefore described, the end portions of the fountain beyond the end plates being empty so that there is no discharge at the outlet 11 beyond said plates.

The assembly of distributor blocks 22 and 23 is held down in the fountain 12 by a screw stem 25 threaded through a cross bar 26 extending across the fountain near the top thereof. These holding means are removable, after which the assembly of blocks may be removed from the fountain.

Figs. 4 and 5 show an appliance for laying on stripes of two different colors. This appliance comprises a series of blocks 27 positioned alongside each and held clamped together by a bolt 28. This assembly of blocks seats lengthwise in the fountain 12 between the end walls thereof and thus forms a longitudinal partition dividing the fountain into separate front and rear compartments, one of which may hold a liquid coating composition of one color, and the other compartment a coating of some other color, so that stripes of two different colors may be simultaneously applied to the fabric 10.

Between the blocks 27 are sandwiched thin sheet metal spacer plates 29, and the blocks are beveled on opposite sides at the bottom to seat in the bottom portion of the fountain. The bevels are more pronounced on one side than on the other so that one beveled side 30 seats against the slanting front wall of the fountain, and the other beveled side 31 faces and is spaced from the straight rear wall of the fountain. The blocks are set so that the beveled sides 30 alternate with the beveled sides 31 and hence there is produced at the outlet 11 a series of discharge openings communicating with the front and rear fountain compartment in alternate order, so that the coating liquid in the compartments is discharged in a number of streams according to the number of blocks 27 employed, each stream being separated from the adjacent ones by the plates 29, and one stream being a coating liquid of one color and the next stream being one of a different color, the stripes being thus laid on in two different colors in alternation.

The assembly of blocks 27 is held down in the fountain by a screw stem 32 as before.

If the differently colored stripes are to merge on the fabric 10, separator plate 29 will be removed.

I claim:

1. In a coating apparatus, a fountain for holding a supply of liquid coating material and having an outlet through which the material passes to the article to be coated, and a distributor removably mounted in the fountain over the outlet thereof and having means for dividing the coating material into separate streams.

2. In a coating apparatus, a fountain for holding a supply of liquid coating material and having an outlet through which the material passes to the article to be coated, and a distributor in the fountain over the outlet thereof, said distributor consisting of a series of blocks assembled side-by-side, certain of said blocks closing the outlet and other blocks leaving the outlet unobstructed.

3. In a coating apparatus, a fountain for holding a supply of liquid coating material and having an outlet through which the material passes to the article to be coated, and a distributor consisting of a series of blocks of different heights assembled side-by-side in alternate order, the longer blocks being shaped to form closures for the outlet, and the shorter blocks leaving the outlet unobstructed between the closures.

4. In a coating apparatus, a fountain for holding a supply of liquid coating material and having an outlet through which the material passes to the article to be coated, a distributor in the fountain over the outlet thereof, said distributor consisting of a series of blocks assembled side-by-side, certain of said blocks closing the outlet and other blocks leaving the outlet unobstructed, and a clamping member for holding said series of blocks on the bottom of the fountain over the outlet thereof.

5. In a coating apparatus, a fountain for holding a supply of liquid coating material and having an outlet through which the material passes to the article to be coated, and a distributor consisting of a series of blocks assembled side-by-side and extending lengthwise of the fountain to form a partition dividing the same into separate front and rear compartments, said blocks having means for dividing the outlet into a series of discharge openings communicating with the compartments in alternate order.

In testimony whereof I affix my signature.

CURTIS I. DAYTON.