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METHOD OF MANUFACTURING WALLBOARD

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7 Claims. (Cl. 154—2)

This invention relates to wallboard, plasterboard, plasterlath and the like, and to a method of manufacturing the same.

One of the principal objects of the invention is to provide a board of this character with edge zones of reduced thickness whereby shallow valleys are provided at the abutting edges of adjacent boards to receive coatings of plaster and the like for covering the joint between adjacent boards.

The invention also has as an object to provide an improved method of producing boards of this character having these edge zones of reduced thickness.

The several objects, advantages, and novel details of construction of my improved board, together with the several steps of my improved method, will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawing, wherein—

Figure 1 is a longitudinal sectional elevational view showing semi-diagrammatically an apparatus by means of which my improved method may be performed;

Figure 2 is a view substantially similar to Figure 1 but shown in perspective;

Figure 3 is a detail sectional elevational view of a portion of the apparatus shown in Figures 1 and 2;

Figure 4 is a detail sectional view through the abutting edges of a pair of adjacent boards, and

Figure 5 is a fragmentary plan view of the board produced in accordance with my method before being severed into sections.

Heretofore in this art it has been the practice to produce wallboards, plasterboards, plasterlath and like articles with the longitudinal edges somewhat reduced in thickness so that at the abutting longitudinal edges of adjacent boards shallow valleys would be provided to receive a thin layer of plaster or other material for covering the joint. However, no provision has been made for finishing the joint between the other abutting edges of adjacent boards, and in accordance with my invention I provide means whereby these other edges, or all four edges of a board, may be reduced in thickness so that the joints at all edges of the board may be correspondingly finished.

As shown in Figure 4, the reference character

10 indicates the abutting edges of two adjacent boards A and B, these abutting edges being of less thickness than the remainder of the board to provide a shallow valley at the joint 11 which may be covered with a thin layer 12 of plaster or the like so that the joint may be concealed and finished.

In the construction of wallboards, plasterboards, plasterlath and the like, top and bottom face sheets 13 and 14 are usually provided between which is arranged a layer of plaster or other cementitious material 15. In accordance with my invention, I propose forming a rectilinear series of outwardly extending projections 16 in the outer or top face sheet 13, these projections being formed transversely of the face sheet, or longitudinally of the face sheet at the edges thereof, or both transversely and longitudinally. These outwardly extending projections act, during the formation of the board, to hold this face sheet spaced from the supporting table upon which the board is produced to thus produce zones in which the completed board is of less thickness than the remainder thereof.

As shown in Figures 1 and 2, the outer or top face sheet 13 is unwound from a roll 13' and continuously advanced through the apparatus by means of suitable feed rolls. The inner or bottom face sheet 14 is unwound from a roll 14' and placed onto the plastic filler or body material 17 which is fed onto the face sheet 13 from a supply spout 18.

As the face sheet 13 is advanced, one or more rectilinear series of transversely extending projections 16 are pressed outwardly from the sheet by means of forming means 19. If these projections are to be also used for producing reduced longitudinal edges, such projections 16' are produced in the longitudinal edges of the sheet 13 by forming means 20. The reference character 21 indicates means for advancing the face sheet 13, and the reference character 22 indicates a table or support over which the face sheet 13 passes and in juxtaposition to which the plastic feeding means 18 is arranged.

The reference character 23 indicates rolls for assisting in the distribution of the material 17 and for pressing the two face sheets into engagement therewith.

After leaving the rolls 23, the board passes over a traveling table or support 24.

The outer ends of the projections 16 and 16' are arranged substantially in the plane of the major portion of the face sheet, and therefore while the major portion of the face sheet 13 is in engagement with and supported upon the supporting tables 22 and 24, the portions of the face sheet 13 in the zone of the projections 16 and 16' are held spaced from the supporting tables as clearly shown in the drawing. This obviously produces zones in which the completed board is of less thickness than the remainder of the board.

The transversely arranged projection 16 may be formed in one or more preferably rectilinear series and when formed in two series the completed board may be severed into sections of the preferred or desired length by cutting the same along the line 25, see Figure 5.

The forming means 19 may be periodically operated in any preferred or desired manner, but in the apparatus herein illustrated which can be used in practicing my improved method, I have provided a contact arm 26 having a portion 27 adapted to engage the outer surface of the face sheet 13. When, however, this contact arm comes into engagement with one of the valleys formed by the projection 16 this contact arm is permitted to move to engage a fixed contact 28 to close a circuit through, for instance, wire 29 through electrically operated mechanism 30 for the lower forming member which is connected in series with the operating mechanism 31 of the upper forming member, thence through wire 32 to the other contact arm 26. Thus the forming mechanism 19 may be periodically operated to form the projection 16 at equally spaced predetermined points as the board is being formed. If the forming means 20 is employed for producing the projection 16' at the edges of the face sheet 13 these, of course would be continuously operated.

The reference character 33 indicates a severing mechanism which acts periodically to sever the continuous length of board into the desired shorter lengths, as for instance by cutting the same along the line 25. This severing mechanism may be operated in timed relation by providing a wheel 34 which frictionally engages the board as it advances and is rotated thereby. This wheel may carry an electrical contact 35 which once every revolution engages a fixed contact 36 which closes an electric circuit through cutter operating mechanisms 37. Thus the board may be cut into uniform lengths in timed relation to the continuous formation thereof.

What I claim as my invention is:

1. That step in the method of manufacturing wallboards, plasterboards and the like with depressed edge portions which cooperate in adjacent boards when assembled to provide filler receiving grooves, which consists in forming an outwardly extending rectilinear series of projections in one of the face sheets adjacent the marginal edges of a completed board to offset the latter edges inwardly out of the plane of the major portion of the face sheet to reduce the thickness of the completed board at the marginal edges aforesaid.

2. In the method of manufacturing wallboards, plasterboards and the like with depressed edge portions which cooperate in adjacent boards when assembled to provide filler receiving grooves, those steps which consist in longitudinally advancing a face sheet, periodically producing a series of projections on the outer sur-

face of the face sheet at intervals spaced from each other a distance corresponding to the length of the completed board and operable to produce zones in which said face sheet is arranged out of the plane of the major portion of the face sheet to reduce the thickness of the board at said zones and subsequently severing the face sheet during advancement thereof along lines located substantially centrally of the zones of reduced thickness.

3. In the method of manufacturing wallboards, plasterboards and the like with depressed edge portions which cooperate in adjacent boards when assembled to provide filler receiving grooves, those steps which consist in longitudinally advancing a face sheet, periodically forming a series of projections on the outer surface of the face sheet to produce zones in which said face sheet is arranged out of the plane of the major portion of the face sheet and thereby reduce the thickness of the completed board at said zones, and controlling the operation of the projection forming means by the location of the previously formed projections to provide a space between the series of projections corresponding to the length of the completed board.

4. In the method of manufacturing wallboards, plasterboards and the like with depressed edge portions which cooperate in adjacent boards when assembled to provide filler receiving grooves, those steps which consist in longitudinally advancing a face sheet, periodically forming a series of projections on the outer surface of the face sheet to produce zones in which said face sheet is arranged out of the plane of the major portion of the face sheet and thereby reduce the thickness of the completed board at said zones, controlling the operation of the projection forming means by the location of the previously formed projections to provide a space between the series of projections corresponding to the length of the completed board, and subsequently periodically severing the board during advancement of the same at the zones of reduced thickness.

5. In the method of forming wallboards, plasterboards and the like with depressed edge portions which cooperate in adjacent boards when assembled to provide filler receiving grooves, those steps which consist in longitudinally advancing a face sheet, periodically producing a rectilinear series of projections on the outer face of said face sheet at intervals spaced from each other a distance corresponding to the length of the completed board, advancing the face sheet with its outer surface engaging a supporting table whereby said face sheet is held spaced from the supporting table in the zones of the projections, depositing a layer of material on said face sheet and applying a second face sheet on the layer of material.

6. In the method of forming wallboards, plasterboards and the like with depressed edge portions which cooperate in adjacent boards when assembled to provide filler receiving grooves, those steps which consist in continuously advancing the face sheet, periodically producing a series of projections on the outer surface of the face sheet, advancing said face sheet with its outer surface engaging a supporting table whereby the face sheet is held spaced from the supporting table in the zones of said projections, depositing a layer of material on said face sheet, applying a second face sheet on said layer of material, and controlling the operation of the projection forming means by the location of the previously formed projections to provide a spacing between adjacent

series of projections corresponding to the length of a completed board.

5 7. In the method of forming wallboards, plasterboards, and the like with depressed edge portions which cooperate in adjacent boards when assembled to provide filler receiving grooves, those steps which consist in continuously advancing a face sheet, periodically producing a rectilinear series of projections on the outer face of the face sheet at intervals spaced from each other a distance corresponding to the length of the com-

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pleted board, advancing said face sheet with its outer surface engaging a supporting table whereby the face sheet is held spaced from the supporting table in the zones of the projections, depositing a layer of material on said face sheet, applying a second face sheet on said layer of material and periodically severing the completely formed board in timed relation to the rate of advancement of the latter at the zones of reduced thickness.

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