Dec. 1, 1942. E. A. HAMPSON 2,303,737

PLASTER LATH CONSTRUCTION

Filed Jan. 11, 1940

Fig. 1.

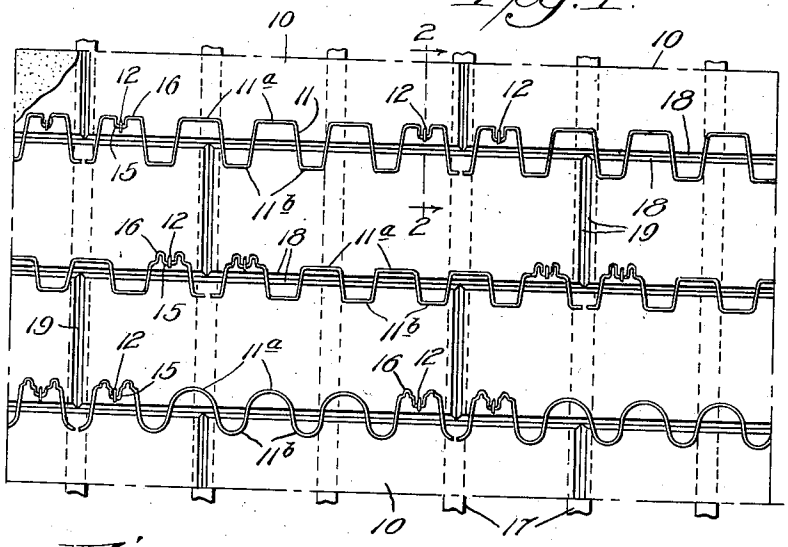


Fig. 2.

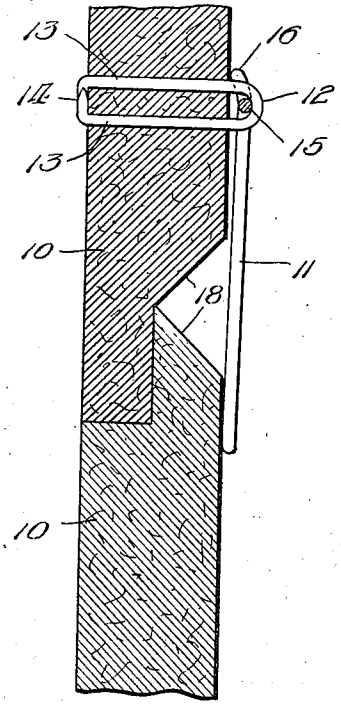
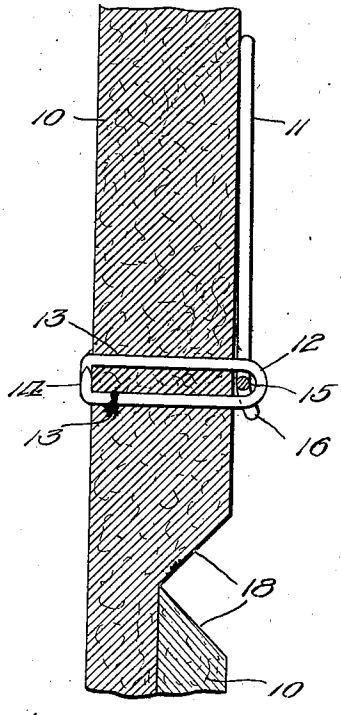


Fig. 3.



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PLASTER LATH CONSTRUCTION

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7 Claims. (Cl. 72—120)

This invention relates to a plaster receiving base to which plaster is applied as a finishing wall surfacing and wherein the plaster receiving base comprises units provided with joint reinforcing means, and more specifically the invention relates to such units as gypsum board lath, fiber board lath, and the like, to which plaster is applied and reinforced in accordance with the following disclosure.

Various types of plaster reinforcement have heretofore been suggested for application along the edges of lath units, such as fiber insulation board lath units, to overcome the tendency of the formation of cracks in the finished plaster surface in the region of the joint between two adjacent units, and among such reinforcements is one disclosed in U. S. Letters Patent No. 2,125,516, granted August 2, 1938, to Carl L. Neumeister, but this patented construction is not entirely satisfactory because the reinforcement is loosely secured by a staple or the like to a unit adjacent the edge thereof in such manner that the reinforcement is free to slip longitudinally and to turn about its hinge at all times. This is a drawback particularly with reference to the packaging of the units for shipment to the job since it requires the positioning, and/or turning, of the reinforcement on its hinge, so that the reinforcement will not extend beyond an edge of the unit. Additionally, this patented construction is faulty because, in erecting the units on the building studs, the reinforcement always has the tendency to freely turn on its hinge wherefore care must be exercised in lifting the reinforcement (if depending) to insert the edge of the next adjacent unit under the reinforcement or, when the reinforcement is disposed adjacent the upper edge of a unit, in holding the reinforcement in place overlying the joint between that unit and the next above unit at the time that the plaster is applied to the surface of the units.

An object of the present invention, therefore, is to provide a plaster base unit having a plaster reinforcing structure secured adjacent an edge thereof in such manner that the reinforcing structure will not be so loosely connected to the unit as to cause the difficulties just mentioned, and a further object is to provide and to so mount such reinforcing structure that it may be held under hinged tension across the joint between two adjacent units substantially in the plane of the plaster receiving face of the units so that the plaster may be applied to the units without fear of said structure moving from its intended position. Other and additional objects of the invention, and advantages thereof, will be apparent on reading the following description in connection with the accompanying drawing in which—

Fig. 1 is an elevation of a portion of a wall to which this invention has been applied;

Fig. 2 is a vertical sectional view taken as on the line 2—2 of Fig. 1 and looking in the direction of the arrows, and showing the plaster reinforcing member in one position; and

Fig. 3 is a view similar to Fig. 2 but illustrating a different position of the reinforcing member.

It has been found in connection with plaster base units such as fiber insulation board, gypsum board, and the like, that a very effective plaster sheet reinforcement can be provided by the use of a length of wire bent into a sinuous form, or into some approximation or modification of such form, with such formed wire secured on the face of and adjacent an edge of a unit and projecting thereover so that portions of such bent wire will lay across the joint between two adjacent units and more or less overlap the edge portion of the adjacent unit and overlie the face thereof.

In securing such reinforcing member, there is utilized a staple or similar securing means, in such manner that not only is the member hingedly mounted on the face of the unit, but it is also secured so that positive effort is required to turn such member through the permissible 180° movement of the member, as from a position in the plane of the face of the unit to which it is secured, as indicated in Fig. 3, to a position in the plane of the face of the next adjacent unit as indicated in Fig. 2, and that when it lies in the latter plane, and across the joint between the units, such member will be under a positive tension sufficient to hold the member in positive contact with the face of the next adjacent unit. In fact, the reinforcing member is so formed that, in association with its securing staple, only a limited angular movement about the hinge is normally permitted when such member is entirely within the confines of the unit to which it is attached, and this is an advantageous feature in connection with the packaging of the unit for shipment to the job because the reinforcing member will not swing of itself about its hinge to such an extent that another unit placed thereabove in stacked relation to the underlying unit will not immediately push said member into surface contact

with the unit to which it is secured, wherefore it may be said that the reinforcing member normally lies substantially flat on the face of the unit to which it is secured and entirely within the area of the unit.

The units are applied by nailing to studding, in edge to edge relationship and, in such application, the reinforcing member will not turn appreciably about its hinged securement to the unit but, after the units are nailed in place, such member may be forcibly turned about its hinge to overlie the joint between two adjacent units and come into surface contact with the next adjacent unit, the reinforcement remaining in this joint-overlying position without the necessity of securing it in such position as by a nail or other fastening device, due to the particular formation of the reinforcing member.

Referring to the drawing the numeral 10 indicates a plaster base unit comprising generally a rectangular sheet of fiber insulation board, gypsum board, or like materials, to which plaster will adhere. These units are conveniently 18" x 48" x ½" and, as shown, each unit has applied adjacent to one of its long edges a plaster reinforcement 11 comprising a length of wire bent to an approximation of sinusoidal form. The reinforcement is designated at its respective opposed crests by the numerals 11*a* and 11*b*, and may be secured adjacent to an edge of the unit by staples 12 to hingedly connect the reinforcement to its unit. The staples 12 have legs 13 which pass through the unit 10 and are clinched at the rear thereof at 14, but it will be understood that, instead of the specific staple 12 illustrated, any other appropriate connector may be used provided that it connects the reinforcing member 11 hingedly to the unit 10 and relatively closely encompasses a bight of the wire of which the member is formed.

Each reinforcement will be seen to have a length substantially equal to the length of the unit to which it is secured, and to have a width greater than the distance between the hinge or staple 12 and the edge of the unit to which the reinforcement is secured. The crests receiving a staple are particularly formed in accordance with this invention and thereby may or may not differ from the other crests. In other words, the crest where a staple is to be received, is formed with a U-shaped bend 15 or similarly formed portion extending inwardly of the reinforcement and of a width only slightly greater than the thickness of the staple, whereby lengthwise movement of the reinforcing member is prevented which is a distinct advantage over the construction shown in the Neumeister patent above mentioned.

Additionally, the staple 12 is located in the bottom of the U-bend 15 whereby it always occupies a position intermediate the crests 11*a* and 11*b*, or in other words there is provided the portion 16 of the reinforcement which, as the reinforcement is turned about its hinge, serves as a means for holding the reinforcement under tension across the joint between two adjacent units, this portion 16 being slightly deflected out of the plane of the remainder of the reinforcing member 11, as clearly indicated in Figs. 2 and 3, the deflection being in such direction that the U-bend 15 will be slightly raised from the face of the unit when the reinforcement lies across said joint.

The nature of the unit is such that its surface will yield sufficiently to permit this extending portion 16 to swing in and under the hinge or staple as the reinforcing member is turned through the 180° into its plaster reinforcing position. The amount of the deflection need only be slight as clearly shown in Fig. 3 to prevent the reinforcement from interfering with packaging of plural units.

In erecting the plaster base, the units are taken as received with the reinforcement in the position shown in Fig. 3 and, preferably beginning from the bottom of the wall, the units are appropriately secured to spaced studs 17 or other supporting members as shown in Fig. 1. When the bottom row of units has been applied, the next row is applied and, after each unit of this second row has been secured in place, the reinforcement 11 is turned forcibly from its shipping position (Fig. 3) into its plaster reinforcing position (as shown in Figs. 1 and 2) where it will stay without any additional securing means, such as the nail called for in the Neumeister patent, because of the tension created through the instrumentalities of the staple 12, the U-bend 15, and the projecting deflected portion 16.

When the reinforcement is thus forcibly turned, it will be seen that, because of its sinusoidal form, alternate crests thereof will overlie the adjacent unit 10 and that the portions of the reinforcement connecting said crests will overlie the joint between the adjacent units.

As better illustrated in Figs. 2 and 3, it will be seen that the edges of the units are provided with bevels 18 so that, when two units are joined, the bevels thereof will meet and form a V-shaped depression or groove which will receive plaster and form on the rear side of the plaster sheet a reinforcing rib of corresponding V-shape, and that the wire reinforcement 11, across the joint, will be completely embedded in the plaster sheet.

It is of course to be understood that reinforcements 11 may be applied to the vertical as well as the horizontal joints, but in general this is unnecessary although bevelling of the edges of units 10 on their short edges as at 19 is advisable. Short edges of the units, when dimensions as above previously stated are followed, fall on the studs 17 and are nailed solid thereto and, further, since these joints are ordinarily broken every 18" by offsetting of the horizontal rows of courses of the units, there is little need for reinforcement of the plaster on such short and vertically disposed edges.

Referring to Fig. 1 it will be seen that three modifications of the reinforcing member are illustrated therein but that the same principles are present in each of the members shown, the only differences being in the particular shape of the sinuous form of the wire, and the location of the U-bend with reference to a crest of the reinforcing member. Each of these modifications of construction is handled or manipulatad in the same manner as hereinbefore described.

It is obvious that those skilled in the art may vary the details of construction and arrangements of parts without departing from the spirit of this invention and therefore it is desired not to be limited to the exact foregoing disclosure except as may be required by the claims.

What is claimed is:

1. A plaster base unit and a plaster reinforcing member mounted thereon, said member comprising a sinuously formed wire having opposed crests, a crest having an inwardly directed U-bend as well as an extending and angularly disposed portion formed by the sides of the U-bend,

and a staple-like device in said bend, said device connecting said member to said unit, whereby the reinforcing member may be swung about the staple-like device from one extreme position to the other and affixed in its respective positions by the extending and angularly disposed portion.

2. A plaster base unit and a plaster reinforcing member mounted thereon, said member comprising a sinuously formed wire having opposed crests, a crest comprising an inwardly directed recess as well as an extending portion formed by the sides of said recess, and a staple-like device in said recess, said device connecting said member to said unit, whereby the reinforcing member may be swung about the staple-like device from one extreme position to the other and affixed in its respective positions by the aforesaid extending portion formed by the sides of the recess.

3. A plaster base unit and a plaster reinforcing member mounted thereon, said member comprising a sinuously formed wire having opposed crests, a crest comprising an inwardly directed recess as well as an extending portion formed by the sides of said recess, a staple-like device in said recess, said device connecting said member to said unit, said extending portion deflected out of the plane of said member and serving as a tensioning means when said member is turned about said device.

4. A plaster base unit and a plaster reinforcing member mounted thereon, said member comprising a sinuously formed wire having opposed crests, a crest having an inwardly directed U-bend, the sides of the U creating extending portions which are deflected out of the plane of said member, such portions constituting tensioning means for said member, and a staple-like device relatively closely confined in said bend, said device disposed at all times intermediate the opposed crests and connecting said member to said unit.

5. The combination with a plaster base unit, of a sinuous form wire member adapted for a reinforcing member for the plaster base unit and comprising a continuous strand with reverse bends providing a series of crests disposed on opposite sides of the median line of said member, securing means for the reinforcing member, and a crest of the sinuous form wire member having an inwardly extending portion serving as a seat for the securing means for said member whereby, as the reinforcing member is swung from one extreme position to the other, the portions of the crest contiguous to the inwardly extending portion provide spring pressure for retaining the reinforcing member in either of the aforesaid positions.

6. A sinuous form wire member comprising a continuous strand with reverse bends providing a series of crests extending substantially equally from the median line of said member, a crest having an inwardly extending recess serving as a seat for a hinge-like securing means for said member, the sides of said recess extended to provide an extending portion disposed beyond the line serving as a tangent to the rest of the crests, said extending portion serving as a tensioning means when the member is turned about its hinge-like securing means.

7. The combination with a plaster base unit, of a sinuous form wire member comprising a reinforcing member for a plaster base unit and having substantially 180° of angular movement, comprising a continuous strand with reverse bends providing opposed crest portions, a crest portion having a reentrant portion having a base part comprising a seat for the securing means for said member and thereby providing contiguous to the reentrant portion, portions serving as resilient means for affixing the reinforcing member in either its operative or inoperative position.

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