(Model.) 2 Sheets—Sheet 1.

G. HAYES.

METALLIC LATHING.

No. 519,952. Patented May 15, 1894.

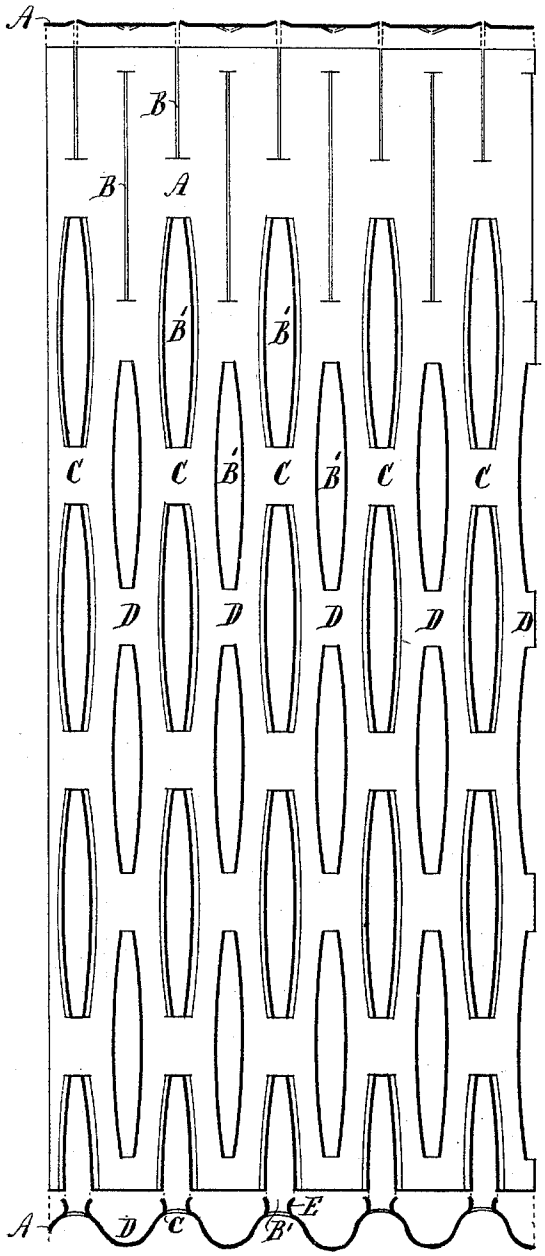

Fig. 1.

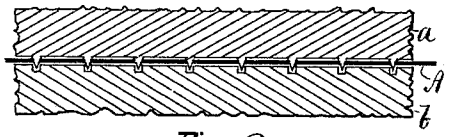

Fig. 2.

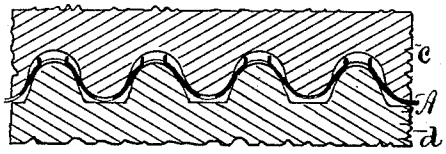

Fig. 3.

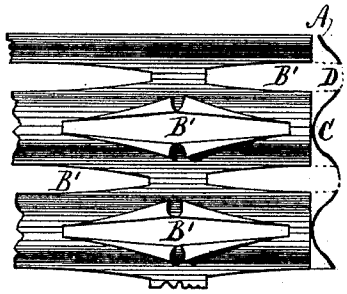

Fig. 4.

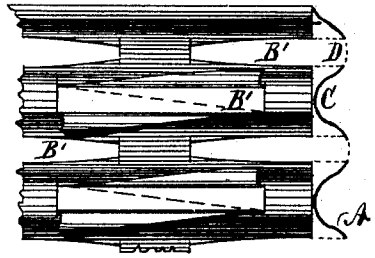

Fig. 5.

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(Model.) 2 Sheets—Sheet 2.

G. HAYES.

METALLIC LATHING.

No. 519,952. Patented May 15, 1894.

Fig. 6.

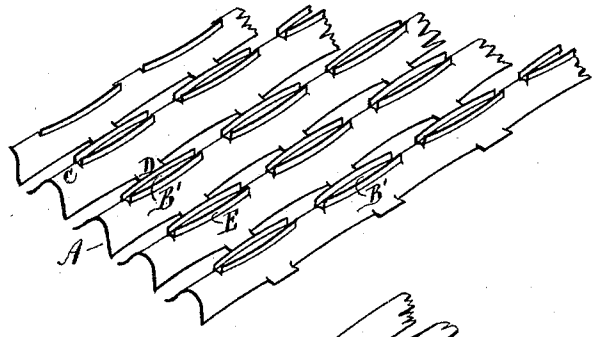
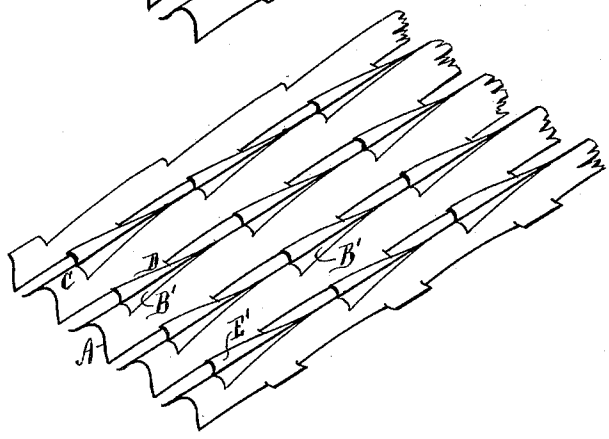


Fig. 7.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

GEORGE HAYES, OF NEW YORK, N. Y.

METALLIC LATHING.

SPECIFICATION forming part of Letters Patent No. 519,952, dated May 15, 1894.

Application filed October 23, 1893. Serial No. 488,892. (Model.)

To all whom it may concern:

Be it known that I, GEORGE HAYES, a citizen of the United States, and a resident of the city, county, and State of New York, have invented a new and useful Metallic Lathing, of which the following is a specification.

My invention relates to those lathings, made from sheets of metal, in which the sheet metal is corrugated to give strength and rigidity to the lathing when in position, and punctured to form bonds for the plastic material intended to be supported by and incorporated with the lathing.

The object of the invention is to so improve the construction of the finished lathing sheets that a greater area of space to be plastered can be covered than heretofore by a like quantity of flat metal sheathing, when converted into lathing; thus reducing the cost of metallic lathing and extending its use and availability in the building arts. In effecting this object, I take advantage of the necessity for apertures of substantial width in the lathing sheet, to serve as bonds for the plaster, by adding the aggregated width of those apertures to the original width of the sheet and thus compensating for the loss in width by corrugation. In brief, my finished lathing sheet is one that has been expanded laterally from the blank sheet of flat metal, and my bonding apertures are formed not by cutting wide pieces out of the sheet, but by slitting the sheet longitudinally, here and there, over its surface, and then stretching the slits apart to make the desired apertures. In doing this, I ascertain by calculation how much of the width of my sheet blank will be lost by the intended corrugation of the sheet—a matter that depends upon the number and height, or depth, of longitudinal corrugations in a sheet blank of given width—and then I determine how many longitudinal slits to form in the sheet, and what their length shall each be, to permit of an expansion sufficient to overcome the loss by corrugation.

In the accompanying drawings, Figure 1 is a face plan of a sheet of my lathing, illustrating stages in the manufacture; having, at the top of the figure, a disconnected section view, additionally illustrating the first stage of puncturing as indicated in the upper part of the main view, and, at the bottom, a disconnected section view, additionally illustrating the advanced stage of puncturing, as indicated in the lower part of the main view. Fig. 2 is a section view, showing the puncturing of the metal sheet by a series of cutting dies. Fig. 3 is a section view, showing the formation of ridges in the metal sheet by means of pressure dies. Figs. 4 and 5 are face plans, showing various modes of treating the apertures made in the sheet, to adapt apertures and their edge metal to the keying and bonding of plaster. Fig. 6 is a perspective of the sheet shown in the first figure when formed into a finished lathing, and Fig. 7, a modification showing another way of treating the edge metal of the apertures.

A is the sheet of metal to be formed into a metallic lathing. B represents slits made in said sheet. B′ represents said slits expanded into wide apertures.

C represents the ridges formed in the sheet.

D represents the depressions produced in the sheet by the process of ridging it.

E represents the lips or tongues that I may choose to form from the edge metal of the expanded apertures.

The letter *a* represents the upper, and *b*, the lower, of the series of cutting dies by which the metal sheet is to be perforated, while *c* represents the upper, and *d*, the lower, of the pressure dies for ridging said sheet, it being preferable that the slitting and ridging of the sheet should be performed by machine action, though they can be performed manually, with tools, when time or expense is not a controlling object.

In carrying out my invention, I take a blank, metal sheet, rectangular in form and of any standard size, and (preferably by means of cutting dies) form therein, at intervals which are regular up and down, as well as across the sheet, long, narrow slits, as shown in the upper part of Fig. 1 of the drawings. The intervals are so laid out on the sheet as that the alternate, longitudinal rows of slits "break joint" with the adjacent rows. Between the proximate terminals of every two slits in a row, a web of metal is left, and this web comes opposite the middle of the adjacent slits on either side of the web. The metal sheet being now slitted on a definite and regular plan, it enters between a pair of rolls or

dies, as indicated in Fig. 3 of the drawings. The conformation of the faces of this pair of rolls or dies is such that at regular intervals, crosswise of the sheet, they hold the sheet against lateral movement, while pressing out of plane those longitudinal sections of it that are designed to be formed into the ridges C and the depressions D, already mentioned. At the same time, the pressure exerted by these specially conformed rolls or dies opens out the long narrow slits into wide apertures, as appear in the lower part of Fig. 1 of the drawings, and so adapts the slits for the holding of plaster. It will be seen in Fig. 3 that the face of one die does not conform strictly to the face of the other, and this intentional variation gives the needed room and opportunity for the metal sheet to move laterally, as the slits expand, except at those places, or along those longitudinal sections, that are tightly held by the rolls or dies. Usually, the holding points or places would be along the lines of the ridges C; yet, in a variation of the finished surface of the lathing sheet, they might come elsewhere; but they will always be at prescribed and regular intervals over the face of the sheet.

By the described method of design and execution, a sheet metal lathing can be produced; efficient, sightly and regular.

While the foregoing is a sufficient indication and description to sheet metal workers of how to produce the expanded lathing sheet constituting my invention, the production may be effected in other ways, manually and mechanically; it being only necessary to slit the sheet blank in such a manner, longitudinally, as to provide for the desired number and distribution of apertures needed for bonds or keys for plaster, and then to expand the slits into apertures of such width as will not only serve their office, but will compensate for the metal taken out of plane by the ridging of the sheet. And it is obvious that, if desired, the process of expanding the slits may be carried so far that the ridged and finished lathing sheet shall be wider than was the original sheet. The crinkling of the face of the sheet blank will not in the least lessen the lengthwise dimension of the finished lathing for the length of each slit to be subjected to lateral expansion is too insignificant by comparison with the outline of the sheet to have a contracting effect upon the length of the sheet, and there is enough local movement in the web of metal around each slit to accommodate the sheet to the expanding process without drawing it up lengthwise. As to its width, that can be regulated, so as to be of any desired dimension between a measurement much narrower than the original, flat, blank sheet and one materially wider; and whether it be narrower, or wider than, or of the same dimension as the blank sheet, the width will be uniform along the whole sheet of lathing, and the edges straight, while at the same time the original thickness of the sheet metal will be unaffected in dimension and uniformity.

I am aware that ridged and apertured sheet metal lathing, contracted in width by ridging, is common; also, that it is common to expand apertures in sheet metal by stretching; likewise, that it is not new to produce metal sheets with expanded slits and with ridges, transverse to the same; also, that sheet metal lathing has been used, in which are depressions attached to joists or studding, and apertures, on the flat, elevated part of the sheet, widened after such attachment. I claim none of those methods or constructions. I ridge, or ridge and depress, my sheet from its original plane without contraction of its width, when I so desire, and, having regularly slitted my sheet blank, I contrive, by specially formed and adapted pressure dies, in and by a single operation, or by any other suitable and preferred method to produce a ridged and apertured sheet of practicable lathing, with which, when I choose, I can practically and effectually cover a larger area of wall or ceiling space than the sheet blank would have covered in its original state.

I claim as follows:

A corrugated, slitted sheet of metal lathing, in which the corrugations are allowed for by the lateral expansion of the slits; substantially as and for the purposes described.

GEO. HAYES.

Witnesses:
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WM. J. GRAHAM.