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C. L. NEUMEISTER  
PLASTER BASE CONSTRUCTION

2,125,516

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2 Sheets-Sheet 2

Fig. 3

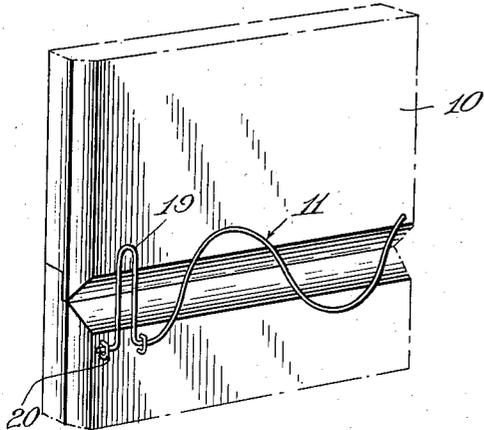


Fig. 4.

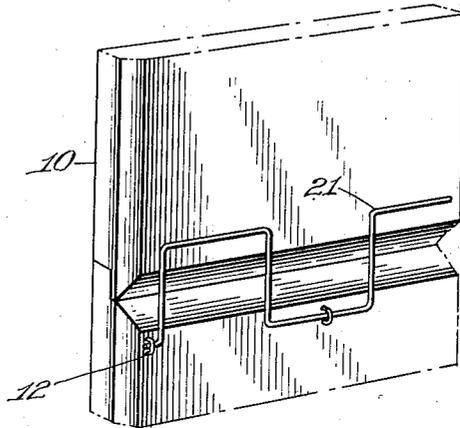


Fig. 5.

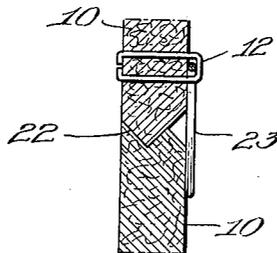
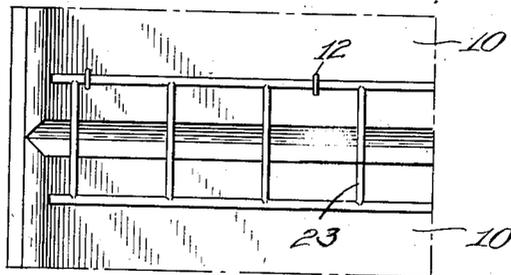


Fig. 6.



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# UNITED STATES PATENT OFFICE

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## PLASTER BASE CONSTRUCTION

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3 Claims. (Cl. 72--32)

This invention relates particularly to those features of building construction having to do with provision of 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.

As is well known, most plastered surfaces are applied to wood or expanded metal lath although there has been a constantly increasing promotion of various unit forms of plaster base such as the gypsum board lath, fiber board lath and the like.

The various unit laths, for use as plaster receiving base, have worked out quite satisfactorily in that in general they require the use of less plaster, reduce cracking of the applied plaster sheet and the like, but in use it has been found that there is a tendency for the applied plaster sheet to crack over the joints between adjacent plaster base units.

Various types of reinforcement have been suggested for application along the edges of lath units, such as fiber insulation board lath units, and among such have been strips of expanded metal lath, screen and the like, stapled adjacent to the edges of the units. Such strips of screening and the like stapled adjacent to the edges of the units and extending beyond the edge to overlap an adjacent unit, have had the disadvantage that such attached strips make it difficult to securely package the units for shipment and if the strips have been even but slightly bent in handling of the units, the application of the units becomes difficult.

An object of my invention is to provide a plaster base unit having a plaster reinforcing strip secured adjacent an edge or edges and a further object is to provide such reinforcing strip so mounted as to obviate disadvantages heretofore inherent in combinations of this general character.

Further objects of the invention are to provide a plaster base unit with a reinforcing strip secured along an edge thereof in such manner that it will not interfere with packaging the units, will not present difficulties in connection with their erection, and to provide such a combination which is economical to manufacture. Other and additional objects of the invention and advantages thereof will be apparent on reading the following description in connection with the accompanying drawings.

In the drawings—

Figure 1 is an elevation of a section of a wall embodying the invention.

Figure 2 is a perspective of adjacent units of the wall construction shown in Figure 1.

Figure 3 is a perspective of a portion of a plaster base unit showing a modified edge joint and a specific form of the reinforcement.

Figure 4 is a perspective of a portion of a plaster base unit showing the modified edge joint and a different form of reinforcement.

Figure 5 is a section showing a further modification of the edge joint with reinforcement as shown in Figure 6.

Figure 6 is an elevation of the reinforced joint shown in Figure 5.

I have discovered that in connection with plaster base units composed of 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 to 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 of an adjacent unit and overlie the face thereof.

In securing the above described reinforcing number of a base unit it is secured by a staple or like securing means, in such manner that it is hingedly mounted on the face of the unit. Thus for packaging of the reinforced units a reinforcing member may be swung on its hinged connection to lie flat on the face of the unit and entirely within the area of the unit and thus be out of the way in packaging and be protected from damage in shipment.

In applying such units, the reinforcement is left in the position in which received until after the unit has been nailed in place, whereupon it is a simple matter to swing the reinforcing member, on its hinged connection, to a position at 180 degrees displaced from its former position, whereupon the reinforcement will overlie the joint between adjacent units and if desired, the reinforcement may be securely fastened in such position by appropriately driving a nail so that the reinforcement is caught under the head of the nail and securely held in place.

On reference to the drawings, particularly Figures 1 and 2, it will be seen that the plaster base units comprise generally rectangular sheets of fiber insulation board, gypsum board, or like materials to which plaster will adhere. These units are conveniently 18" x 48" x 1/2" but of

course may be of other convenient size or thickness.

As shown each of the base units has applied adjacent to one of its long edges a plaster reinforcement 11 which in Figures 1 and 2 is shown as a length of wire bent to an approximation of sinusoidal form. The reinforcement 11 is designated at its respective opposed crests by the numerals 11a and 11b, and is secured adjacent to an edge of sheet 10 by staples 12 which are positioned across crests 11b of reinforcement 11 to hingedly connect the reinforcement to the sheet. Staples 12 have legs 13 which pass through sheet 10 and are clinched at the rear thereof at 14. It is of course to be understood that instead of staples 12 for hingedly connecting reinforcement 11 any other appropriate connector may be used provided that it connects reinforcement 11 to sheet 10 so that a hinge form connection is made. For shipment of the plaster base units, the reinforcement 11 is swung back on its hinge connection 12 into the position shown in Figure 1 at 11c, which is the position shown in Figure 2, in dotted lines and indicated by 11c.

In erecting the plaster base the units are taken as received, with reinforcement 11 swung back into position 11c and preferably beginning from the bottom, they are appropriately nailed to spaced studs 15 as shown in Figure 1. When the bottom row of units has been applied, the next row is applied and after each unit of the second row has been secured in place, then the reinforcement 11 is swung down from its shipping position 11c into its reinforcing position as shown in full lines, Figure 2, and then if desired at each stud 15a nail 16 may be driven close alongside the reinforcing wire 11 so that the head of the nail overlaps wire 11 to hold it securely in place.

When the reinforcement 11 is swung down into full line position, Figure 2, it is seen that because of its sinusoidal form alternate crests thereof overlie the adjacent sheets 10, that is, crests 11a overlie one sheet 10 and crests 11b overlie an adjacent sheet 10 and that the parts of the reinforcement connecting the crests 11a and 11b and indicated at 11d overlie the joint between adjacent sheets.

In Figure 2 there is shown on the edges of adjacent sheets 10 what is designated as a bevel lap joint which in effect is a rebated joint with bevels from the overlap to the face of the sheets. The such bevels are indicated at 17, 17 and it will of course be realized that when plaster is applied to the plaster base, that there will be formed on the back of the plaster sheet a V-shaped reinforcing ridge, at the joint where the bevels 17 provide a V-shaped depression and that where such V-shaped plaster sheet reinforcement is formed that the legs 11d of the reinforcement member 11 will, across the joint, be completely imbedded in the plaster sheet and its reinforcing ridge.

It is of course to be understood that reinforcements 11 may be applied to the vertical as well as to the horizontal joints but in general this is unnecessary although beveling of the edges of sheets 10 on their short edges as shown at 18, 18 is advisable. Short edges of sheets 10, when dimensions as above previously stated are followed, fall on the studs 15 and are nailed solid and further as these joints are ordinarily broken

every 18" by offsetting of the horizontal courses there is little need for reinforcement.

In Figure 3 there is shown a joint reinforcement essentially similar to that shown in Figure 2, excepting that the wire reinforcement 11 is made with one additional loop at one end, which additional loop is narrower horizontally than the rest of the loops or curves to which the wire is formed. This narrow end loop is indicated at 19 and it is to be understood that this loop can be left as it is or if desired, after application of the unit, it can be disengaged from connection 20 and the loosened end can be displaced to lap over onto the next unit sidewise and be secured in place there by a nail positioned so that its head will hold it in place.

In Figure 4 there is shown a reinforcement 21 which is generally similar to the reinforcement 11 excepting that the various bends of the reinforcing wire are substantially at right angles.

In Figure 5 there is shown a still further modification of the joint reinforcement. In this form of joint reinforcement the base sheets 10 are shown as having cooperating edges cut to form what is termed as a beveled V-joint, indicated generally at 22.

The reinforcement in Figures 5 and 6, instead of being a formed single wire is shown as a pair of straight wires joined by connecting wires and indicated generally by numeral 23.

Attention is directed to the fact that whereas there have been disclosed various modifications of joints which may be used on the edges of the units 10 and various forms of joint reinforcement overlying such joints that such are various modifications of the construction described in detail in connection with Figure 2 and that when used each is handled in the same manner. Also it is to be noted that the preferred construction and use of my invention has been described, together with a showing and description of certain modifications thereof but that the invention is susceptible of further modification and that all such modifications embodying the principles of my invention herein disclosed are to be deemed to fall within the scope hereof.

What I claim is:

1. In combination support members, mounted thereon, edge abutting plaster base units, and a plaster reinforcing member overlying the joint between the adjacent units, the plaster reinforcing member secured in place overlying the joint and comprising a continuous strand reversely formed and providing a member of funicular shape crossing and recrossing the joint.

2. A plaster base unit and a plaster reinforcing member mounted thereon, the said reinforcing member hingedly connected to the plaster base unit in substantially the plane of the plaster receiving face of the unit and comprising a reversely bent sinuous form reinforcing structure of a length substantially the length of the unit and of a width in excess of the distance from the hinge center to the edge of the unit.

3. In combination spaced support means, plaster base units mounted adjacently thereon, and a sinuous form wire reinforcement, the reinforcement mounted adjacent an edge of one unit and extending therebeyond, this extending portion overlying the face of an adjacent unit.

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