March 25, 1941. C. A. KARELIUS 2,236,141

LATHING

Filed Feb. 14, 1939 2 Sheets-Sheet 1

Fig. 3.

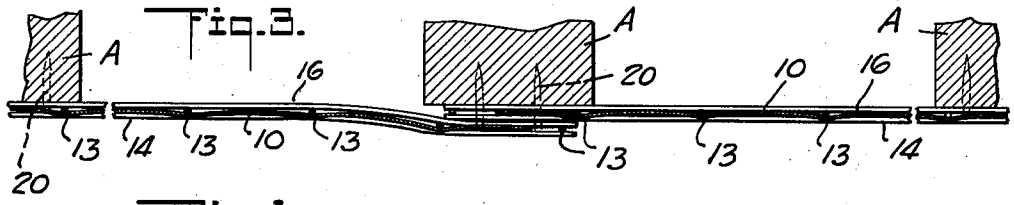


Fig. 1.

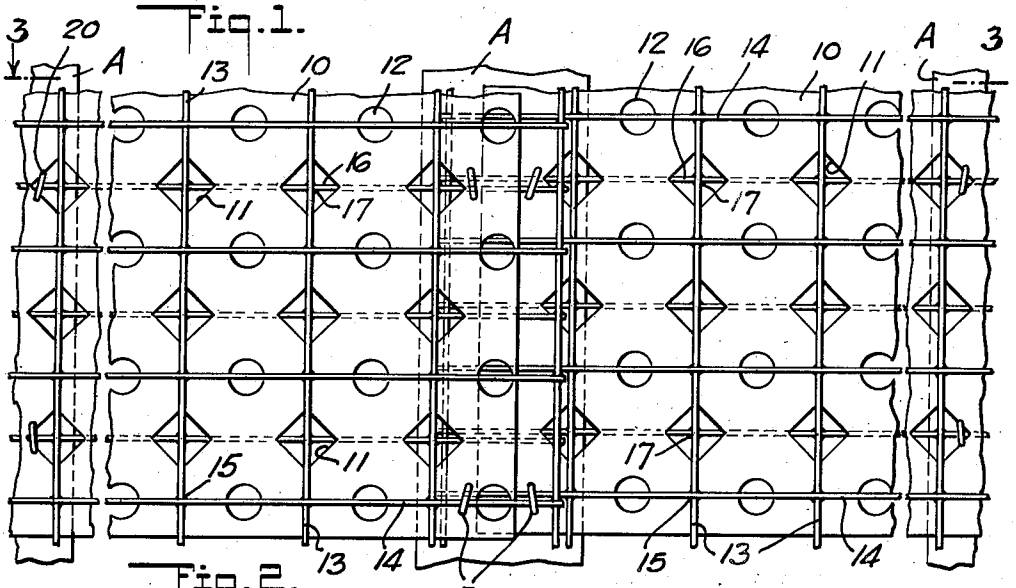
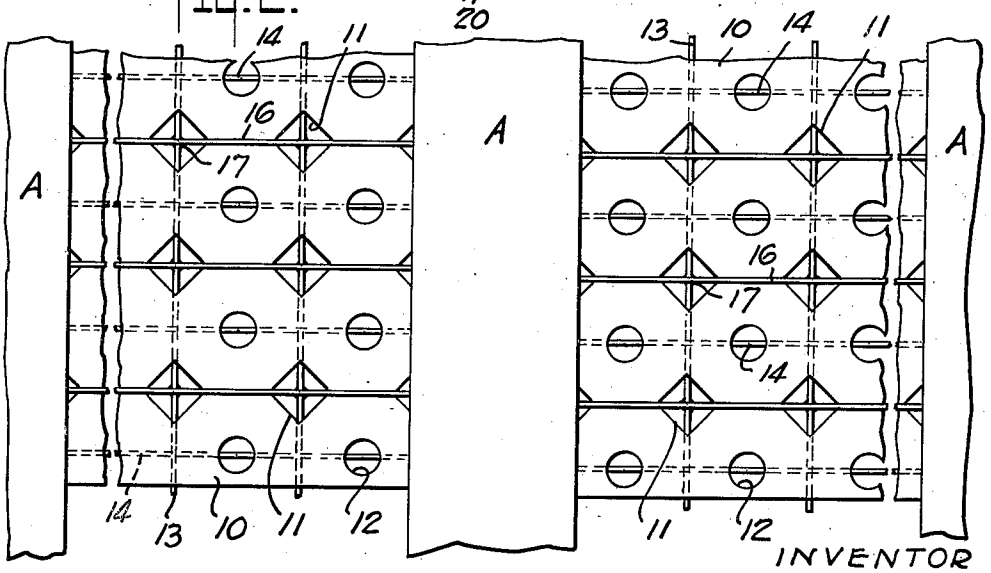


Fig. 2.



INVENTOR
CARL A. KARELIUS

BY
Munn Anderson & Liddy
ATTORNEYS

March 25, 1941. C. A. KARELIUS 2,236,141

LATHING

Filed Feb. 14, 1939 2 Sheets-Sheet 2

Fig. 4.

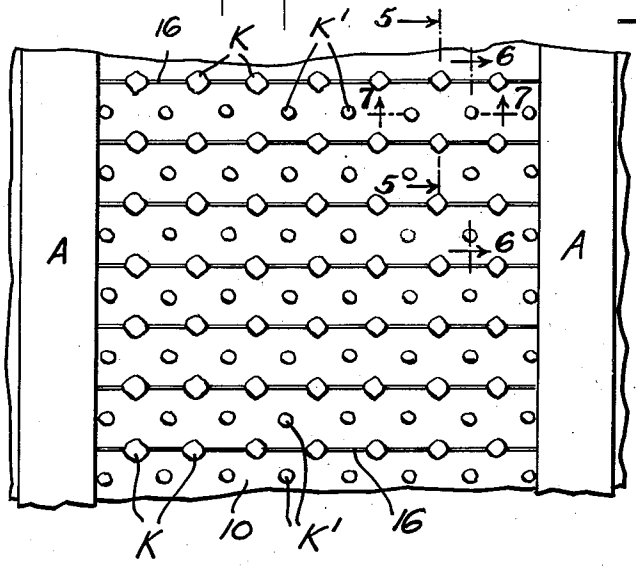


Fig. 5.

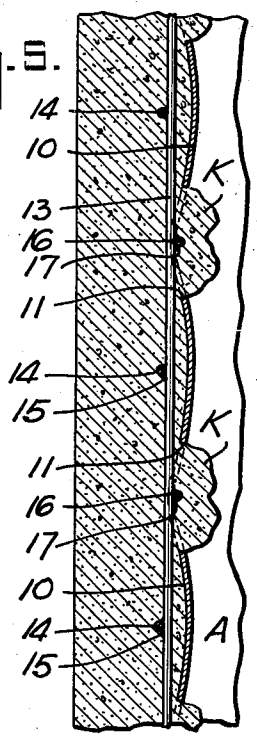


Fig. 7.

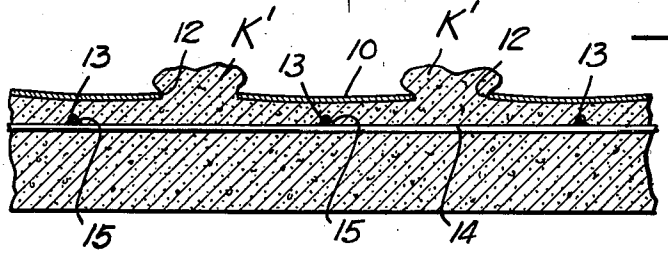


Fig. 6.

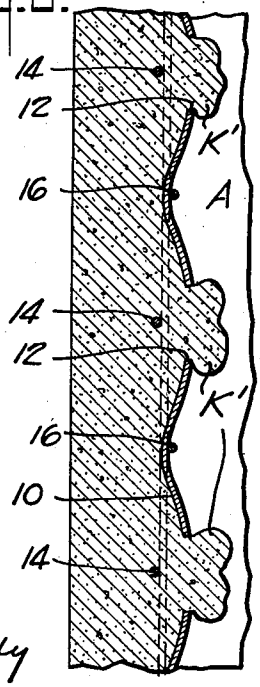
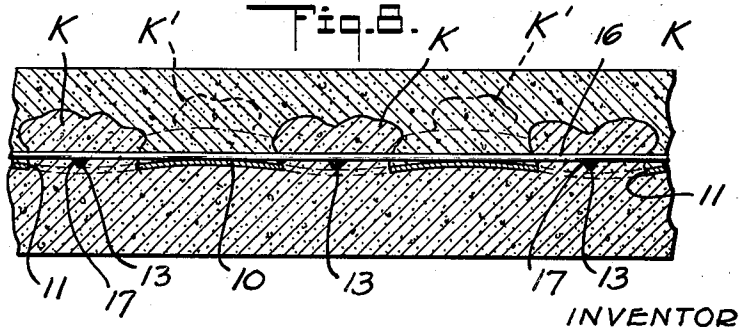


Fig. 8.



INVENTOR
CARL A. KARELIUS
BY
Munn, Anderson & Liddy
ATTORNEYS

Patented Mar. 25, 1941 2,236,141

UNITED STATES PATENT OFFICE

2,236,141

LATHING

Carl A. Karelius, Pasadena, Calif.

Application February 14, 1939, Serial No. 256,259

5 Claims. (Cl. 72—116)

This invention relates to lathing of the general character embodied in my application for patent filed January 25, 1938, Serial No. 186,831, wherein is described and claimed a lathing structurally characterized in a manner to enable the second coat of plaster to be applied immediately after the first coat without displacing same; to obviate breaking of the temporary suction bond between the plastic mass and the backing sheet of the lathing, and loosening of the mass from the wires by pressure of the trowel during working of a wet plaster coat; to enable a uniform thickness of plaster to be obtained; to permit the lathing to be trimmed to any size required while maintaining support for the backing sheet to its edges; and to enable lapped edges of adjacent lathing sections to be connected by plaster anchorages in order to obtain the practical effect of a continuous lath foundation throughout a wall or ceiling area.

An object of the present invention is to provide lathing by which all of the aforestated advantages are obtained with a simplified structure and arrangement of elements reducing the cost of manufacture and eliminating specially constructed stiffener members with the attendant added expense, all while attaining maximum strength in the lathing to positively prevent damaging deformation thereof under the weight and stresses of the plaster so as to insure that the latter will be rigidly supported and be maintained free from cracks and separation from the lathing.

Another object of this invention is to provide a specific pattern of reinforcing wires on the front side of the backing sheet by which a maximum length of wires can be embedded in mortar so as to obtain greater rigidity between joists or studs and thus effectively support the weight of two coats of mortar applied in practically one operation, all while dispensing with relatively expensive reinforcing ribs on the back of the backing sheet.

A further object of this invention is to provide a lathing in which mortar keys are obtained in such number on the back of the backing sheet as to co-act with reinforcing wires in supporting mortar thereon to produce a solid wall such as a partition with two outside faces and having great rigidity and strength due to the pattern of reinforcing wires and their relationship to mortar keying openings in the backing sheet at intersections of wires and at locations intermediate such intersections.

A still further object of this invention is to provide a lathing in which the pattern of reinforcing wires provides maximum reinforcement longitudinally and transversely, and the arrangement of mortar keying openings in the backing sheet sufficiently weakens the latter structurally between openings for the softening effect of moisture in the mortar upon the backing sheet to permit the latter to be forced away from the wires at the front of the backing sheet by mortar applied thereto, so that such wires will become embedded in the mortar throughout their entire lengths and thus produce unbroken metal reinforced members from one joist or stud to the next, whereby to obtain a wall of great strength and rigidity at a minimum cost.

With these and other objects in view, the invention resides in the combinations and arrangements of elements as set forth in the following specification and particularly pointed out in the appended claims.

In the accompanying drawings,

Figure 1 is a view in front elevation of the lathing embodying this invention, as applied to joists or studs;

Figure 2 is a view of the lathing in rear elevation as applied to joists or studs;

Figure 3 is a sectional view taken on the line 3—3 of Figure 1;

Figure 4 is a view in rear elevation showing the lathing with plaster applied thereto;

Figures 5, 6 and 7 are enlarged fragmentary sectional views taken, respectively, on the lines 5—5, 6—6 and 7—7 of Figure 4;

Figure 8 is an enlarged fragmentary sectional view illustrating the use of the lathing as a foundation for a solid wall having two outside faces.

Referring specifically to the drawings, this invention, in its illustrated embodiment, comprises a backing sheet 10 composed of a suitable building paper, cardboard or other inexpensive material, having openings 11 therethrough arranged in longitudinal and transverse rows equidistantly spaced in both directions. These openings are preferably square in outline and their sides are obliquely disposed with respect to the lengths of the rows.

Other openings 12, which are preferably round, are disposed in the backing sheet intermediate the openings 11, and are equidistantly positioned between the longitudinal and transverse rows of the openings 11 as clearly shown in Figure 1.

At the front side of the backing sheet 10 are wires 13 and 14, the wires 13 spanning the main openings 11 medially thereof, and the wires 14 spanning the subsidiary openings 12 medially

thereof, with the wires 13 and 14 welded or otherwise rigidly secured together at their points of intersection between adjacent rows of the openings 11 and 12, as indicated at 15.

At the rear side of the backing sheet 10 are wires 16 intermediate and parallel to the front wires 14 so as to intersect the front wires 13 medially at the main openings 11, at which intersections the wires 13 and 16 are welded or otherwise secured together, as indicated at 17. From a consideration of Figures 1 and 7, it will be noted that the front wires 14 are outermost with respect to the other front wires 13, so as to clear the backing sheet 10 for a purpose to be described in the operation of the invention, which is as follows:

Sheets of the lathing are secured by nails or staples 20 through the backing sheet and over the rear wires 16 to joists or studs A with respect to which the front wires 14 and the rear wires 16 are in spanning relationship. The edges of adjacent sheets of the lathing are lapped an amount approximating the spacing between adjacent wires 13 for the purpose of utilizing plaster to key the sheets together through the registering openings 11 of the lapped sheets.

With the sheets of lathing thus applied to the joists or studs A, a coat of plaster is applied to the lathing during which operation plaster will be forced through the openings 11 and 12 around the intersecting portions of the wires 13 and 16, and around the wires 14 to form protuberances or keys K and K' in the respective openings.

Due to the structural weakening of the backing sheet 10 by the openings 12, the moistening effect of wet plaster on the area of the sheet around the openings 12, sufficiently weakens the sheets for the latter to be readily forced laterally away from the front wires 14 which (it will be remembered) span the joists A so that such wires will be embedded in plaster throughout their entire lengths and thus be reinforced thereby to an extent sufficient to produce a metallic reinforced concrete member spanning the joists A at each of the wires 14 as clearly shown in Figures 1 and 7. A second coat of plaster can be applied immediately following the first coat, and will be ineffective to dislodge or disturb the first coat, as the wires on opposite sides of the backing sheet co-act to compel movement of the lathing under pressure of a trowel, to occur generally as a unitary movement of the entire lathing structure rather than an excessive flexing of the backing sheet relative to the wires with an attendant breaking of the suction bond between the softened backing sheet and the first wet coat of plaster.

It will be appreciated that the keys K and K' not only lock the plaster to the various wires, but also prevent shifting of the wet plaster in the plane of the lathing, as the plaster is worked with the trowel, so as to further insure that the first coat of plaster will not become dislodged from the lathing. As the keys K are also formed at the lapped joints of adjacent lathings, the latter are locked together so as to become a continuous sheet for all practical purposes.

Should any welded connections 15 or 16 become broken, the plaster slab will be adequately supported by the keys K and K', and will be reinforced uniformly both longitudinally and transversely over its entire area, by the square pattern of the front wires 13 and 14.

Because of minimum flexing of the backing sheet, a more uniform plaster thickness can be readily obtained over the area of a slab so as not to waste plaster and yet obtain maximum plaster strength. As there are no lateral offsets in any wires, the stretching of the wires from such source is entirely overcome, and cracking of plaster from longitudinal or transverse deformation of the lathing avoided.

A sheet of the lathing can be trimmed at any location longitudinally or transversely and yet will be supported to its edges by the wires 13, 14 and 16. The trimming of the sheet can be effected adjacent one of the wires 13 on one edge of the backing sheet, or adjacent either one or the other of the wires 14 or 16 on the other edge of the sheet so as to provide a selvage edge, preventing lateral displacement of the sheet.

The lathing is also particularly adapted for use as the foundation of a solid wall such as would produce a non-bearing partition in a building, as shown in Figure 8.

For this purpose, two coats of plaster are subsequently applied one immediately after the other to the reverse or back side of the backing sheet 10, it being found in practice that by the provision of the multiplicity of relatively closely spaced plaster keys K and K' and the presence of the exposed portions of the rear wires 16 between adjacent keys K, that a permanent rigid lock of the plaster thereto will be effected, and with portions of the wires 16 becoming embedded in the plaster, whereby to produce an extremely strong wire mesh reinforced solid wall having two outside faces.

What is claimed is:

1. Lathing comprising a backing sheet; longitudinal and transverse front wires on one side of said sheet, secured together at their points of intersection to form a rectangular mesh; means defining plaster key forming openings in the sheet intermediate said points of intersection of the front wires; and rear wires on the opposite side of the backing sheet, parallel to one set of the aforestated front wires and spanning said openings so as to be in intersecting relation to the other set of the aforestated front wires to which latter the rear wires are secured at their points of intersection, the backing sheet having other plaster key forming openings intermediate said other set of front wires, and spanned by the rear wires, so as to provide on the rear side of the backing sheet, for a sufficient number of plaster keys at all of said openings, to co-act with the rear wires in locking a coat of plaster on the rear of the backing sheet in the forming of a wire mesh reinforced solid wall having two outside faces.

2. Lathing comprising a backing sheet; longitudinal and transverse front wires on one side of said sheet, secured together at their points of intersection to form a rectangular mesh; means defining plaster key forming openings in the sheet intermediate said points of intersection of the front wires; and rear wires on the opposite side of the backing sheet, parallel to one set of the aforestated front wires and spanning said openings so as to be in intersecting relation to the other set of the aforestated front wires to which latter the rear wires are secured at their points of intersection, the backing sheet having other plaster key forming openings intermediate said other set of front wires, and spanned by the rear wires, the said openings co-acting to sufficiently weaken the area of the backing sheet therebetween, so that the moistening of the sheet

by wet plaster will enable the sheet to be laterally deflected away from the front wires of said one set during the application of a coat of plaster, for the embedding of said front wires throughout their lengths, in plaster, whereby the plaster when set will co-act with said front wires in forming continuous wire reinforced members in the body of the plaster, adapted to span adjacent joists or studs in the installed position of the lathing.

3. Lathing comprising a backing sheet; longitudinal and transverse front wires on one side of said sheet, secured together at their points of intersection; means defining key forming openings in the sheet intermediate said points of intersection of the front wires; rear wires on the other side of the backing sheet, parallel to one set of the aforestated front wires and spanning said openings, with the rear wires and said one set of front wires secured together at their points of intersection in the openings; the backing sheet having other key forming openings intermediate the first said openings and spanned by said one set of front wires, which latter are outermost with respect to the other set of front wires, so as to be spaced from the backing sheet and facilitate embedding of said one set of front wires in plaster throughout their lengths in order to produce rigid wire reinforced members in the body of plaster, adapted to span adjacent joists or studs in the installed position of the lathing.

4. Lathing comprising a backing sheet; longitudinal and transverse front wires on one side of said sheet, secured together at their points of intersection; means defining key forming openings in the sheet intermediate said points of intersection of the front wires; rear wires on the other side of the backing sheet, parallel to one set of the aforestated front wires and spanning said openings, with the rear wires and said one set of front wires secured together at their points of intersection in the openings; the backing sheet having other key forming openings intermediate the first said openings and spanned by said one set of front wires; the aforestated openings being of such size and spacing as to enable the area of the backing sheet to be sufficiently weakened by moisture from wet plaster to be forced away from said one set of front wires during the application of the plaster coat, and thus enable such wires to become embedded in plaster throughout their entire lengths to produce the effect of rigid wire reinforcement members in the body of plaster adapted to span adjacent joists or studs in the installed position of the lathing.

5. Lathing comprising a backing sheet; longitudinal and transverse front wires on one side of said sheet, secured together at their points of intersection to form a rectangular mesh; means defining plaster key forming openings in the sheet intermediate said points of intersection of the front wires; rear wires on the opposite side of the backing sheet, parallel to one set of the aforestated front wires and spanning said openings so as to be in intersecting relation to the other set of the aforestated front wires to which latter the rear wires are secured at their points of intersection; and means co-acting with the backing sheet to enable a body of plaster to be locked to the lathing on said other side of the backing sheet by said rear wires and by a multiplicity of plaster keys formed on said other side of the backing sheet around the other set of said front wires at locations other than said openings during the application of a coat of plaster to said one side of the backing sheet, whereby to produce a wire mesh reinforced solid wall having two outside faces.

CARL A. KARELIUS.