

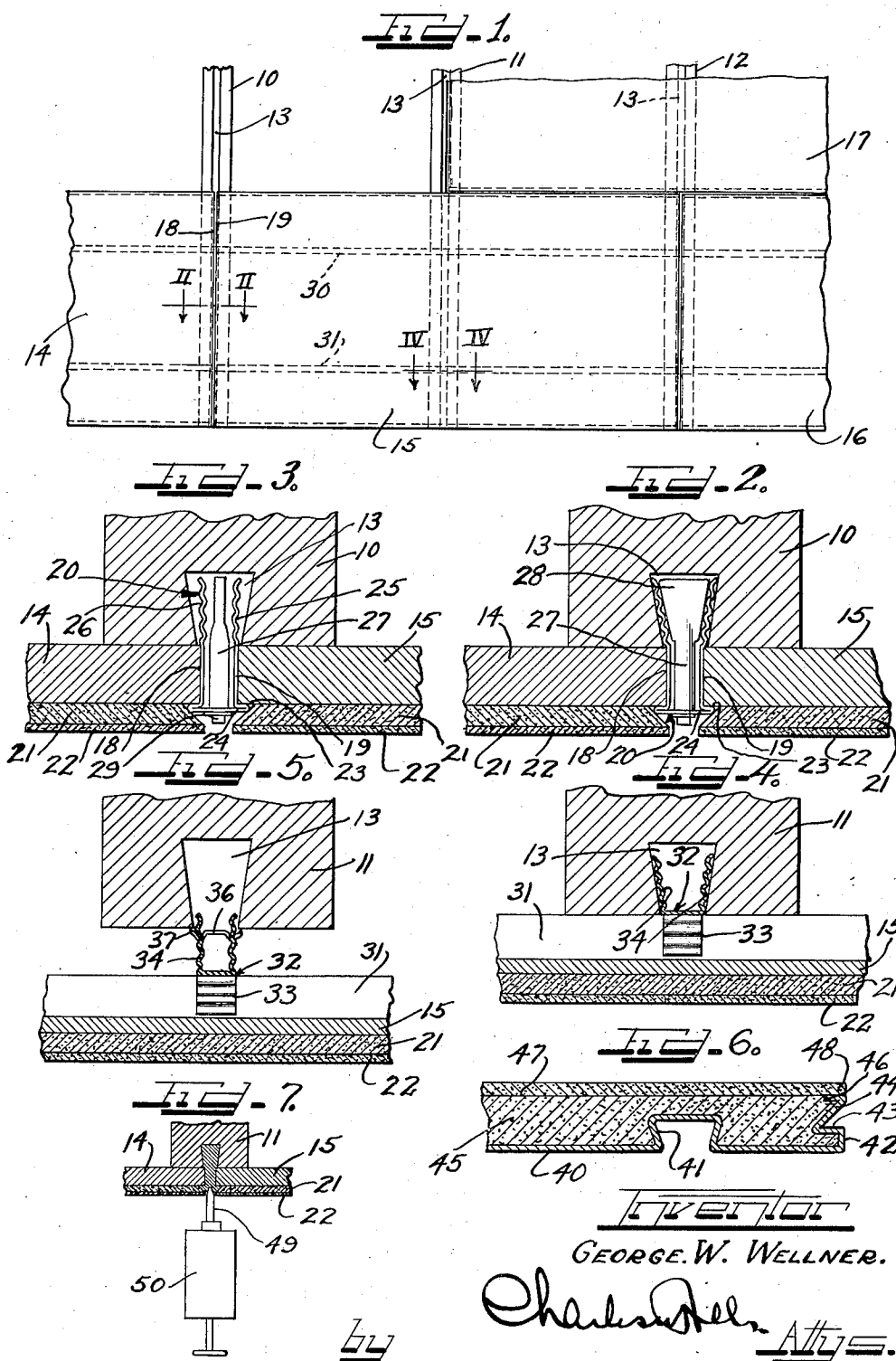
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FABRICATED FINISHED PLASTER CONSTRUCTION

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FABRICATED FINISHED PLASTER CONSTRUCTION

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6 Claims. (Cl. 72-19)

This invention relates to prefabricated plaster finished wall board and wall constructions utilizing the wall board.

More particularly this invention relates to the application of wall board having finished plaster surfaces to supporting members with spring clip members.

In erecting side walls, ceilings, partitions and the like it has been customary to provide wooden studs as a backing for the nailing of plaster boards thereon which are subsequently coated on the job with plaster. This type of construction requires skilled artisans to place the finished plaster coating on the wall board.

According to this invention the wallboard, such as plaster board slabs and the like, is prefabricated at its place of manufacture with a finished plaster surface thereon. This dispenses with the plastering heretofore necessary on the construction job after the wall boards had been nailed in position. In order to dispense with nails, screws and the like for securing the wall board in position this invention also contemplates the use of spring clip members or expansion bolts which are quickly seated in position to hold wall board to the supporting studs or rafters.

The finished plaster surface wall boards of this invention are provided with dovetailed grooves on their back faces for receiving the spring clip members. The supporting studs or rafters are then provided with dovetailed grooves preferably at right angles to the grooves in the plaster board. These dovetailed grooves receive the parts of the spring clip members extending from the wall board grooves so that when the members are snapped into the grooves in the supporting members the wall board is fixed in position.

Abutting wall boards receive therebetween anchor bolts adapted to be expanded into the grooves in the supporting members. The plaster finish on the wall boards is provided with a reverse bevel having the bottom edge thereof spaced from the peripheral edge of the wall board to provide a shoulder for receiving the head of the anchor bolt. This invention therefore provides a narrow spacing between the finished surfaces of abutting wall boards. This space can be readily sealed with plaster ejected from a nozzle.

As a result, an entirely finished interior or exterior surface can be assembled to present a unitary appearance and requiring only a small amount of plastering or crack filling after assembly.

It is then an object of this invention to provide

wall boards having prefabricated finished plaster surfaces.

Another object of this invention is to provide wall constructions in which covering slabs or wall boards are held onto supporting members without the aid of nails or screws.

A further object of this invention is to provide a wall board having a finished plaster surface and dovetailed grooves in the unfinished surface thereof for receiving spring clip members therein.

A further object of this invention is to provide a side wall construction for buildings and the like utilizing dovetailed grooves as receiving means for anchoring members.

Another object of this invention is to provide wall boards having a finished plaster surface defining reverse beveled peripheral edges around the wall boards with the base of the bevel spaced from the edges of the board to provide a shoulder.

Another object of this invention is to provide plaster board having a finished plaster surface and an unfinished surface with dovetailed grooves therein.

Other and further objects of this invention will become apparent to those skilled in the art from the following detailed description of the annexed sheet of drawings which discloses a preferred embodiment of the invention.

On the drawing:

Figure 1 is a fragmentary side elevational view of a wall construction according to this invention.

Figure 2 is a greatly enlarged cross-sectional view taken substantially along the line II—II of Figure 1.

Figure 3 is a view similar to Figure 2 but showing the anchor bolt before the same is expanded into locked position.

Figure 4 is an enlarged cross-sectional view taken substantially along the line IV—IV of Figure 1.

Figure 5 is a cross-sectional view similar to Figure 4 but showing the method of mounting the spring clip member into the groove of the supporting member.

Figure 6 is a fragmentary vertical cross-sectional view taken through a slab of wall board according to this invention.

Figure 7 is a cross-sectional view similar to Figure 2 but showing the method of sealing the space between the finished surfaces of abutting wall boards.

As shown on the drawing:

In Figure 1, reference numerals 10, 11, and 12

designate vertical studs spaced as is usual in building construction on sixteen inch centers. The studs 10, 11, and 12 have, according to this invention, longitudinal dovetailed grooves 13 formed in their front faces thereof. Wall boards 14, 15, 16, and 17 are mounted on the studs as shown. The wall boards have longitudinal dovetailed grooves 30 and 31 formed in their back surfaces for a purpose to be hereinafter described.

The wall boards 14 to 17 can be made in sizes such as for example 16 x 32 inches; 16 x 48 inches; 32 x 48 inches. If the boards are to be mounted lengthwise as shown in Figure 1, their lengths should be in multiples of 16 inches to fit the 16-inch centers of the studs. If the boards are mounted upright, their widths should be 16 inches or multiples of 16 inches.

Obviously, if different center spacing for studs or supports is used in the building construction, the boards can be made in multiples of this spacing so that they will extend from center to center of the supports.

The dovetailed grooves 30 and 31 in the backs of the wall boards or the backs of the boards can be marked to indicate the support spacing for ease in locating the positions for inserting the spring clips in the grooves to secure the boards to the supports as will be hereinafter more fully described.

It should be understood that grooves 13 may be formed transversely across the studs instead of longitudinally therealong and that the grooves 30 and 31 in the wall board can be formed transversely of the boards.

As best shown in Figures 2 and 3, the adjacent edges 18 and 19 of the wall boards 14 and 15 are spaced to receive therebetween an anchor bolt indicated generally by the reference numeral 20.

Anchor bolts 20 are disposed between the adjoining edges of the wall boards for projecting into the dovetailed grooves of the studs. As shown in Figures 2 and 3, the wall boards 14 and 15 are provided with a rough plaster coating 21 and a finished plaster coating 22. The finished plaster coatings 22 extend flush with the edges 18 and 19 of the wall boards 14 and 15. The edges of these coatings are flat. However, the rough plaster coatings 21 are beveled backward from the finished plaster coating into spaced relation from the edges 18 and 19 of the wall boards to provide shoulders 23 for receiving thereon the heads 24 of the anchor bolts.

The anchor bolts 20 have fingers or side walls 25 and 26 extending from the heads 24 thereof and provided at their end portions with corrugated gripping surfaces. An expander member 27 is disposed between the fingers 25 and 26 and has a flared end 28 between the corrugated portions of the fingers for contacting these portions when rotated to expand the fingers into the grooves 13 of the studs. The expander 27 extends through the head 24 of the anchor bolts 20 and is provided with a gripping knob 29 thereon adapted to be engaged by a tool insertable in the space between the plaster coatings on the wall boards for rotation of the expanders to lock the fingers in position in the stud groove.

The construction defined in Figures 2 and 3 suitably unites adjoining edges of the wall board together and to the stud. However, as shown in Figure 1, the wall boards 15 and 17 have the mid-portions thereof disposed over the studs 11 and 12 respectively so that the mid-portions of the boards have stud backings. For the purpose of securing the mid-portions of the boards to their

stud backings the wall boards are provided with the dovetailed grooves 30 and 31 in the back surfaces thereof. The grooves 30 and 31 extend at right angles to the grooves 13 in the studs.

As best shown in Figures 4 and 5, the groove 31 receives a spring clip member, designated generally at 32, partially therein at a point in the groove marked, as described above, to be in alignment with the groove 13 in the stud 11. The spring clip members 32 have outwardly sprung spaced fingers 33 provided with gripping surfaces disposed into the groove 31. These fingers spring outwardly into tight frictional engagement with the side walls of the groove. The clips 32 also have outwardly sprung fingers 34 extending oppositely from the fingers 33 and at right angles to the fingers 33. These fingers 34 spring outwardly into the dovetailed groove 13 of the stud 11 into tight frictional engagement with the side walls of the groove. The fingers 34 have gripping surfaces like the fingers 33. The spring clips 32 can be made by cutting a piece of metal in the form of a Maltese cross, bending two opposite tab portions downwardly, bending the other two opposite tab portions upwardly and tempering the metal to cause the tabs to spring outwardly.

It should be understood that the grooves 30 in the wall boards 15 receive the same type of spring clip as the grooves 31.

Since the grooves 30 and 31 do not extend through the wall board the spring clip must be mounted blindly in the grooves in the studs. For this purpose a hook member 36 (Figure 5) having outwardly flared ends 37 adapted to engage the face of the stud 11 is hooked onto the fingers 34 of the clip 32 to hold the fingers in parallel relation. The hook member 36 extends transversely between the fingers and engages the edges of the fingers.

The fingers 33 of the clip member 32 are first disposed in the slot 31 of the wall board in alignment with the groove 13 in the stud as indicated by the marking on the board. The wall board with the so placed spring clips is then pressed against the stud causing the ends 37 of the hook member 36 to engage the face of the stud and be pushed backwardly to release the hook member permitting the fingers 34 to spring outwardly against the side walls of the grooves 13. The hook member 36 may be a small wire and can be allowed to fall behind the wall board.

The mid-portions of the slabs or wall board are thus securely mounted on the supporting stud.

In Figure 6 there is disclosed a modified form of plaster board according to this invention. According to this modification the plaster board is built up from a paper or fabric sheet 40 bent inwardly to form a dovetailed groove 41. The end of the sheet is bent upwardly as at 42 to form a flat edge, is then bent backwardly to form a shoulder 43, and then tapers upwardly to form a bevel 44. The paper may be filled with rough plaster 45 and the very edge of the paper may be bent on top of the rough plaster 45 as at 46 to protect the plaster. A finished coating of plaster 47 is then formed on top of the rough plaster 45. The finished coat 47 has flat edges 48.

The dovetailed groove 41 is adapted to receive spring clips such as 32. The shoulder 43 formed on the peripheral edge of the slab is adapted to receive the head of the anchor bolt 20.

As shown in Figure 7 the spaces between the plaster coatings 21 and 22 around the peripheral edges of adjacent wall boards can be sealed with plaster ejected from a nozzle 49 by means of a

mud gun 50 or other tube-like member for containing soft sealing material such as plaster. The sealing material is ejected through the nozzle 49 to close up the spaces around the peripheral edges of the plaster coatings on the wall board. If desired a rough coating of plaster can be ejected into these spaces first and this rough coat can then be covered with a finish coat. A guide wheel can be carried on the nozzle 49 to align the nozzle in the crack. The finish coat can then be wiped smooth with the finished surfaces 22 on the wall boards to give the appearance of a unitary structure. If desired a wiper such as sponge rubber can be directly attached to the nozzle 49.

From the above it should be understood that this invention provides wall and ceiling constructions of finished plaster and only requires the sealing of spaces between the finished plaster surfaces of wall boards, rock lath and the like to present a unitary appearance. The wall boards, sheet rock, plaster board, and the like are rapidly assembled on the supporting members of a building without the aid of nails, screws, and the like. The securing members for fastening the wall boards to the supports are not visible from the surface.

I am aware that many changes may be made and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I, therefore, do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

I claim as my invention:

1. A wall construction comprising spaced supporting members having dovetailed grooves therein, wall board slabs having dovetailed grooves formed in the back surfaces thereof and clip members disposed partly in the grooves of the supporting members and partly in the grooves of the slabs for holding the slabs on the supporting members.

2. A wall construction comprising supports having dovetailed grooves therein longitudinally thereof, rectangular wall board slabs having dovetailed grooves formed in the back surfaces thereof at right angles to the grooves in the supports, clips having outwardly sprung fingers seated in the grooves of the slabs against the sides of the grooves and oppositely extending outwardly sprung fingers at right angles to the first mentioned fingers seated against the side walls of the grooves in the supports.

3. A wall construction comprising supporting studs having dovetailed grooves formed in the faces thereof extending longitudinally of the studs, rectangular wall boards having dovetailed

grooves formed in the back surfaces thereof longitudinally of the boards, finished plaster surfaces on the faces of said wall boards, anchor bolt members disposed between abutting edges of the wall boards adapted to be locked into the grooves in the studs, spring clip members seated in the grooves in the wall boards and extending into the grooves in the studs for locking the mid-portions of the wall boards to the studs, and plaster sealing the spaces between the adjoining peripheries of the wall boards to present a uniform plastered finish.

4. A wall construction comprising supports having dovetailed grooves in the faces thereof, wall boards having dovetailed grooves in the back surfaces thereof, prefabricated rough plaster coatings on the opposite faces of the wall boards, said rough plaster coatings tapering back from the peripheral edges to provide shoulders at the edges of the wall boards, prefabricated finished plaster coatings on the rough plaster coatings, said finished plaster coatings having flat peripheral edges flush with the edges of the wall boards, anchor bolts disposed between adjoining edges of the wall boards having head portions seated on the shoulders provided by the tapered edges of the rough plaster and extending into the dovetail groove of the supporting member, means for expanding the anchor bolts into locking engagement with the dovetailed grooves of the supporting members, spring clips having fingers seated in the grooves in the wall boards in alignment with grooves in the supporting members intermediate the ends of the wall boards, additional fingers on said spring clips locked into the grooves of the supporting members and plaster sealing the spaces between the edges of the plaster coatings on adjoining wall boards locked into said spaces by the tapering portion of the prefabricated rough plaster coating thereon.

5. Wall construction comprising supports, slabs secured to said supports, prefabricated plaster coatings on the faces of the slabs, said coatings tapering inwardly from their peripheral edges into spaced relation from the peripheral edges of the slabs whereby adjoining slabs have dovetailed grooves between the coatings thereon and plaster locked in said grooves to seal spaces between the peripheral edges of the coatings.

6. A wall board comprising a slab of rigid material having flat peripheral edges, a rough plaster coating on said slab having peripheral edges tapering outwardly from spaced relation to the edges of the slab and a finished plaster coating on said rough coating having flat peripheral edges.

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