March 25, 1969 R. H. BASS 3,434,457

COATING EQUIPMENT ACCESSORY

Filed Jan. 10, 1966

FIG. 1

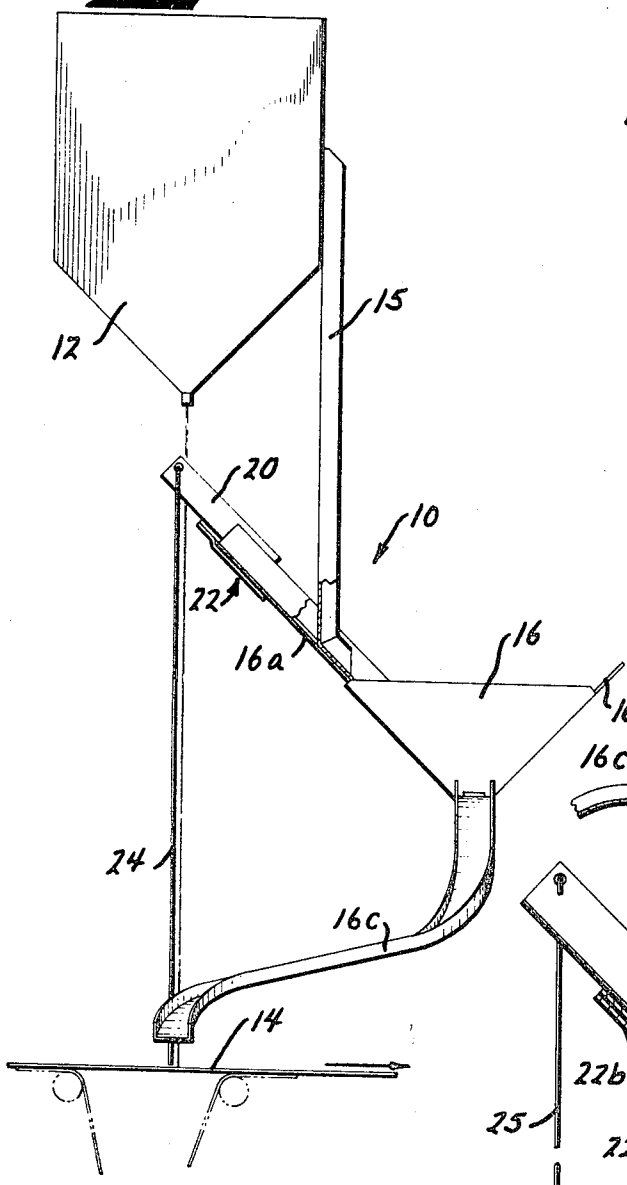
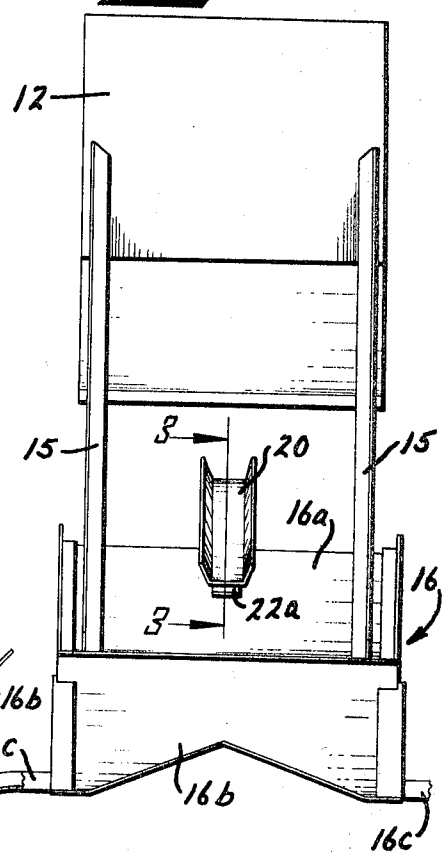


FIG. 2



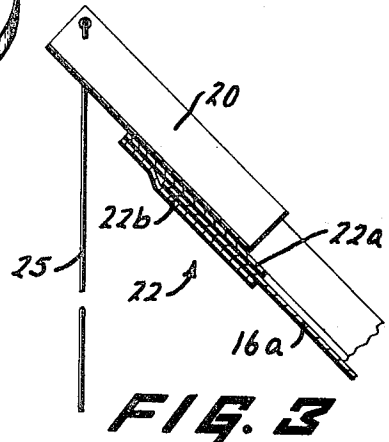


FIG. 3

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United States Patent Office 3,434,457
Patented Mar. 25, 1969

3,434,457

COATING EQUIPMENT ACCESSORY

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Filed Jan. 10, 1966, Ser. No. 519,777
Int. Cl. B05c 11/10, 5/02
U.S. Cl. 118—301 2 Claims

ABSTRACT OF THE DISCLOSURE

A diverter structure for pressure curtain coating equipment characterized by a trough member movable along an auxiliary reservoir to selectively intercept a portion of the curtain of coating material flowing onto a work-piece and passing the intercepted coating material into the auxiliary reservoir.

The present invention relates to an accessory for coating equipment, and more particularly to a new and novel diverting device having special application to a pressure curtain coater.

In coating material such as multi-layered paperboard, for example, it is oftentimes desirable to leave a portion of the coated surface in an uncoated condition, in that any wax-resin coating precludes the subsequent use of an adhesive, for example. The desired uncoated area may, of course, be in any configuration, depending upon the ultimate material design and usage, and in order to accomplish same, rather cumbersome mechanisms have been in use heretofore. Previous approaches in this latter connection have not been entirely satisfactory in end results, and, oftentimes, represented a goodly expenditure, both machine and personnel-wise, on the part of the manufacturer.

By virtue of the instant invention, the applicant herein has provided a new and novel diverting structure for use with conventional pressure curtain coater equipment. Broadly, the diverter forming the invention at hand selectively intercepts the curtain of coating material at the desired uncoated location, being readily positioned and movable, affording excellent end results. The invention is also representative of economy in use in that any intercepted coating material runs off for recirculation with the unused main body of coating material.

Accordingly, the principal object of the present invention is to provide a new and novel device for positively defining an uncoated surface in connection with curtain coating equipment.

Another object of the present invention is to provide a new and novel diverting device for pressure curtain coating equipment which is readily positioned for use at any desired location.

A further and more general object of the present invention is to provide a new and novel accessory for curtain coating equipment which effectively intercepts the curtain of coating material at any desired location, which is representative of simplicity in use, which is readily manufactured, and which lends itself to economies for the manufacture of coated products as well as to the ultimate consumer.

Other objects and a better understanding of the present invention will become more apparent from the following description, taken in conjunction with the accompanying drawing, wherein

FIG. 1 is a view in side elevation showing the applicant's new and novel diverter in combination with a portion of a known pressure curtain coating device;

FIG. 2 is a view in elevation, looking from right to left in FIG. 1, showing further details of the instant diverter; and

FIG. 3 is a view in vertical section, in enlarged scale, taken at line 3—3 of FIG. 2 and looking in the direction of the arrows, showing still further details of the invention at hand.

For the purpose of promoting an understanding of the principles of the invention, reference will now be made to the embodiment illustrated in the drawing and specific language will be used to describe the same. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended, such alterations and further modifications in the illustrated device, and such further applications of the principles of the invention as illustrated therein being contemplated as would normally occur to one skilled in the art to which the invention relates.

Referring now to the figures, the applicant's new and novel diverter structure **10** is shown in combination with a portion of a commercially available pressure curtain coater, the latter being fragmentarily represented by a supply reservoir **12** for the coating material and a work-piece **14** positionable on rollers (shown in phantom), and being processed in the direction of the arrow (FIG. 1). A supporting framework **15** is typically secured to the supply reservoir **12**, as by welding, for example. The lower portion of such supporting framework **15** mounts an auxiliary reservoir **16**, the latter typically having a side **16***a* thereof closer to the curtain of coating material higher than its opposite side **16***b*.

In any event, the auxiliary reservoir **16** has a run-off conduit **16***c* at each end thereof, whereby the intercepted coating material can flow into a recirculating arrangement (not shown). As should be evident from FIG. 2, the lower inside surface of the auxiliary reservoir **16** is typically a slow rising inverted V in configuration, for reasons of better flow-off coating material. It might be noted that the auxiliary reservoir **16** may be of any desired width in relation to the curtain of coating material, extending laterally to the path of movement of the work-piece **14**.

The invention is further defined by a diverter unit or trough member **20** having a positioning assembly **22** on the lower surface thereof (see FIG. 3 particularly). In a typical form of invention, the positioning assembly **22** comprises a bottom surface engaging member **22***a* having a member **22***b* with an angled portion secured thereto, the latter providing a space for receiving part of the side **16***a* of the auxiliary reservoir **16** therewithin. The diverter structure **10** is further completed by rods **24** and **25** which extend downwardly from either side of the diverter unit **20** so as to cleanly define and limit the intercepted space along the curtain of coating material.

In use, the work-piece **14**, such as multi-layered paperboard, for example, moves along the equipment in the direction of the arrow of FIG. 1 and, by way of example, wherever an uncoated space thereon is desired, the diverter unit **20** is so placed. In other words, the operator merely places the diverter unit **20** in its desired position through the afore-described positioning assembly **22**, meaning that the width of the diverter unit or trough member **20** is representative of the intercepted portion of the curtain of coating material. In this connection, and by way of example, if the diverter unit **20** is three inches wide, a space continuous in length, but three inches in width, will remain uncoated on the work-piece **14**.

As stated hereabove, the diverter unit **20** may be readily moved along the wall **16***a* of the auxiliary reservoir **16**, or additional diverter units provided. Moreover, and as stated, the auxilary reservoir **16** may assume any lateral width, from the wdith of the curtain itself to some preselected portion thereof.

With the apparatus in operation, and intercepting taking place, the rods **24** and **25** are helpful in defining the uncoated space, i.e. prevent any splashing or irregular de-

finition of such uncoated space. As the operation continues, the intercepted coating material flows through the overflow conduits **16***c* and is recirculated in known manner to the supply reservoir **12**.

From the preceding, it should be apparent that the applicant herein has provided a new and novel approach for defining an uncoated portion on a work-piece being coated by a conventional pressure curtain coater. The invention is readily moved, meaning versatility insofar as application is concerned, and is representative of simplicity in manufacture.

The coating equipment accessory described hereabove is, of course, susceptible to various changes within the spirit of the invention. For example, the configuration thereof per se may be varied, i.e. instead of having a U-type trough, as shown, a V-type trough would also afford excellent and results. Additionally, other means can be developed for releasably mounting the diverter unit **20** on the auxiliary reservoir **16**.

I claim:

1. A diverter structure for pressure curtain coating equipment having a reservoir for supplying a curtain of coating material comprising framework mounting an auxiliary reservoir below said reservoir, and upwardly angling trough member mounted on said auxiliary reservoir and selectively positionable therealong in intercepting relationship with a portion of said curtain of coating material and emptying into said auxiliary reservoir, and means attaching said trough member to said auxiliary reservoir.

2. The diverter structure of claim **1** where rods depend from said trough member to define the edges of the intercepted portion of said curtain of coating material.

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U.S. Cl. X.R.

118—324