Sept. 22, 1931. J. B. HERNANDEZ 1,824,082

METAL LATHING

Filed Aug. 28, 1928 2 Sheets-Sheet 1

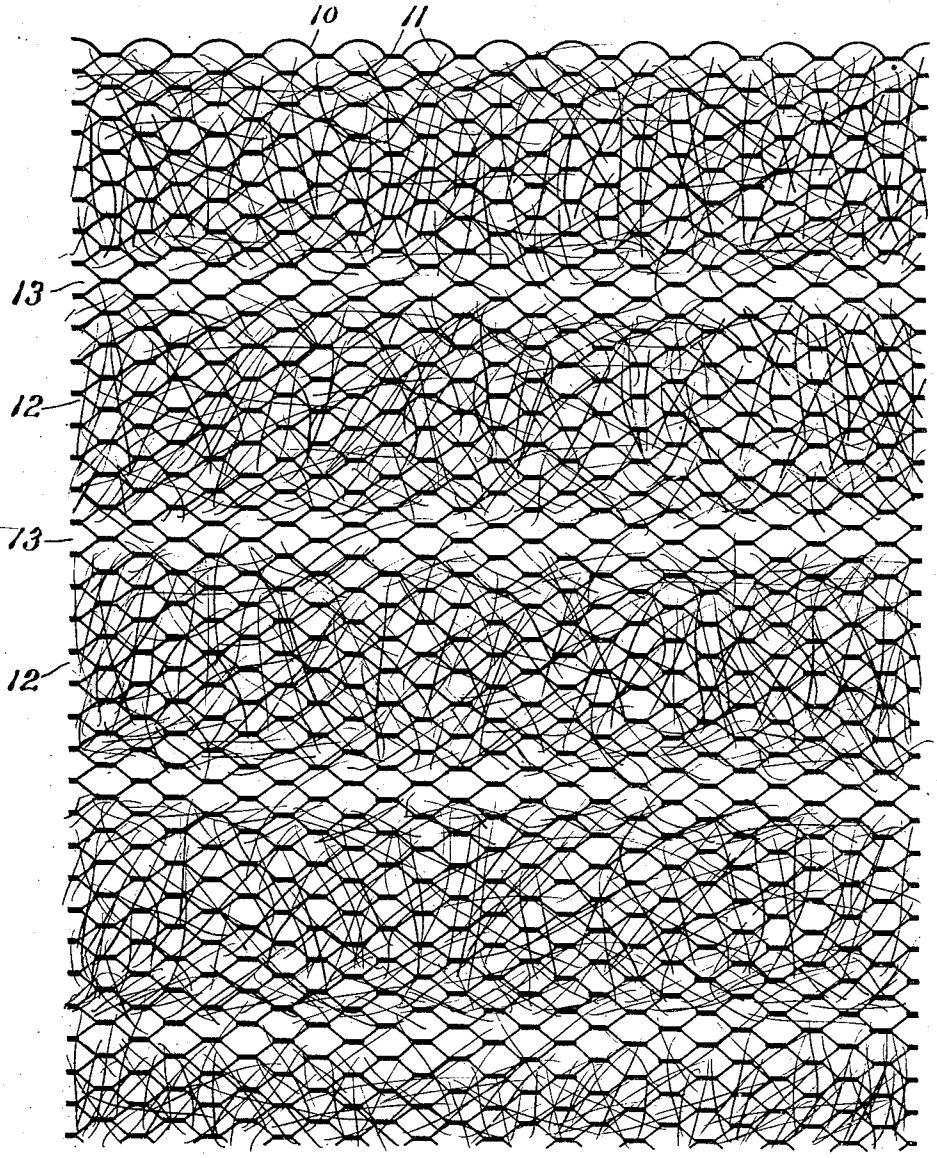


Fig. 1.

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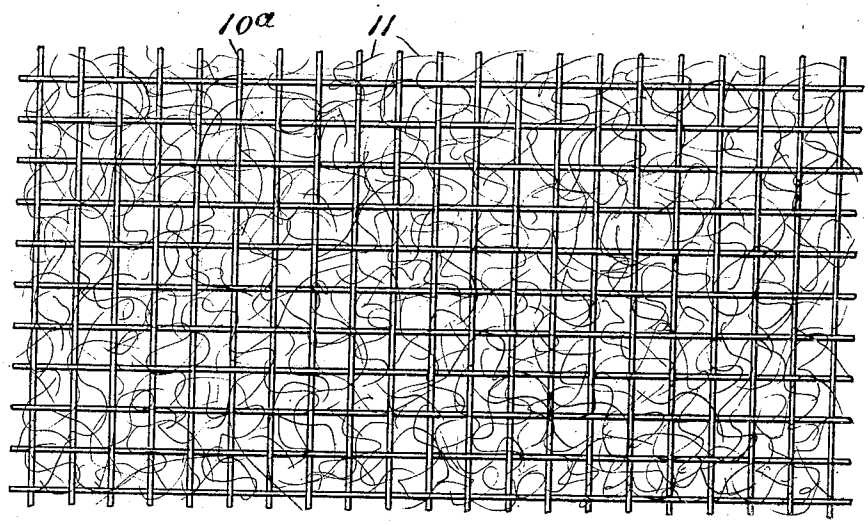


Fig. 2.



Fig. 4.

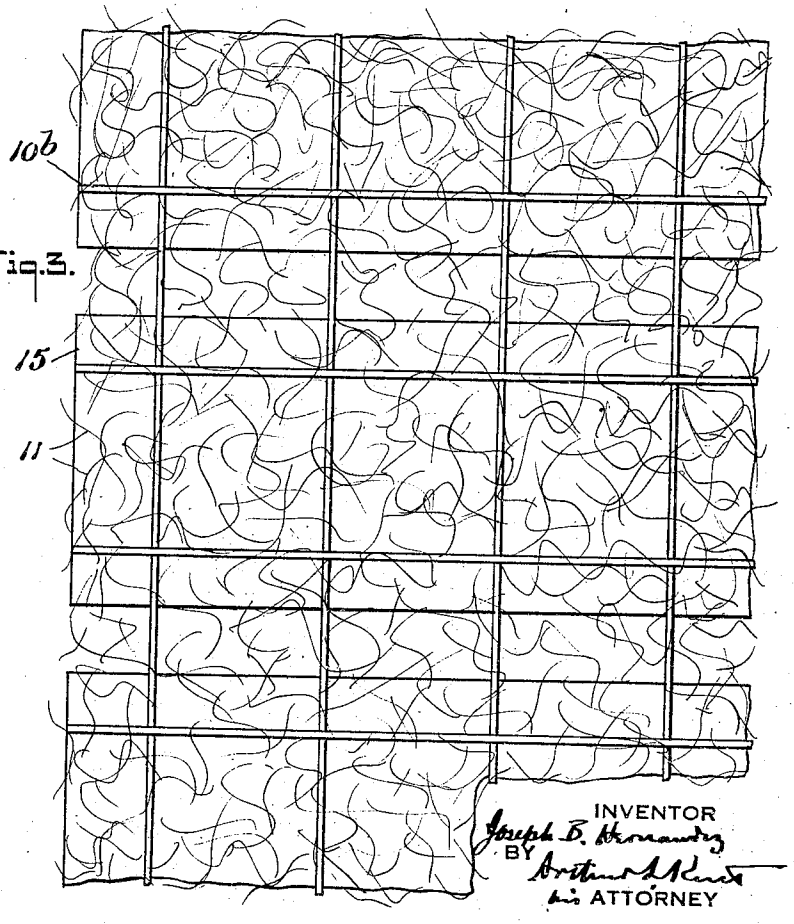


Fig. 3.

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UNITED STATES PATENT OFFICE

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METAL LATHING

Application filed August 28, 1928. Serial No. 302,493.

This invention relates to improvements in metal lathing or bases for plaster. The invention aims to provide an improved lath made of expanded metal or woven or welded wire fabric or other open mesh sheets of metal, the use of which reduces the cost of labor, material and time of applying plaster coatings to walls and ceilings, and at the same time gives results which are in all respects equal to, and in some respects better than, the results obtained with expanded metal and other open mesh metal lathing as heretofore used.

In the use of expanded metal and other open mesh metal lathing, difficulty has been experienced due to the tendency of the mortar of the first coat applied to the lathing to push through the meshes of the lathing so that more mortar passes to the inside of the lathing than is required for a proper keying of the coat of mortar to the lathing, a considerable part of that which passes through frequently breaking off and dropping down. Practical considerations have made it impossible to avoid this difficulty by making the mesh openings small enough to properly limit the passing through of the plaster. This tendency of the mortar to pass through the lath not only results in the use of a needlessly large amount of material, but also makes the work of applying the coating to the lathing more difficult.

The present invention practically overcomes these difficulties without losing the advantage of cheapness and other advantages of expanded metal and other forms of open mesh metal lathing.

A full understanding of the invention can best be given by a detailed description of illustrative embodiments of the invention in the forms now considered best, and such a description will now be given in connection with the accompanying drawings, in which:

Fig. 1 is a face view of a part of a piece of expanded metal lath with loose fibers applied thereto according to the invention;

Fig. 2 is a view similar to Fig. 1, showing a modified form of lathing;

Fig. 3 is a similar view of another modified form; and

Fig. 4 is an edge view of the lathing shown in Fig. 4.

Referring first to Fig. 1 of the drawings, the lath as shown in this figure is formed of small mesh expanded metal 10 such as is commonly used as a plaster base. Loose fibers 11 are distributed on spaced areas on one side of the metal netting and cemented thereto. The fibers are of sufficient length to extend across one or more of the meshes, and are rather sparsely applied: that is, in such quantity or amount that, while they serve to more or less irregularly reduce the size of the mesh openings so as to hinder the passage of plaster therethrough, they do not so completely block the openings as to entirely prevent any penetration by the plaster. The fibers may be of any suitable character, such as hair or vegetable fiber, and including fibers united by twisting or otherwise to form stronger strands or threads.

Any suitable adhesive material may be used for cementing the fibers to the strands of the metal netting. Most desirably, however, a suitable protective paint with which the metal is coated is used for this purpose. In applying the fibers to the expanded metal or other netting, the paint, which is most desirably a fairly quick drying asphaltum-base paint, is applied to the netting, by dipping or other method, and then, while the paint is still moist, the fibers are distributed promiscuously in the desired amount on the face of the netting. This may be done either manually or by a suitable machine. Then, and before the paint is dried, the applied fibers are pressed against the netting so as to obtain a stronger adhesion of the fibers to the metal.

The fibers are most desirably applied only to spaced areas of the netting, leaving the mesh openings between such spaced areas open and unobstructed, or substantially so. For convenience in production, the spaced areas to which the fibers are applied are most desirably parallel stripes or zones 12 extending lengthwise of the strip of netting when the netting is in strip form, as is usually the case. The width of the fiber-coated stripes of the netting and the uncoated stripes 13 may vary, but I have found it most desirable

with expanded metal of the usual mesh size used for lathing, that is, with a short dimension of about 3/8 to 1/2 inch, to make the coated and uncoated stripes or zones respectively about 1½ to 2½ inches and ½ inch wide, although these widths may vary considerably. As I have made my lathing, the coated and uncoated zones or areas do not have sharply defined edges. There is no abrupt transition from the coated to the uncoated areas, but rather the coating of fibers thins out gradually and more or less irregularly toward the uncoated areas.

The lathing is applied to the wall or ceiling in the usual or any suitable manner. When the foundation coat of plaster or mortar is applied to the lathing, the loose fibers extending over the mesh openings of the metal netting serve to hinder the penetration of the mortar through the openings and thus reduce the total amount of mortar used and make it easier for the mason to apply an even coating of mortar without exercising the great care and accurate pressure which is required in applying the foundation coat to a plain open mesh metal lath. The fibers on the face of the lath also serve as additional structure to which the mortar adheres, and thus afford additional support for the mortar coat. Because of this, the first applied, or foundation coat of plaster or mortar may be made somewhat thicker than is possible when the plaster is applied to plain open mesh lath, the thickness of the coat being the distance from the outer surface of the metal lathing to the outer surface of the plaster. On the other hand, because of the lesser penetration of the plaster through the lath, the amount of material used to obtain a coating of plaster or mortar of a given thickness is substantially less.

The reduction in the total amount of mortar used also results in a saving of labor in mixing and handling the mortar, and the wall dries more quickly.

The spaces or areas of the lathing to which fibers are not applied serve to permit the plaster or mortar applied to these spaces to penetrate and form keys for securely bonding the plaster coat to the lathing. These spaces are so relatively small and narrow, however, that they do not cause much difficulty in applying the plaster to the lathing or result in loss of any considerable amount of material through such unnecessary penetration of the wet mortar as occurs in the use of plain open mesh lathing. My lathing with the loose fibers applied to spaced areas of the metal lath thus effects great economy in labor and material.

The lathing shown in Fig. 2 differs from that shown in Fig. 1 in that the fibers 11 are distributed over all the surface of a square mesh woven wire fabric 10*a*. A lath having the fibers so distributed over its whole area will not carry safely as heavy a coating of plaster as the lathing having the fibers on spaced areas as in Fig. 1, but is a desirable form of the lathing to be used in some cases. It will safely support a relatively light coat of plaster, and the first coat is somewhat more easily and quickly applied. Both the expanded metal and the square mesh netting, as well as other suitable netting, might, of course, be used with the fibers applied in either way.

In the lathing illustrated in Figs. 3 and 4, a relatively large mesh wire netting or fabric 10*b* is employed, and has, in addition to the loose fibers applied to one side thereof, sheet material 15, preferably paper, applied to the other side thereof. The paper is, most desirably, and is shown, in the form of strips spaced apart to leave uncovered or open stripes or zones between the paper strips, through which the plaster may protrude to more securely key the coating to the lath. The paper is, most desirably, attached to the lath by being cemented thereto by the protective paint with which the metal is coated or by other suitable adhesive applied to the metal or to the paper. The loose fibers are distributed as before over the other side of the netting, and cemented both to the metal strands of the netting and to the paper, thus serving an additional purpose in this embodiment of the invention: that is, the purpose of aiding in holding the paper to the netting.

The loose fibers may be applied to spaced areas of the lath, such spaced areas, when the paper or other sheet material applied to the other side of the lath is in spaced strips, corresponding to such paper strips; but with relatively large mesh metal netting it is better even when the paper is applied in spaced strips to have the loose fibers distributed over the entire area of the lath. The fibers will then act to discourage the passage of the wet plaster through the lath between the paper strips, while permitting, if the coating of fibers is not too dense, sufficient plaster to protrude through the lath to effect the desired secure keying of the plaster coating to the lathing. With the relatively large mesh netting, the fibers will, of course, not hinder the passage of the plaster through the meshes where there is no paper to the same degree that they would in the case of the relatively smaller mesh lath such as I use without the paper. In making the lathing as illustrated in these Figs. 3 and 4, it is desirable to apply a coating of adhesive to the paper or other sheet material as well as to the metal, so that such fibers as come in contact with the surface of the paper will be securely cemented thereto. The paper may be applied before the fibers, or vice versa.

Heretofore, when plain expanded metal lathing or other open mesh metal lathing has been used attached to furring strips on a solid

wall, it has been found that considerable plaster which is pushed through the meshes of the lath falls down and fills the space between the wall and the lathing for a distance upward from the floor line, thus filling up the air space between the wall and the lathing, with the result that moisture can pass from the wall to the surface of the finished plaster, thus destroying the purpose of the furring and causing discoloration of the plaster. The use of lathing according to the present invention avoids this trouble.

In ceiling work especially, the weight of the lath required is governed by the amount of weight it has to support. As a plaster coating of the desired thickness is obtained with my lath with less plaster pushed through to the inner side of the lathing, the total weight of plaster on the lath is reduced, and the lathing may, therefore, either be of lighter weight or the spaces between the supports to which the lathing is attached may be increased, thus in either case effecting a saving in cost.

It is to be understood that the term "plaster" in the claims is used in its broad sense to include mortar, stucco, and other plastic materials used in the making of wall and ceiling coatings.

What I claim is:

1. A plaster base, comprising an open mesh metal lath having loose fibers distributed thereon and cemented to the strands thereof and extending over the meshes.

2. A plaster base, comprising expanded metal lath having loose fibers distributed thereon and cemented to the strands thereof and extending over the meshes.

3. A plaster base, comprising an open mesh metal lath having loose hairs distributed thereon and cemented to the strands thereof and extending over the meshes.

4. A plaster base, comprising an open mesh metal lath having loose fibers distributed on spaced areas thereof and cemented to the strands thereof and extending over the meshes, the areas between said fiber-bearing spaced areas being free from fibers.

5. A plaster base, comprising an open mesh metal lath coated with a protective paint and having loose fibers distributed thereon and cemented to the strands thereof by said paint.

6. A plaster base, consisting of a strip of expanded metal having loose fibers distributed on spaced longitudinally extending zones thereof, the fibers being cemented to the metal strands and extending over the meshes, the areas between said zones being substantially free of fibers.

7. A plaster base, comprising an open mesh metal lath having sheet material attached to one side thereof, and loose fibers distributed over the other side thereof, the fibers being cemented to the metal strands and to the sheet material.

8. A plaster base, comprising an open mesh metal lath having sheet material on one side thereof cemented to the metal strands, and loose fibers distributed over the other side thereof, the fibers being cemented to the metal strands and to the sheet material.

9. A plaster base, comprising an open mesh metal lath having spaced strips of sheet material on one side thereof cemented to the metal strands, and loose fibers distributed over the same spaced areas on the other side of the lathing, the fibers being cemented to the metal strands and to the sheet material.

10. A plaster base, comprising an open mesh metal lath having spaced strips of paper attached to one side thereof, and loose fibers distributed over the other side thereof and cemented to the strands thereof.

11. A plaster base, comprising an open mesh metal lath provided with means for hindering the passage of plaster through the meshes of spaced areas thereof, the meshes in spaces between said areas being open to permit keying entrance of the plaster through the lath.

12. A plaster base, comprising an open mesh metal lath having loose fibers distributed unevenly thereon and cemented thereto in amount sufficient to hinder the passage of plaster through spaced areas of the lath and to permit keying penetration of the plaster through the lath between said areas.

In testimony whereof I have hereunto set my hand.

JOSEPH B. HERNANDEZ.