March 16, 1937. F. D. WELCH 2,073,665

WALLBOARD

Filed Jan. 16, 1936

Fig. 1

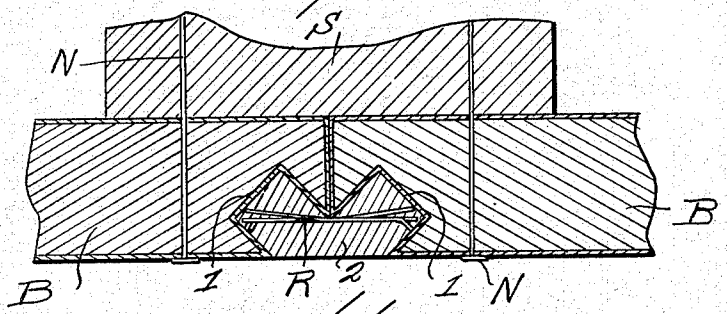


Fig. 5

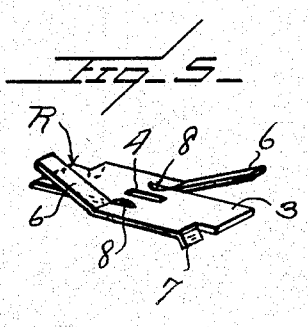


Fig. 2

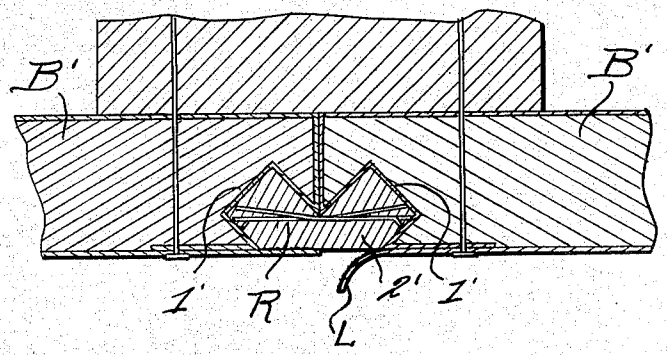


Fig. 6

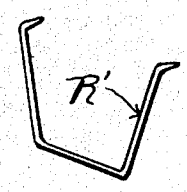


Fig. 7

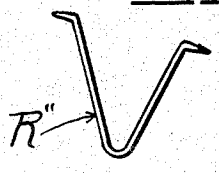


Fig. 3

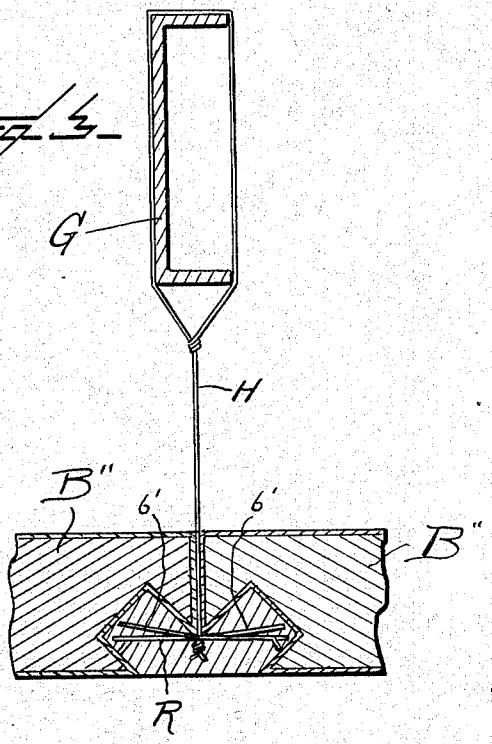
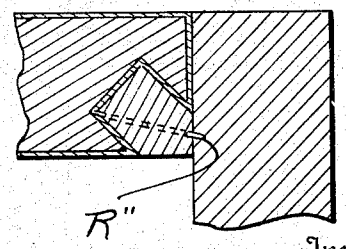


Fig. 4



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Patented Mar. 16, 1937 2,073,665

UNITED STATES PATENT OFFICE

2,073,665

WALLBOARD

Floyd D. Welch, Shreveport, La.

Application January 16, 1936, Serial No. 59,452

10 Claims. (Cl. 72—16)

This invention relates to wall boards, and it is primarily an object of the invention to provide means whereby the meeting edges of the boards are connected in a manner eliminating the showing of any joints.

It is also an object of the invention to provide a board of this kind having its marginal portions constructed in a manner whereby is effectively concealed the joining with adjacent boards, said joints each comprising an under bevel filled with a metal reinforced putty or the like.

Another object of the invention is to provide a board having means whereby the joining of the board with an adjacent board includes a metal reinforced filler of putty or the like and wherein the metal reinforcement may be employed as a means for maintaining the board in applied position and more especially when used in a ceiling construction.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved wall board whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein:—

Figure 1 is a fragmentary view in section illustrating plaster boards and coacting joint constructed in accordance with an embodiment of my invention;

Figure 2 is a view similar to Figure 1 illustrating another embodiment of the invention;

Figure 3 is a view similar to Figure 1 illustrating a still further embodiment;

Figure 4 is a fragmentary view in section illustrating still another embodiment of the invention;

Figure 5 is a view in perspective of the metallic reinforcement as illustrated in Figures 1, 2 or 3;

Figure 6 is a view in perspective of another form of metallic reinforcement unapplied;

Figure 7 is a view in perspective of the metallic reinforcement as illustrated in Figure 4 unapplied.

In the embodiment of the invention as illustrated in Figure 1, B denotes the meeting portions of wall boards of any standard or preferred character and which are directly secured to the studding S by the nails N. The meeting edge faces of the boards B have produced therealong adjacent to their outer faces the grooves I. The side walls of these grooves I are parallel and are disposed on a predetermined inward angle with the base walls of the grooves I substantially at right angles to the side walls. In other words, the grooves I may be of a type referred to as an under bevel groove. It is to be noted that the outer side wall of each of the grooves or channels I reaches the outer face of the board at a point inwardly of the adjacent end proper of the board whereby the groove I is also somewhat in the fashion of a rabbet.

With adjacent boards in assembled relation as illustrated in Figure 1, the inner side walls of the grooves or channels I provide a flange substantially V-shaped in form extending from one end of the edges of the boards to the other with the apex portion of said flange outwardly disposed and at a point substantially midway between the free ends of the outer side walls of the grooves or channels I. These grooves or channels I have placed therein by a conventional gun or otherwise as may be preferred a filler 2 of non-shrinking putty and in the embodiment of the invention as illustrated in Figure 1, the outer exposed face portion of the filler 2 is sanded off smooth with the outer surfaces of the adjacent boards B. These boards B may be made of wood, fibre, paper, or gypsum plaster.

The boards as illustrated in Figure 1 are of a type wherein it is intended to have their outer faces coated or painted with heavy plastic paint and which coating is, of course, also placed over the outer face of the filler 2.

In the invention as illustrated in Figure 2, the boards B' are of a type having applied to the outer faces thereof a lamination or covering L of paper or other desired sheet finishing material. It is to be noted that the marginal portions of these sheets L extend over the outer ends of the grooves or channels I' to be secured to the outer face of the filler 2' to conceal the joint.

The particular formation of the grooves or channels I or I' is such to prevent expansion of the boards B or B' and to increase the efficiency of the filler 2 or 2' it is of advantage to embed therein at desired points therealong metallic reinforcements.

In the embodiment of my invention as illustrated in Figures 1, 2, and 3, the reinforcement R is of a character particularly illustrated in

Figure 5 of the drawing. This reinforcement R, as herein disclosed, comprises a flat metal plate 3 of a length closely approaching the major width of the channel resulting from the coacting grooves or channels 1 or 1' of the boards B or B' but of a width less than the width of the outer open face of such channel. By this means the reinforcement R when initially applied extends in a direction lengthwise of the channel whereupon a suitable implement, such as the blade of a screw driver, is inserted in the slot 4 in the central part of the plate 3 permitting the required one quarter turn being given to the plate 3 to bring the same into the position illustrated in Figures 1, 2, and 3. It is also preferred that the central portion of this plate have contact with the ridge within the channel and the end portions of the plate 3 at opposite sides thereof have struck therefrom the elongated and angularly related arms 6. These arms 6 are disposed in opposite directions with one arm at each side of the plate 3.

Each end portion of the plate 3 at the side thereof remote from the arm 6 has struck therefrom an angular lug or lip 7 disposed to the side of the plate 3 opposite from the arm 6. These arms 6 and lugs 7 provide an effective bond for the filler 2 and at the same time operate to maintain the meeting edges of the boards B or B' in place until the filler 2 or 2' sets or hardens. This is of particular advantage when the boards are being employed in a ceiling structure.

In Figure 3 it is to be noted that the boards B'' are illustrated as comprised in a ceiling structure and extending between the meeting edges of these boards B'' for coaction with the applied reinforcement is a suspender or hanger H. This suspender or hanger H, as herein disclosed, comprises a strand of wire having one portion looped around a girder G or other support while the opposite end portion of the hanger or suspender H is looped under the central portion of the plate 3, such looping being facilitated by the recesses 8 provided in the side portions of said plate 3 midway its ends.

In Figure 6 is illustrated a reinforcement R' which is substantially in the form of a U which is adapted to be embedded as desired within the filler 2' as is also the V-shaped reinforcement R'' as illustrated in Figure 7. This reinforcement R' can also be employed to advantage in connection with an inside corner.

The under or inner surfaces of the extended portions of the lamination or covering L (Figure 2) are roughened. These roughened surfaces are provided to assure said extended portions of the lamination or covering L having better bond with the filler 2'.

It is also to be stated that if preferred when the reinforcement R is employed in the assembly as illustrated in Figure 3 of the drawing, the slide or angularly related arms 6' may be adjusted into a position to have direct contact with the inner side walls of the grooves or channels of the boards B''. In some instances, as in the present one, in order to accomplish this further adjustment of the arms 6' said arms will have to be shortened which can readily be done by clipping off the outer portions thereof.

While I have hereinbefore stated certain materials of which the boards may be made it is to be further stated that any other material may be used which can be employed to advantage.

From the foregoing description it is thought to be obvious that a wall board constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and employed, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. In combination with the meeting edges of wall boards having grooves extending along their opposed edge faces, the side walls of the grooves extending inwardly of the boards on an incline, the outer side wall of each of the grooves terminating at a face of the board inwardly of its meeting edge, the inner walls of the grooves in the meeting portions of the boards providing a flange substantially V-shaped in form with its apex outwardly disposed, a filler of initially plastic material within said grooves of the meeting edges of the boards, and a metallic reinforcement within said grooves and embedded within the filler, said reinforcement providing means for holding the meeting edges of the boards in position.

2. In combination with the meeting edges of wall boards having grooves extending along their opposed edge faces, the side walls of the grooves extending inwardly of the boards on an incline, the outer side wall of each of the grooves terminating at a face of the board inwardly of its meeting edge, the inner walls of the grooves in the meeting portions of the boards providing a flange substantially V-shaped in form with its apex outwardly disposed, a filler of initially plastic material within said grooves of the meeting edges of the boards, and a metallic reinforcement within said grooves and embedded within the filler, and a holding member extending between the meeting edge faces of the boards and engaged with the metallic reinforcement.

3. In combination with the meeting edges of wall boards, said meeting edges having under beveled grooves opening through the outer face of the wall provided by the assembled wall boards, a filler within said grooves, and a reinforcement within the grooves and embedded within the filler, said grooves and reinforcement being constructed and arranged to hold the meeting edges of the boards in position.

4. In combination with the meeting edges of wall boards having grooves extending along their opposed edge faces, the side walls of the grooves extending inwardly of the boards on an incline, the outer side wall of each of the grooves terminating at a face of the board inwardly of its meeting edge, the inner walls of the grooves in the meeting portions of the boards providing a flange substantially V-shaped in form with its apex outwardly disposed, a filler of initially plastic material within said grooves of the meeting edges of the boards, a metallic reinforcement within said grooves and embedded within the filler, said reinforcement comprising a plate having a central slot, and angularly related elements carried by the opposite end portions of the plate.

5. In combination with the meeting edges of wall boards having grooves extending along their opposed edge faces, the side walls of the grooves extending inwardly of the boards on an incline, the outer side wall of each of the grooves terminating at a face of the board inwardly of its meeting edge, the inner walls of the grooves in the

meeting portions of the boards providing a flange substantially V-shaped in form with its apex outwardly disposed, a filler of initially plastic material within said grooves of the meeting edges of the boards, a metallic reinforcement within said grooves and embedded within the filler, said reinforcement comprising a plate, and angularly related elements carried by the opposite end portions of the plate, certain of said elements comprising elongated arms arranged at opposite sides of the transverse center of the plate, said arms being disposed in opposite directions and inclined away from one face of the plate.

6. In combination with the meeting edges of wall boards having grooves extending along their opposed edge faces, the side walls of the grooves extending inwardly of the boards on an incline, the outer side wall of each of the grooves terminating at a face of the board inwardly of its meeting edge, the inner walls of the grooves in the meeting portions of the boards providing a flange substantially V-shaped in the form with its apex outwardly disposed, a filler of initially plastic material within said grooves of the meeting edges of the boards, a metallic reinforcement within said grooves and embedded within the filler, said reinforcement comprising a plate, and angularly related elements carried by the opposite end portions of the plate, certain of said elements comprising elongated arms arranged at opposite sides of the transverse center of the plate, said arms being disposed in opposite directions and inclined away from one face of the plate, the remaining elements comprising lugs at the ends of the plate at opposite sides of the transverse center of the plate and disposed beyond the face of the plate remote from the arms.

7. In combination with the meeting edges of wall boards having grooves extending along their opposed edge faces, the side walls of the grooves extending inwardly of the boards on an incline, the outer side wall of each of the grooves terminating at a face of the board inwardly of its meeting edge, the inner walls of the grooves in the meeting portions of the boards providing a flange substantially V-shaped in form with its apex outwardly disposed, a filler of initially plastic material within said grooves of the meeting edges of the boards, a metallic reinforcement within said grooves and embedded within the filler, said reinforcement comprising a plate, and angularly related elements carried by the opposite end portions of the plate.

8. In combination with the meeting edges of wall boards having grooves extending along their opposed edge faces, the side walls of the grooves extending inwardly of the boards on an incline, the outer side wall of each of the grooves terminating at a face of the board inwardly of its meeting edge, the inner walls of the grooves in the meeting portions of the boards providing a flange substantially V-shaped in form with its apex outwardly disposed, a filler of initially plastic material within said grooves of the meeting edges of the boards, a metallic reinforcement within said grooves and embedded within the filler, said reinforcement comprising a plate having means at its central portion for attaching a holding member to the plate.

9. In combination with the meeting edges of wall boards having rabbets extending along such meeting edges, a filler of initially plastic material within said rabbets at the meeting edges of the boards, and sheets of finishing material disposed over the faces of the boards and having marginal portions lapping the filler in the rabbets.

10. In combination with the meeting edges of wall boards having rabbets extending along such meeting edges, a filler of initially plastic material within said rabbets at the meeting edges of the boards, and sheets of finishing material disposed over the faces of the boards and having marginal portions lapping the filler in the rabbets, the filler providing means for holding the lapping portions of the sheets in place.

FLOYD D. WELCH.