

Sept. 23, 1941.

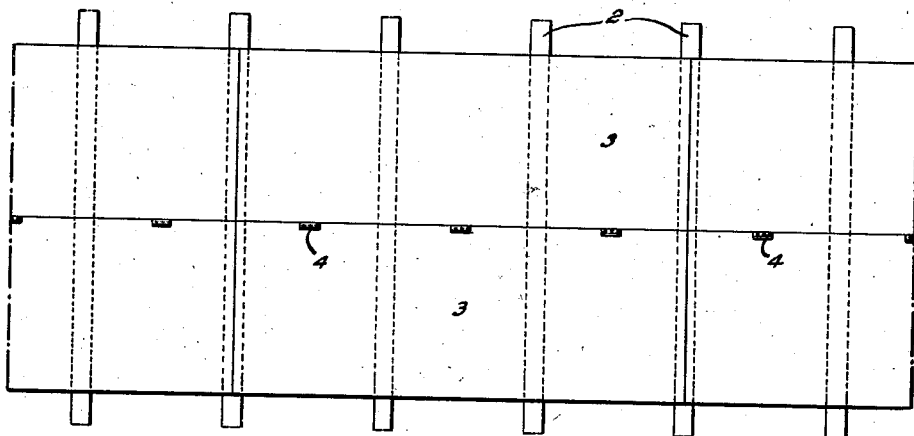
M. P. LA CHAPELLE

2,256,761

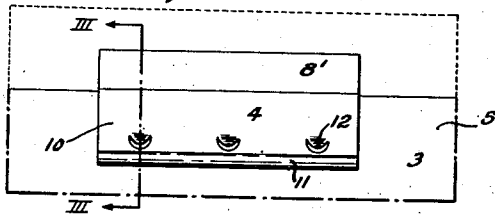
PLASTERBOARD

Filed Oct. 23, 1940

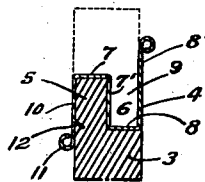
*Fig. 1*



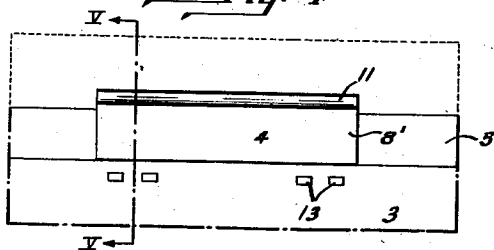
*Fig. 2*



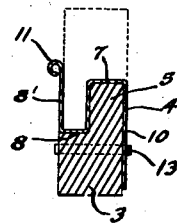
*Fig. 3*



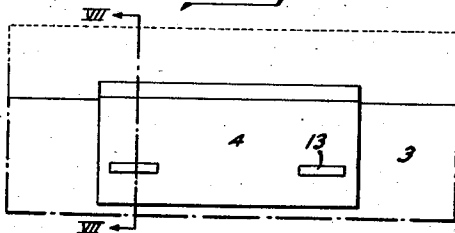
*Fig. 4*



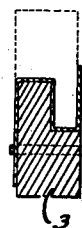
*Fig. 5*



*Fig. 6*



*Fig. 7*



Inventor

M. P. La Chapelle

by

Walter A. Kaufman

Attorney

# UNITED STATES PATENT OFFICE

2,256,761

## PLASTERBOARD

Merle P. La Chapelle, Lancaster, Pa., assignor to  
Armstrong Cork Company, Lancaster, Pa., a  
corporation of Pennsylvania

Application October 23, 1940, Serial No. 362,316

13 Claims. (Cl. 72—124)

This invention relates to plasterboards and, more particularly, to a plasterboard having a joint reinforcing member integrally united therewith. The term "plasterboard" is used herein as a term of general definition and not of limitation being intended to include within its scope fiberboards made of spent pine chips, waste sugar cane, wood fiber, corn stalks, or the like known as insulating lath as well as boards made of mineral compositions and consisting of combinations of gypsum, magnesite and other materials provided with paper coverings.

In the application of plaster to plasterboards in building construction there is a tendency for the joints between adjacent boards to be forced open by pressure applied against the faces thereof by the trowelling of plaster over such joints. Opening of the joints, of course, permits irregularities in the plaster sheet over the joints and this is quite a common and serious phenomenon in building construction. Another serious disadvantage resides in the fact that when plastering is carried on by inexperienced or inept mechanics plaster at the joints is frequently applied in a layer so thin as to permit cracking of the applied plaster sheet upon slight contraction or expansion of the boards in service.

My invention has for its chief object to provide a plasterboard having a joint reinforcing member. An object of my invention is to provide a plasterboard having reinforcing means which requires the plaster to be applied in a layer sufficiently thick to cover it and thus renders it impossible for the plasterer to apply plaster at the joints in a layer so thin as to permit cracking. A further object is to provide joint reinforcing means attached to each plasterboard so that the joint between adjacent plasterboards may be reinforced without any increase in the time of installation of the structure. A still further object is to provide a joint reinforcing member so formed as to indicate the depth of plaster to be applied over the joint between adjacent boards. Other objects of my invention will be readily perceived from a consideration of the following description.

This invention relates to an integral unit for use in building construction comprising a plasterboard having an edge adapted for interlocking engagement with a corresponding plasterboard, a reinforcing element disposed over said edge, and means for securing said element to the plasterboard. The invention further relates to a device for reinforcing plasterboard joints comprising a web adapted to penetrate into the

joint between interlocking plasterboards and conforming generally to the interlocking portions thereof, a flange integral therewith extending over the plaster-receiving face of one of said boards, a second flange integral with said web extending over the rear of the second board, and means adapted to securely hold the device in fixed position at the joint.

This invention further relates to a building construction comprising, in combination, a supporting framework, a pair of plasterboards disposed in interlocking relationship with one another on said framework and a joint reinforcing element disposed in the joint between said plasterboards, said element comprising a web placed between the locking edges of the plasterboards and conforming thereto, a flange integral with said web extending over the plaster-receiving face of one of said plasterboards, and a second flange integral with the opposite end of said web extending outwardly therefrom in a direction opposed to the direction of the first-mentioned flange and resting against the rear face of the second plasterboard, said reinforcing element being securely attached to one of said plasterboards while being unattached to the other and the supporting framework.

The attached drawing illustrates a preferred embodiment of my invention, in which

Figure 1 is a view in elevation showing a portion of a wall in which my invention is applied;

Figure 2 is a plan view of a section of plasterboard provided with the joint reinforcing member;

Figure 3 is a sectional view taken on the line III—III of Figure 2;

Figure 4 is a plan view of a section of plasterboard provided with a modified joint reinforcing member;

Figure 5 is a sectional view taken on the line V—V of Figure 4;

Figure 6 is a plan view of a section of plasterboard provided with a further modified form of joint reinforcing member; and

Figure 7 is a sectional view taken on the line VII—VII of Figure 6.

Referring to the attached drawing there is shown a wall construction consisting of a supporting framework of studdings 2, a plurality of plasterboards 3 interlockingly engaged with one another and joint reinforcing members 4 disposed in the joints between adjacent plasterboards 3. Each plasterboard 3 has its opposite edges rabbeted, cut away or recessed as shown at 6 to provide protruded portions or tongues 5

adapted to engage and interlock with a corresponding edge of an adjacent plasterboard to form a ship lap joint. It will be appreciated such edges may be shaped to provide other forms of joints if desired. The joint reinforcing member is disposed over one edge of the board 3 so that it is disposed in the joint between the boards in the completed construction and is integrally united with one board while being unattached to the adjacent board and the supporting framework. It will be appreciated that reinforcing members 4 may be furnished separately to the installer and placed in position during the assembling operation if desired, but this is generally undesirable since it is more economical and satisfactory to attach the members to plasterboards at the factory.

The joint forming member 4 comprises a web 7 shaped to conform to and to fit a ship lap joint formed by the interlocking tongues 5 and cut away or recessed portions 6 of adjacent plasterboards 3. The web 7 extends downwardly and inwardly to conform to the tongue 5 and a flange 8 is provided extending downwardly and outwardly from the inwardly extending portion 7' of the web 7 to form in conjunction with the portion 7', a channel 9 adapted to receive the tongue 5 of an adjacent board. The outwardly extending portion 8' of the flange 8 rests against the rear face of the adjacent plasterboard. A second flange 10 integral with the opposite end of the web 7 extends inwardly over the plaster-receiving face of the plasterboard 3. An upstanding portion 11, preferably a rounded bead to obviate a raw metal edge as shown in Figures 2 and 3 for example, is formed on the end of the flange 10 and serves to indicate the minimum depth of plaster to be applied over the joint since a layer of plaster sufficiently thick to cover it need be applied. If desired, the flange 8 may likewise have its end rolled in bead form to obviate a raw edge. This is not essential, of course, and may be eliminated in the majority of instances.

A plurality of prongs 12, as shown in Figures 2 and 3, are provided in the flange 8, disposed between the bead 11 and the web 7, which penetrate into the plasterboard and securely retain the member 4 as an integral portion thereof. Such prongs may be formed in any desired manner. Preferably, the prongs are formed and concomitantly forced into the board after the member 4 is disposed on the board in desired position and securely hold the member 4 in fixed position thereon. Preferably, the prongs 12 are forced into the board in such manner, as shown in Figure 3, as to definitely resist any attempt to remove the member 4 from the board; that is, the prongs 12 penetrate the board 3 at an angle to the plane of the board so as to oppose any attempt to remove the member 4 by forces exerted in a direction parallel to the plane of the board.

In assembling the preferred construction, a board 3 carrying a joint reinforcing member 4 is disposed in desired position on the supporting studding 2. A second plasterboard is then disposed adjacent the first mentioned board in interlocking position therewith. The tongues 5 of each board 3 fit into the corresponding recessed portions 6 of the adjacent board while the reinforcing member 4 is disposed in the joint and the flanges 8 and 10 rest against the rear face of one board and the plaster-receiving face of the other. Thus pressure applied while

trowelling plaster over the joint is resisted and the joint maintained in closed position. The bead 11 requires that plaster be applied in a layer sufficiently thick as to conceal it from view and hence a sufficient thickness of plaster is applied at the joint to obviate cracking of the plaster sheet upon slight contraction or expansion of the boards in service.

In Figures 4 and 5 I have shown a modified form of my invention in which the tongue 5 is disposed at the rear surface of the board 3. The web 7 is disposed about the tongue 5 and the flange 10 rests against the rear surface of the board 3. The flange 8 extends upwardly and outwardly, the outwardly extending portion 8' being provided with a bead 11 which serves to indicate the depth of plaster to be applied over the joint. A staple 13 is provided which penetrates through the flange 10 and a face of the board 3 and is clinched at the opposite face of the board. Preferably, the staple 13 is punched through the metal flange 10 thus assuring that the member 4 is held securely in fixed position on the board 3 although, if desired, openings may be provided in the flange 10 to receive the legs of the staple.

In Figures 6 and 7, I have illustrated a further modification of my invention which is generally similar to the preferred form shown in Figures 2 and 3. In this case, staples 13 are used to secure the reinforcing member 4 to the plasterboard 3 while the plaster-thickness indicating bead 11 is omitted. This form of my invention serves to satisfactorily reinforce the joint between adjacent fiberboards but does not indicate the thickness of plaster to be applied thereover.

My invention provides a joint reinforcing member which satisfactorily and adequately strengthens the joint between adjacent plasterboards to substantially or entirely eliminate cracking of the plaster sheet and irregularities therein at the joints. Means are provided to indicate the depth of plaster to be provided at the joint which obviates the application of a too thin layer of plaster which might otherwise occur due to inexperienced labor. The joint may be reinforced without increasing the number of operations required for the assembly since the reinforcing member is, preferably, formed as an integral portion of the fiberboard at the place of manufacture.

While I have described and illustrated a preferred embodiment of my invention, it will be understood my invention is not so limited since it may be otherwise embodied within the scope of the following claims.

I claim:

1. An integral unit for use in building construction comprising a plasterboard having an edge adapted for interlocking engagement with a corresponding plasterboard, a reinforcing member disposed over said edge terminating in an upstanding portion disposed adjacent the plaster receiving face of said plasterboard adapted to indicate the depth of plaster to be applied over the joint formed by engagement of the edge of the plasterboard with the corresponding edge of a similar plasterboard, and means securing said member to the plasterboard.

2. An integral unit for use in building construction comprising a plasterboard having an edge provided with a tongue and adapted to engage a corresponding edge of a second plasterboard, a reinforcing member disposed on one face of said plasterboard and extending about

said tongue, a flange extending from said reinforcing member forming a channel for the reception of the tongue of the second plasterboard, and means securing said member to the plasterboard.

3. An integral unit for use in building construction comprising a plasterboard having an edge provided with a tongue and adapted to engage a corresponding edge of a second plasterboard, a reinforcing member disposed on one face of said plasterboard and extending about said tongue, a flange extending from said reinforcing member forming a channel for the reception of the tongue of the second plasterboard, an upstanding portion integral with and extending from the opposite edge of the reinforcing member disposed adjacent the plaster-receiving face of said plasterboard adapted to indicate the depth of plaster to be applied over the joint formed by engagement of the edge of the plasterboard with the corresponding edge of a similar plasterboard, and means securing said member to the plasterboard.

4. An integral unit for use in building construction comprising a plasterboard having an edge provided with a tongue and adapted to engage a corresponding edge of a second plasterboard, a reinforcing member disposed on one face of said plasterboard and extending downwardly and inwardly to fit the general configuration of the tongue, a flange extending downwardly and outwardly from the inwardly extending portion of said member and serving in conjunction therewith to form a channel for the reception of the tongue of the second plasterboard, and a prong in said member penetrating into the plasterboard and serving to retain the plasterboard and the reinforcing member as an integral unit.

5. An integral unit for use in building construction comprising a plasterboard having an edge provided with a tongue and adapted to engage a corresponding edge of a second plasterboard, a reinforcing member disposed on one face of said plasterboard and extending downwardly and inwardly to fit the general configuration of the tongue, a flange extending downwardly and outwardly from the inwardly extending portion of said member and serving in conjunction therewith to form a channel for the reception of the tongue of the second plasterboard, said member terminating in an upstanding portion extending above the plaster-receiving face of the plasterboard adapted to indicate the depth of plaster to be applied over the joint formed by engagement of the edge of the plasterboard with the corresponding edge of a similar plasterboard, and a plurality of prongs in said member penetrating into the plasterboard and serving to retain the plasterboard and the reinforcing element as an integral unit.

6. An integral unit for use in building construction comprising a plasterboard having an edge provided with a tongue and adapted to engage a corresponding edge of a second plasterboard, a reinforcing member disposed on one face of said plasterboard and extending downwardly and inwardly to fit the general configuration of the tongue, a flange extending downwardly and outwardly from the inwardly extending portion of said member and serving in conjunction therewith to form a channel for the reception of the tongue of the second plasterboard, said flange terminating in a rounded bead disposed above the plaster-receiving face of the plasterboard

serving to indicate the minimum depth of plaster to be applied over the joint formed by engagement of the edge of the plasterboard with the corresponding edge of a similar plasterboard, and a plurality of prongs in said member penetrating a face of the plasterboard at an angle thereto and serving to retain the plasterboard and the reinforcing member as an integral unit.

7. An integral unit for use in building construction comprising a plasterboard having an edge provided with a tongue and adapted to engage a corresponding edge of a second plasterboard, a reinforcing member disposed on one face of said plasterboard and extending upwardly and inwardly to fit the general configuration of the tongue, a flange extending upwardly and outwardly from the inwardly extending portion of said member and serving in conjunction therewith to form a channel for the reception of the tongue of the second board, said member terminating in a rounded bead disposed above the plane of the plaster-receiving face of the plasterboard serving to indicate the minimum depth of plaster to be applied over the joint formed by engagement of the edge of the plasterboard with the corresponding edge of a similar plasterboard, and a staple punched through said reinforcing member penetrating a face of the board and clinched at the opposite face of the board to retain the plasterboard and the reinforcing member as an integral unit.

8. A device for reinforcing plasterboard joints comprising a web adapted to be disposed over the edge of a plasterboard, a flange integral with said web adapted to extend inwardly over the plaster-receiving face of the board, said flange terminating in an upstanding, bead-shaped portion adapted to indicate the minimum depth of plaster to be applied over the joint, a second flange extending outwardly from the opposite end of said web adapted to rest against the rear face of a second plasterboard, and means for holding the device in fixed position at the joint.

9. A device for reinforcing plasterboard joints comprising a web shaped to conform to and to fit within a ship-lap joint formed by interlocking tongues and grooves of adjacent plasterboards, a flange integral with said web adapted to extend inwardly over the plaster-receiving face of a board, a bead disposed on said flange standing above the plane of the plaster-receiving face of the board, a plurality of prongs in said flange adapted to penetrate the plaster-receiving face of the board to retain the device in fixed position thereon, and a second flange extending outwardly from the opposite end of said web adapted to rest against the rear face of a second plasterboard.

10. In a building construction, the combination of supporting framework, a pair of plasterboards disposed in interlocking relationship with one another on said framework, and a joint reinforcing member disposed in the joint between said plasterboards, said member comprising a web placed between the locking edges of the plasterboards and conforming thereto, a flange integral with said web extending over the plaster-receiving face of one of said plasterboards, and a second flange integral with the opposite end of said web extending outwardly therefrom in a direction opposed to the direction of the first-mentioned flange and resting against the rear face of the second plasterboard, said reinforcing member being securely attached to one of said

plasterboards while being unattached to the other and the supporting framework.

11. In a building construction, the combination of a pair of plasterboards disposed in interlocking relationship with one another, and a joint reenforcing member disposed in the joint between said plasterboards, said member comprising a web placed between the locking edges of the plasterboards and conforming thereto, a flange integral with said web extending over the plaster-receiving face of one of said plasterboards, an upstanding bead on said flange serving to indicate the minimum depth of plaster to be applied over the joint, and a second flange integral with the opposite end of said web extending outwardly therefrom in a direction opposed to the direction of the first-mentioned flange and resting against the rear face of the second plasterboard.

12. A construction according to claim 11, in which means are provided to secure the joint reenforcing member to one of the plasterboards.

13. A device for reenforcing plasterboard joints comprising a web adapted to penetrate into the joint between interlocking plasterboards and conforming generally to the interlocking portions thereof, a flange integral therewith adapted to extend over the plaster-receiving face of one of said boards, a second flange integral with said web adapted to extend over the rear of the second board, and means adapted to securely hold the device in fixed position at the joint, said means comprising a plurality of prongs extending from one of said flanges and penetrating into one of the plasterboards.

MERLE P. LA CHAPELLE.

CERTIFICATE OF CORRECTION.

Patent No. 2,256,761.

September 23, 1941.

MERLE P. LA CHAPELLE.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, first column, line 19, after "fit" insert --within--; page 3, first column, line 6, claim 3, for "intergral" read --integral--; line 63, claim 6, for "com-pising" read --comprising--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 4th day of November, A. D. 1941.

Henry Van Arsdale,  
Acting Commissioner of Patents.

(Seal)