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J. W. PEARCE

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RIBBED LATH

Filed July 30, 1930

FIG. 1.

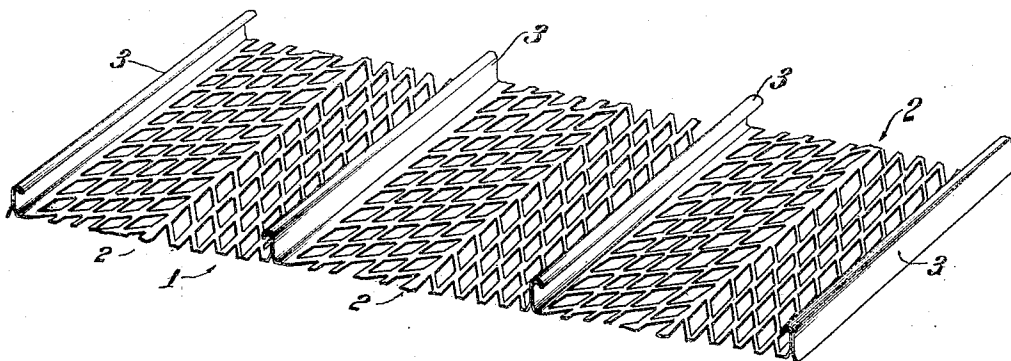
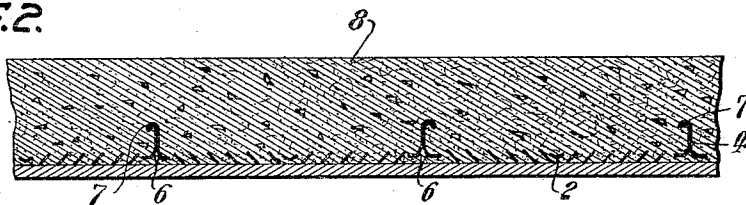
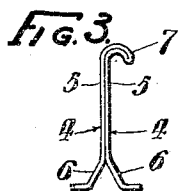
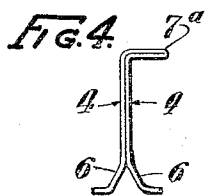
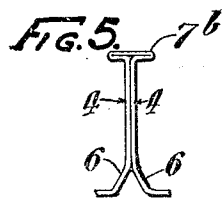
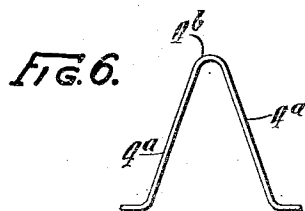
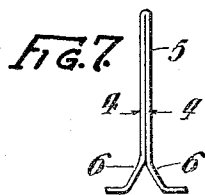
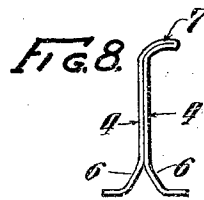


FIG. 2.



Inventor:  
James W. Pearce,  
By: Arthur W. Nelson  
Atty.

## UNITED STATES PATENT OFFICE

JAMES W. PEARCE, OF PHILADELPHIA, PENNSYLVANIA

## RIBBED LATH

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This invention relates to improvements in ribbed lath and method of making the same and it consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The lath with which the invention is particularly concerned includes longitudinal areas of open work or mesh fabric bounded along each side by an upstanding rib. Such lath is extensively used as a reinforcement in concrete work and heretofore the ribs were substantially open V-shaped ones with the side walls thereof spaced apart so that when used in concrete for floor slabs, the reinforcing effect of such ribs is indeed small.

The primary object of the invention is to provide a lath of this kind wherein the ribs thereof are formed for greater strength as well as greater adherence and reinforcing properties when used in concrete.

Another object of the invention is to provide a lath of this kind wherein the side walls of the ribs are formed to provide a laterally disposed flange, either hooked or straight which overhangs but is spaced above the body of the lath and imparts a rigidity and a concrete retaining action to said ribs which is not present in the conventional ribbed lath as now made.

Another object of the invention is to provide a method whereby conventional rib lath may be operated upon in a manner transforming the usual open V-shaped ribs into substantially closed ones having a lateral overhanging flange whereby each rib is made stronger and more rigid to resist collapse and has a better bonding and reinforcing action in any concrete in which the lath may be used.

These objects of the invention as well as others, together with the many advantages thereof, will more fully appear as I proceed with my specification.

In the drawing:—

Fig. 1 is a fragmentary perspective view of a short length of ribbed lath embodying my invention.

Fig. 2 is a transverse vertical detail sectional view through a piece of concrete slab in

which my improved lath is imbedded as the reinforcing element thereof.

Fig. 3 is a transverse vertical detail sectional view on an enlarged scale through a lath rib embodying one form of my invention.

Figs. 4 and 5 are views similar to Fig. 3 showing modified forms of the invention.

Fig. 6 is a transverse vertical sectional view through a conventional form of V-shaped lath rib and from which a lath rib embodying my invention may be readily produced.

Fig. 7 is a view showing the first step of operating upon a conventional V-type rib to provide a rib embodying one form of my invention.

Fig. 8 is a view showing the next step of transforming the partially formed rib of Fig. 7 into a rib embodying one form of my invention as for instance that form of rib shown in Fig. 3.

Referring now in detail to that embodiment of the invention illustrated in the drawing and especially to Figs. 1, 2 and 3 thereof, 1 indicates as a whole a portion of a sheet of ribbed lath which includes longitudinally extending relatively wide bands 2—2 of open mesh and preferably expanded metal fabric and intermediate and marginal ribs 3—3.

Each rib in this instance comprises a pair of substantially upstanding side walls 4—4 which engage each other at their top ends 5 to there provide a double thickness and diverge from each other at their bottom ends as at 6, the said double thickness top end of the rib being turned over laterally and downwardly on a curve to form a hook flange 7 giving the rib a cross sectional shape which approximates an inverted letter J.

When such a lath is imbedded in a slab of concrete 8 as shown in Fig. 2, the hook-like ribs have a greater retentive property because of the lodging of the concrete under the same. Such ribs are indeed stiff and rigid and will not collapse under the action of the wet concrete as the same is poured to form the slab nor will such ribs be deformed laterally or in the plane of their height.

In Fig. 4, I have shown a rib wherein the

side walls are formed as before and the double thickness top end thereof is bent over laterally to one side, and left straight without turning down, to form a flange 7<sup>a</sup>. Such a flange lends a cross sectional shape to the ribs that approximates an inverted letter L. Instead of the flange being formed to project laterally from but one side of the rib, it may be formed to project laterally from both sides as shown at 7<sup>b</sup> in Fig. 5. Such a flange arrangement lends a cross sectional shape to the rib that approximates a letter T.

In each of the ribs shown in Figs. 3, 4 and 5, the bottom margins of the rib walls are spread slightly apart and this spread helps to brace said walls in upright position against bending over, in the pouring of the concrete, which bending over would be more possible if the two walls engaged each other throughout their entire height.

The ribs may be formed at the time of fabricating the sheet or they may be formed from previously made conventional type of V-shaped ribbed lath now obtainable in open market. In Fig. 6, I have illustrated a conventional type of V-shaped rib comprising a pair of converging side walls 4<sup>a</sup>—4<sup>b</sup> joined together at the top by a rounded web 4<sup>c</sup>. Such side walls are brought together for the greater portion of their height downwardly from said web to give a slight spread only at their bottom margins where one or both join the sheet so that such walls now provide an upright substantially double thickness rib as best shown in Fig. 7, after which the top marginal portion of the rib is bent over laterally and downwardly to provide the hook flange 7 to give the inverted J-shape cross section to the rib as before mentioned. In this manner I am enabled to take the conventional V-shaped ribbed lath and by running it through a flange forming machine, not only increase its rigidity, but also its qualities as a reinforcing element for use in concrete wherein a better bonding action is afforded between such an element and said concrete. In thus forming the ribs from conventional V-shaped ribbed lath, only a slight difference occurs in the width of such lath and with substantially no difference in height of the rib but the advantage gained in its reinforcing qualities more than offsets such slight loss in area as may occur in the transformation of such lath.

When lath embodying my invention is used as a foundation for plaster, it reduces the formation of cracks therein in line with the ribs, which cracks are quite common when the V-type deep rib lath is used for this purpose.

While in describing the invention I have referred in detail to the form arrangement and method of making up the various portions of the lath, the same is to be considered merely as illustrative so that I do not wish to be limited thereto except as may be specifically set forth in the appended claims.

I claim as my invention:—

1. An integral metallic sheet for reinforcing concrete, plaster and the like having a plurality of open work flat portions therein with a rib along each side of each flat portion, which rib includes a pair of substantially upright, closely adjacent integral side walls at least one of which is integral with the sheet, a portion of the side walls of each rib being bent laterally to provide a double thickness integral flange overhanging the associated open work flat portions of the sheet but spaced above the same each rib having a V-shaped opening between the lower portion of the walls.

2. An integral metallic sheet for reinforcing concrete plaster and the like having a plurality of flat portions therein with a rib along a side of each flat portion, which rib includes a pair of substantially upright side walls meeting each other at the top of a V-shaped opening, the opening extending only a short distance from the flat portion between the upright side walls, at least one of which walls is connected to the sheet, a portion of both the side walls of each rib being bent laterally and then curved downwardly to provide a double thickness hook flange overhanging and spaced above an associated flat portion of the sheet.

In testimony whereof, I have hereunto set my hand, this 23rd day of July, 1930.

JAMES W. PEARCE.