Jan. 12, 1943. L. L. WILLIAMS 2,307,978

BUILDING CONSTRUCTION

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Fig. 1

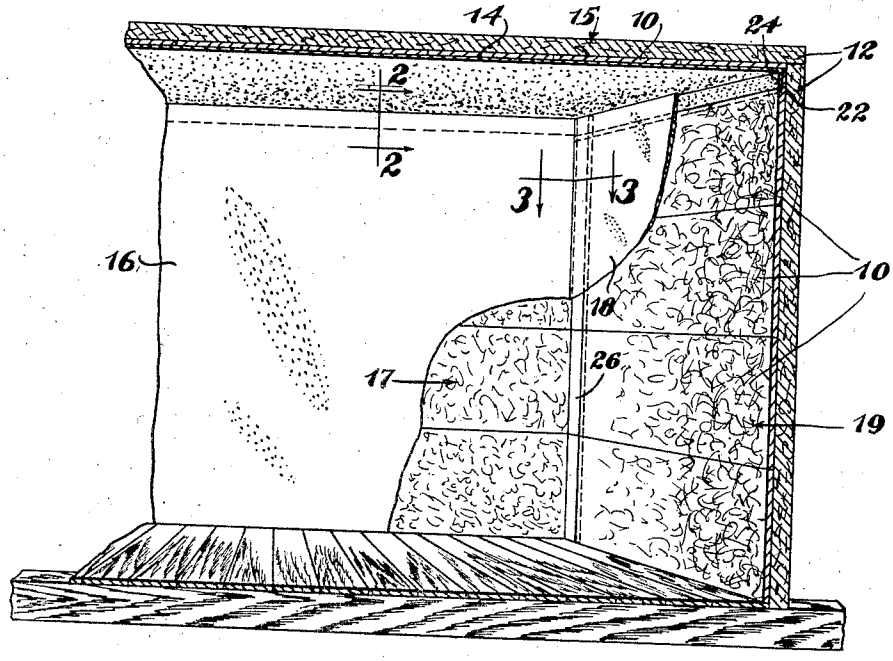


Fig. 2

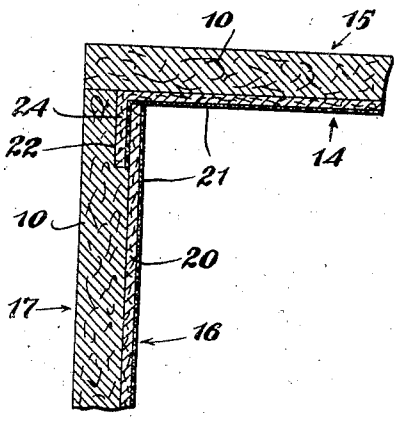
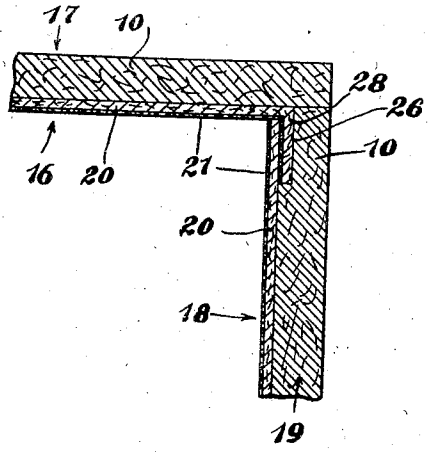


Fig. 3



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BUILDING CONSTRUCTION

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7 Claims. (Cl. 72—16)

This invention relates to building construction and more particularly to the construction of interior walls and ceilings.

In recent years it has become a common practice to substitute for the conventional plaster-on-lath construction of room walls and ceilings, a structure comprising a substantially continuous support or backing of wall board faced with a thick, flexible sheet material which serves as a substitute for plaster. Walls and ceilings comprising such structure are cheaper, quicker and easier to construct than the plaster-on-lath type. An advantageous construction of the type referred to, wherein the facing material has desirable sound deadening characteristics and is surfaced with a material which closely simulates the feel and appearance of plaster or painted plaster, is disclosed in United States Patent No. 2,217,165, to Graham and Lines.

In the construction of such plaster substitute walls and ceilings, it has been the practice first to form a smooth supporting wall and ceiling structure of wall board attached to the studding, then to secure the facing material adhesively to the surface of the wall board. Difficulty has been experienced in providing in this manner a smooth, unbroken surface on the walls and ceiling from separate sections of the facing material. If successive sections of the facing material were overlapped, unsightly irregularities in the surface resulted, due to the substantial thickness of the facing material. Consequently, the practice has been to apply adjacent sections of the facing material with their contiguous portions in flush edge-to-edge abutment when secured to the same wall, or in edge-to-face abutment when secured to different intersecting walls or the ceiling and wall. After a time, however, these abutting portions of adjacent facing material sections are likely to become separated, due to creepage of the sections caused by settlement of the building, warping of the supporting structure, etc., leaving unsightly gaps in the surface.

In United States Patent No. 2,126,956 there is disclosed a method of constructing a wall structure of the type hereinabove described wherein the facing material may be applied to the walls in the form of a single long sheet. While this method reduces section separation difficulties, it does not altogether eliminate them, since the ceiling is surfaced with a separate sheet or sheets to which a side edge of the wall surfacing sheet is abutted. Moreover, the fitting of a single facing sheet properly into the corners of the room is difficult and is likely to result in bulging or wrinkling of the surfacing material at the corners.

It is an object of this invention to provide an improved wall and ceiling construction of the type referred to wherein separate sheets of plaster substitute facing material covering the ceiling and the wall are prevented from separating by having their contiguous edge portions overlapped and secured together. Another object of the invention is to provide an improved wall construction of this type wherein adjacent walls are surfaced with separate sheets of facing material which are prevented from separating by having their contiguous edge portions overlapped and secured together. A further object is to provide such improved constructions wherein the overlapping of thick sheets of the facing material is accomplished without producing irregularities in the surface at the areas of the overlap and wherein the joints are so concealed as to have the appearance of a continuous surface. These and other objects and advantages of the invention will more fully appear from the ensuing particular description and the appended drawing wherein:

Fig. 1 is a perspective view of a portion of a room illustrating wall and ceiling construction in accordance with the invention, a portion of the wall surface being broken away to show supporting structure;

Fig. 2 is a section view of a portion of the ceiling and an adjoining wall, taken on the line 2—2 of Fig. 1, illustrating the manner of overlapping ceiling and wall surfacing material sections;

Fig. 3 is a section view of a portion of the adjoining walls at a corner of the room, taken on the line 3—3 of Fig. 1.

Referring to the accompanying drawing and first to Fig. 1, the wall and ceiling supporting structure comprises gypsum lath 10, or other wall board, attached to the usual studding 12 to provide a substantially continuous surface. Upon the surface of the supporting wall board are adhesively secured separate sheets 14, 16 and 18 of thick, flexible plaster-substitute facing material, the sheets 14, 16 and 18 forming respectively the surface for the ceiling supporting structure 15 and the two adjoining wall supporting structures 17 and 19 shown in Fig. 1.

While any thick, flexible plaster substitute facing material is suitable, that which is preferred and which is shown in the appended drawing comprises a sound-absorbent felt base 20 and a flexible surface layer 21 of a substance which simulates the feel and appearance of plaster or

painted plaster. A suitable facing material of the type shown, having a thickness of the order of .065" to .075", is more fully described in Patent No. 2,217,165 above referred to and is commercially available.

The wall surfacing sheets 16 and 18 are preferably of a width substantially equal to the height of the walls and a length sufficient to cover the entire wall when laid lengthwise thereon. They, and the ceiling surfacing sheet or sheets, may conveniently be applied to the wall and thereafter trimmed in the manner disclosed in Patent No. 2,126,956.

In accordance with the present invention, the surface of the wall board supporting structure 19 of each of the walls, instead of being smooth throughout as heretofore, is provided along its entire upper edge with a recess or rabbet 22, open toward the ceiling, which has a depth substantially equal to the thickness of the ceiling surfacing material 14. The ceiling surfacing material 14, which is applied in advance of the wall surfacing sheets, is so cut as to have a portion 24 thereof projecting downwardly from the edge of the ceiling for substantially the full width of the recess 22. This projecting portion 24 is then fitted into the recess 22 and adhesively secured therein as best shown in Fig. 2, and, since the depth of the recess is substantially equal to the thickness of the material 14, the outer surface of the portion 24 lies substantially flush with the surface of the wall board below the channel.

The wall surfacing sheets are then adhesively secured to the surface of their respective wall board supporting structures with their upper edge portions overlying and adhesively secured to the portions 24 of the ceiling surfacing material 14 and with their upper edges closely abutting the surface of the ceiling facing material 14 adjacent the upper edge of the portion 24.

Recess 22 is made considerably wider than its depth so that a substantial area of the sheets 16 and 18 may be overlapped upon the sheet 14 and adhesively secured thereto. I have found that a width of one to two inches is ordinarily adequate for this purpose.

There is thus provided a firm, lasting joint between ceiling and wall surfacing sheets which prevents their separation due to creepage of the respective sheets, which does not produce any irregularity in the wall or ceiling surface and which, due to the close abutment of the edge of the wall surfacing material with the surface of the ceiling, is entirely concealed from view.

The wall surfacing sheets 16 and 18 are permanently locked together at their adjacent ends in the same manner. As shown in Figs. 1 and 3, the wall board of the wall supporting structure 19 is provided, at its end which abuts the wall supporting structure 17, with a recess or rabbet 26 open toward the structure 17, extending from the base of the supporting structure 19 to the recess 22 at the upper edge of the structure 19. The recess 26 has a width corresponding to that of the recess 22 and a depth substantially equal to the thickness of the wall surfacing sheet 16 which will ordinarily be of the same thickness as the ceiling-surfacing material 14 and the wall-surfacing sheet 18. Wall surfacing sheet 16 has a projecting end 28 which fits into the recess 26 and is adhesively secured therein. Wall surfacing sheet 18 is then applied with its end portion overlying and adhesively secured to the portion 28 of the sheet 16 and has its end edge closely abutted against the face of sheet 16 adjacent the portion 28.

At the intersection of the recesses 22 and 26, all three sections may be overlapped, the common portion of the two recesses being made of increased depth to accommodate the extra layer of facing material in this area. However, in practice, I have found it unnecessary to overlap the three sheets in this area, and, instead, I cut away the end of the projecting portion 28 that would overlie this area, forming a butt joint between the portions 24 and 28 at the edge of this area. This joint is then concealed by the overlapping facing sheet 18.

While I prefer to apply the surfacing material to intersecting walls of a room in the form of one or more separate sections or panels for each wall, secured together at their ends in the manner herein described, this is not essential and the invention may be advantageously utilized to form a permanent, smooth joint between ceiling surfacing material and the upper edge portion of a single long strip of surfacing material applied over all or several of the walls of a room, as disclosed in above-mentioned Patent No. 2,126,956. The invention may, of course, be utilized simply to join together wall surfacing sheets without joining them to the ceiling surfacing material, in which case only the recesses 26 will be provided in the supporting structure. Recess 22 might obviously be formed in the edge of the ceiling support structure 14 instead of in the wall support structures 16 and 18 as shown, in which case the edge portion of the wall surfacing sheet or sheets would extend over the juncture between walls and ceiling into the recess where it would be overlapped by the edge portion of the ceiling surfacing sheet.

The supporting wall board may be recessed for purposes of the invention in any convenient manner. It may, as shown, be readily cut away in the predetermined areas to the desired width and depth before or after application to the studding. Or, if desired, a similar result may be produced by employing, in the predetermined areas, special narrow strips of wall board which are thinner, by the desired depth for the recess, than the wall board forming the remainder of the supporting surface.

By the term "thick" as used in the appended claims, I mean a thickness of the order of .05" to .1" or more and such that the overlapping of separate sections of the material on a planar support will produce a marked irregularity between their surfaces.

Having described my invention, what I wish to claim and secure by Letters Patent is:

1. In a construction for room walls and ceilings which includes a pair of permanent, substantially continuous supporting structures joined together at an angle, one of which structures comprises an outer surface of wall board, a recess in said wall board surface extending along the edge thereof at the juncture between said structures, a facing sheet of thick, flexible plaster-substitute material adhesively secured to the surface of said other structure and having an edge portion extending over the juncture between said structures and secured in said recess with its surface substantially flush with said wall board surface beyond said recess, and a second sheet of thick, flexible plaster-substitute material adhesively secured to said wall board surface and having an edge portion overlying and adhesively secured to

said edge portion of said first named sheet lying in said recess.

2. In a construction for room walls and ceilings which includes a pair of permanent, substantially continuous supporting structures joined together at an angle, one of which structures comprises an outer surface of wall board, a recess in said wall board surface extending along the edge thereof at the juncture between said structures, a facing sheet of thick, flexible plaster-substitute material adhesively secured to the surface of said other structure and having an edge portion extending over the juncture between said structures and secured in said recess with its surface substantially flush with said wall board surface beyond said recess, and a second sheet of thick, flexible plaster-substitute material adhesively secured to said wall board surface, said second sheet having an edge abutting the surface of said first named sheet beyond said edge portion of said first named sheet lying in said recess, said edge portion of said second sheet overlying and secured to said edge portion of said first named sheet.

3. In a construction for a room wall and ceiling which includes permanent, substantially continuous supporting structures for said wall and ceiling joined together at an angle, one of which structures comprises an outer surface of wall board, a recess in said wall board surface along the edge thereof at the juncture between said structures and extending inwardly of said surface from said edge, a facing sheet of thick, flexible plaster-substitute material adhesively secured to the surface of said other structure and having an edge portion extending over the juncture between said structures and secured in said recess with its surface substantially flush with said wall board surface beyond said recess, and a second sheet of thick, flexible plaster-substitute material adhesively secured to said wall board surface and having an edge portion overlying and adhesively secured to said edge portion of said first named sheet lying in said recess.

4. In a construction for adjoining walls of a room which includes permanent, substantially continuous supporting structures for said walls joined together at an angle, one of which structures comprises an outer surface of wall board, a recess in said wall board surface along the edge thereof at the juncture between said structures and extending inwardly of said surface from said edge, a facing sheet of thick, flexible plaster-substitute material adhesively secured to the surface of said other structure and having an edge portion extending over the juncture between said structures and secured in said recess with its surface substantially flush with said wall board surface beyond said recess, and a second sheet of thick, flexible plaster-substitute material adhesively secured to said wall board surface and having an edge portion overlying and adhesively secured to said edge portion of said first named sheet lying in said recess.

5. In a construction for a ceiling and a pair of adjoining walls which includes permanent, substantially continuous supporting structures of wall board for said walls and ceiling joined together in angular relation, a recess in an edge portion of the surface of at least one of said structures extending horizontally along the juncture of said ceiling and wall structures, a recess in the surface of one of said wall supporting structures extending vertically along the edge of said wall supporting structure adjoining said other wall supporting structure and communicating with said first named recess, facing sheets of thick, flexible plaster-substitute material adhesively secured to the surface of said structures, at least one of said sheets having an edge portion extending over the juncture between said structures into said horizontal recess and adhesively secured therein, said edge portion being overlapped by and adhesively secured to the under surface of another of said sheets, one of said wall facing sheets having an edge portion extending over the juncture between said wall supporting structures and secured in said second named recess, said last named edge portion being overlapped by and adhesively secured to the under surface of said facing sheet on the other of said walls, the outermost sheet overlying said recesses having the outer surface of its overlapping portion in the plane of the adjacent surface of said sheet.

6. In a method for facing with a thick, flexible, plaster-substitute material, a substantially continuous supporting structure of wall board and an adjoining supporting structure, said structures defining a room wall and ceiling, the steps which comprise forming said wall board structure with a recess along that edge thereof which adjoins said second structure, said recess having a depth substantially equal to the thickness of said facing material, adhesively securing a sheet of said facing material to said second structure, fitting and adhesively securing an edge portion of said sheet in said recess with its outer surface substantially flush with the surface of said wall board structure adjoining said recess, adhesively securing a second sheet of said material to the surface of said wall board structure with an edge portion of said sheet overlapping the edge portion of said first named sheet lying in said recess, and adhesively uniting said lapped portions of said sheets.

7. In a method for facing with a thick, flexible plaster-substitute material, a substantially continuous wall supporting structure of wall board and an adjoining wall supporting structure, the steps which comprise forming said wall board structure with a recess along that edge thereof which adjoins said second structure, said recess having a depth substantially equal to the thickness of said facing material, adhesively securing a sheet of said facing material to said second structure, fitting and adhesively securing an edge portion of said sheet in said recess with its outer surface substantially flush with the surface of said wall board structure adjoining said recess, adhesively securing a second sheet of said material to the surface of said wall board structure with an edge portion of said sheet overlapping the edge portion of said first named sheet lying in said recess, and adhesively uniting said lapped portions of said sheets.

LYTLE L. WILLIAMS.