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WALLBOARD AND WALL STRUCTURE

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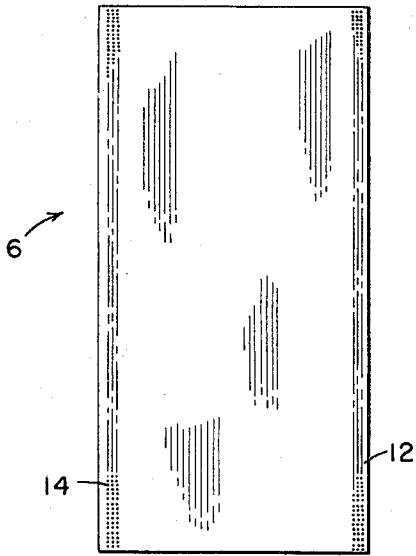


Fig. 1

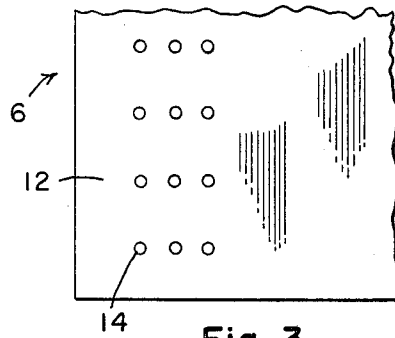


Fig. 3

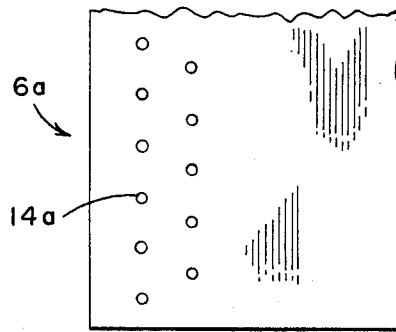


Fig. 4

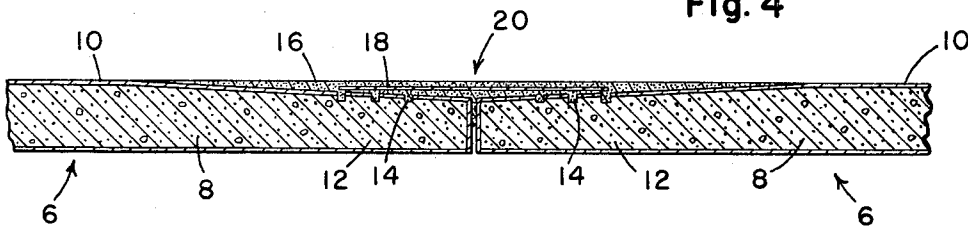


Fig. 2

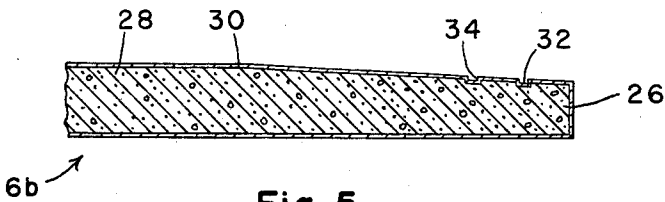


Fig. 5

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WALLBOARD AND WALL STRUCTURE

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1 Claim. (Cl. 52-417)

This invention relates to wallboard for building interiors and to a wall structure embodying said wallboard and is particularly directed to a novel wallboard edge portion for use in combination with joint covering and concealing systems.

The common method of using gypsum wallboard for interior wall surfacing includes the application over the joints and edge portions of the wallboards of a narrow, thin paper tape embedded in a casein-type of joint cement. The side edge portions of gypsum wallboard are normally formed gradually tapered to an edge thickness approximately .040" thinner than the major central portion of the board, whereby the above described tape and cement joint treatment provides a finished, generally flat, wall surface.

Following the affixing of wallboards to the building framing elements, the joint treatment is formed, in one method, by an initial application of a first coat of joint cement to the board edges, centered over the joint, and of a width slightly greater than the width of the paper joint tape, and the tape is immediately firmly embedded into this layer of cement. After this first coat of cement is dry, up to three more coats of cement are applied and respectively allowed to dry, each coat being applied over a wider area and tapered to a very thin edge to finally produce the flattest and smoothest possible resultant wall surface.

It is an object of the present invention to provide an improved wallboard edge portion structure for forming a stronger adherence and mechanical keying of the joint cement thereto.

It is a further object of the invention to provide an improved wall structure including two adjacent wallboards having a joint treatment over the joint therebetween wherein the joint cement of the joint treatment is mechanically keyed to the wallboard edge portions.

The invention further provides inherent means for readily ascertaining when an insufficient amount of joint cement has been applied to a wallboard edge and, thus, means for readily and easily avoiding the problems inherent with the use of insufficient joint cement.

These and other objects and advantages of the present invention will be more fully apparent when considered in relation to the preferred embodiments as set forth in the specification and as shown in the drawings in which:

FIG. 1 is a top or face view of a sheet of wallboard constructed in accordance with the invention.

FIG. 2 is a sectional end view of a wall section at a wallboard joint constructed in accordance with the invention.

FIG. 3 is a top view of an enlarged segment of the wallboard of FIG. 1.

FIG. 4 is a top view of an enlarged segment of a modification of the wallboard of FIG. 3.

FIG. 5 is a sectional end view of an edge portion of a further modification in accordance with the invention.

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Referring now to the drawings, there is shown a sheet of gypsum wallboard 6 having the usual gypsum core 8 and paper cover sheets 10. The side edge portions 12 of wallboard 6 have a plurality of small shallow holes 14 disposed in spaced apart relation generally throughout the outer face thereof. Holes 14 may be of about $\frac{1}{16}$ inch diameter and $\frac{1}{16}$ inch depth, spaced apart from about $\frac{1}{8}$ inch to 2 inches, which holes 14 are formed by a removal of material from the board face, as by drilling. In the form shown in FIG. 3, three rows of holes 14 are provided with the holes aligned laterally of the wallboard 6, and spaced apart and spaced from the board edge about $\frac{1}{2}$ inch.

Two wallboard edge portions 12, 12 are shown in FIG. 2 with joint cement 16 and narrow paper joint tape 18 disposed over the joint 20 formed by the two boards in a finished wall section in the recess formed by the normal .040" taper of the edge portions 12. The joint cement 16 may be any of the commonly available types, preferably those consisting essentially of a solubilized casein and filler. The joint cement 16 will be seen to extend into the holes 14 of the wallboard edge portions 12, forming a firm, mechanically keyed joint cement to board relation.

In the modified form of wallboard 6a shown in FIG. 4, the holes 14a are arranged in two rows, with adjacent holes spaced apart diagonally. With the holes disposed diagonally, a closer spacing of the rows of holes is preferred, whereby all of the holes 14a of the arrangement of FIG. 4 may be disposed under a joint tape in a finished wall.

A further modification of the invention, in FIG. 5, consists of a wallboard 6b having a board edge portion 26, with a gypsum core 28 and paper cover sheets 30, and having depressed holes 32 disposed generally throughout the edge portion 26. Holes 32 are the result of a pre-planned compression of areas of the board face without the removal of material. The holes 32, in order to provide an effective keying with joint cement are formed with substantially perpendicular side walls 34. The depressed holes 32 will preferably be formed shallower than the preferred $\frac{1}{16}$ inch depth of the holes 14, to avoid the undesirable excessive crushing of the gypsum core of the board which would otherwise result.

Hole sizes may be varied, in accordance with the invention, in the order of from about .001 inch to about .10 inch in depth, any greater depths providing no additional benefits and only weakening the board edge, and, in the opening dimensions, any opening is suitable which is equivalent in size to a circular opening having a diameter of from about $\frac{1}{32}$ to $\frac{1}{2}$ inch.

In all forms of the invention it will be seen that the holes are disposed in a relatively narrow edge portion and accordingly the major central portion of the wallboard outer face, between the edge portions will have the usual smooth monolithic surface of wallboards for providing the major portion of the finished surface of a wall.

Having completed a detailed disclosure of the preferred embodiments of my invention, so that others may practice the same I contemplate that variations may be made without departing from the essence of the invention or the scope of the appended claim.

I claim:

1. Plasterboard of improved joint cement retention property consisting essentially of a core of set gypsum crystals and paper liners covering said core, a tapered edge at one face of said paper-covered core, and shallow, discontinuous joint cement-retaining depressions in said paper and core at said tapered edge, said depressions being disposed within said tapered edge surface in a plurality of transverse and longitudinal rows and extending through a broken portion of said paper, and adapted to underlie the edges of tape when assembled.

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