Dec. 3, 1935. A. M. PARKS 2,022,733

COATING AND FILMING MACHINE

Filed Feb. 23, 1935

FIG. 1.

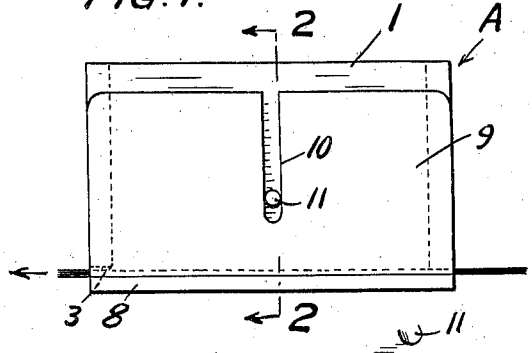
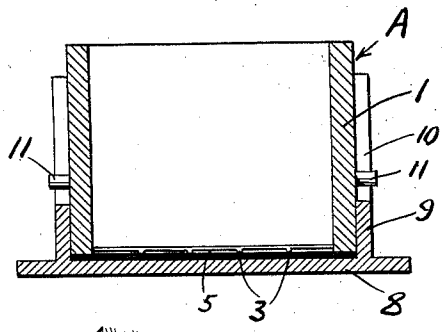


FIG. 2.



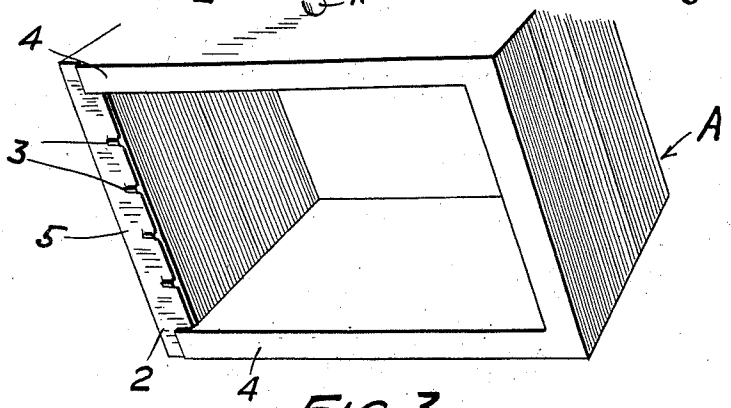


FIG. 3.

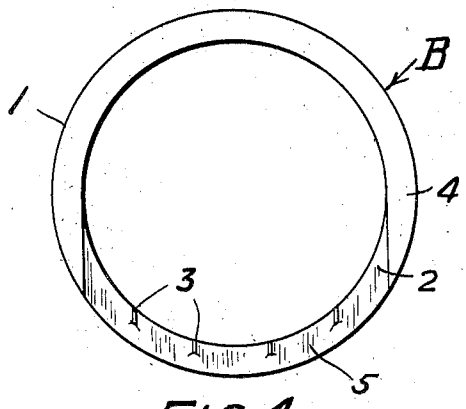


FIG. 4.

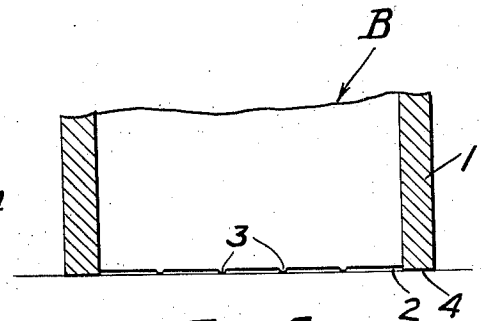


FIG. 5.

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COATING AND FILMING MACHINE

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3 Claims. (Cl. 91—43)

The object of the invention is to spread thin films of paint, varnish, enamel, lacquer, printing ink, oil and like substances in the form of thin films or coatings upon sheets of paper or similar material in order to provide sample cards, and for many other uses and purposes.

Another object of the invention is to provide that the films when spread out on any flat surface shall be uniform and of a predetermined definite thickness.

Other objects of the invention will appear from the following description at the end of which the invention will be claimed.

Generally stated, the invention consists in an open bottom receptacle having a recess in a portion of the edge of its bounding wall and the outside portion of the recess being unobstructed and the inside portion of the recess being provided with spaced projections terminating flush with the rest of the edge of the wall so that the studs or projections operate as hold downs and the unobstructed portion permits the coating or filming fluid to flow together in advance of the studs or projections.

The invention also comprises the improvement to be presently described and finally claimed.

In the following description reference will be made to the accompanying drawing forming part hereof and in which,

Figure 1 is a side view of a device embodying features of the invention.

Figure 2 is a cross section on the line 2—2 of Figure 1.

Figure 3 is an inverted perspective view showing the recessed wall provided with studs or projections extending part way across it, and

Figures 4 and 5 are an inverted plan view and a sectional elevational view of a device embodying a modification.

It may be remarked that the machine or device is really an instrument of precision in that it provides coatings uniformly thick throughout and, if desired, of a thickness measurable in thousandths of an inch. The showing in the drawing is considerably exaggerated.

Referring to the drawing, 1 is a wall defining an open bottom receptacle and at a portion of its edge the wall 1 is provided with a recess 2 corresponding in depth and width to the breadth and thickness of the desired coat or film. The bottom of the recess is provided with spaced projections or studs 3 which are flush with the rest 4 of the wall and these studs or projections 3 extend from the inside face of the wall part way to the outside face of the wall so that there is provided unobstructed space 5 between the ends of the projections and the outside face of the wall for the confluence of the coating or filming material as will be hereinafter described.

As shown in Figures 1, 2 and 3 the open bottom receptacle A is rectangular, and as shown in Figures 4 and 5 the open bottom receptacle B is cylindrical. In each case the receptacle is shown as open at its top. The recess and the spaced projections or studs may be produced by milling and they, of course, should be accurately made. The spacing of the studs or projections is subject to variation but the drawing is illustrative.

Referring to Figures 4 and 5, one use of the instrument may be described as follows and it will be assumed that the object is to put a film of predetermined and uniform thickness and of substantially even width upon sheets of paper. The instrument is placed upon a stack or pile of sheets of paper which extend only far enough beyond the recess 2 into the plane of the paper (Figure 5) to provide for pulling the sheets out with the hand or otherwise one at a time from the top of the pile. Coating material, of which paint is an example, is put into the receptacle B through the open top thereof and it rests upon the top sheet of the paper. The top sheet of paper is pulled out in a direction downward in Figure 4 and as the sheet of paper is pulled out it is held down by the studs or projections 3 and the coating material flows around the studs or projections and then flows together at the unobstructed portion 5 of the recess so that the film or coating on the surface of the paper presents a uniform appearance throughout its extent. When the paper is wet it tends to bulge up but the studs or projections hold it down, and this function is performed without marring the continuity of the appearance of the surface of the film or coat because of the confluence of the coating material at the uninterrupted portion 5 of the recess. It may be remarked that as the paper is withdrawn the coating material is, as it were, rolled over and consequently agitated and prevented from settling.

The mode of operation of the embodiment of the invention shown in Figures 1 to 3 is as above described but, as shown, a base 8 having side walls 9 provided with slots 10 is provided and the receptacle A is provided with guide pins 11 so that it is not necessary to hold the receptacle in the hand as is done in the case of the device shown in Figures 4 and 5.

Referring to Figure 1, the top sheets are drawn

from the pile one after another in the direction indicated by the arrow.

While reference has been made to filming or coating the described invention is applicable to impregnating. In the latter case the surface to which the impregnating material is applied should be relatively absorbent. Instead of using a material in sheet form it can be used in web form and drawn continuously through the machine.

When the instrument is used for impregnation the quantity of fluid applied can be accurately determined.

It will be obvious to those skilled in the art, to which the invention relates, that modifications may be made in details of construction and arrangement and in matters of mere form without departing from the spirit of the invention which is not limited to such matters or otherwise than as the prior art and the appended claims may require.

I claim:

1. In a coating and filming machine a wall defining an open bottom receptacle and having a recess in a portion of its edge, the outside portion of the recess being unobstructed and the inside portion of the recess being provided with spaced projections or studs terminating flush with the rest of the edge of the wall.

2. In a machine of the type recited, a wall defining an open bottom receptacle and at a portion of its edge provided with a recess corresponding in depth and width to the breadth and thickness of the desired coat or film, and the bottom of the recess provided with spaced projections or studs terminating flush with the rest of the edge and extending from the inside face of the wall part way to the outside face of the wall, providing space within the face of the wall and between the projections and the outer face of the wall for the confluence of the coating or filming material.

3. In a machine of the type recited, a wall defining an open bottom receptacle and having a recess in a portion of its edge, the bottom of said recess being provided with projections which extend from the inner face of the wall and stop short of the outside face of the wall providing space between the outside face of the wall and the adjacent portions of the projections.

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