W. M. GOLDSMITH.

METAL LATH.

APPLICATION FILED OCT. 7, 1912.

1,077,404. Patented Nov. 4, 1913.

FIG. 1

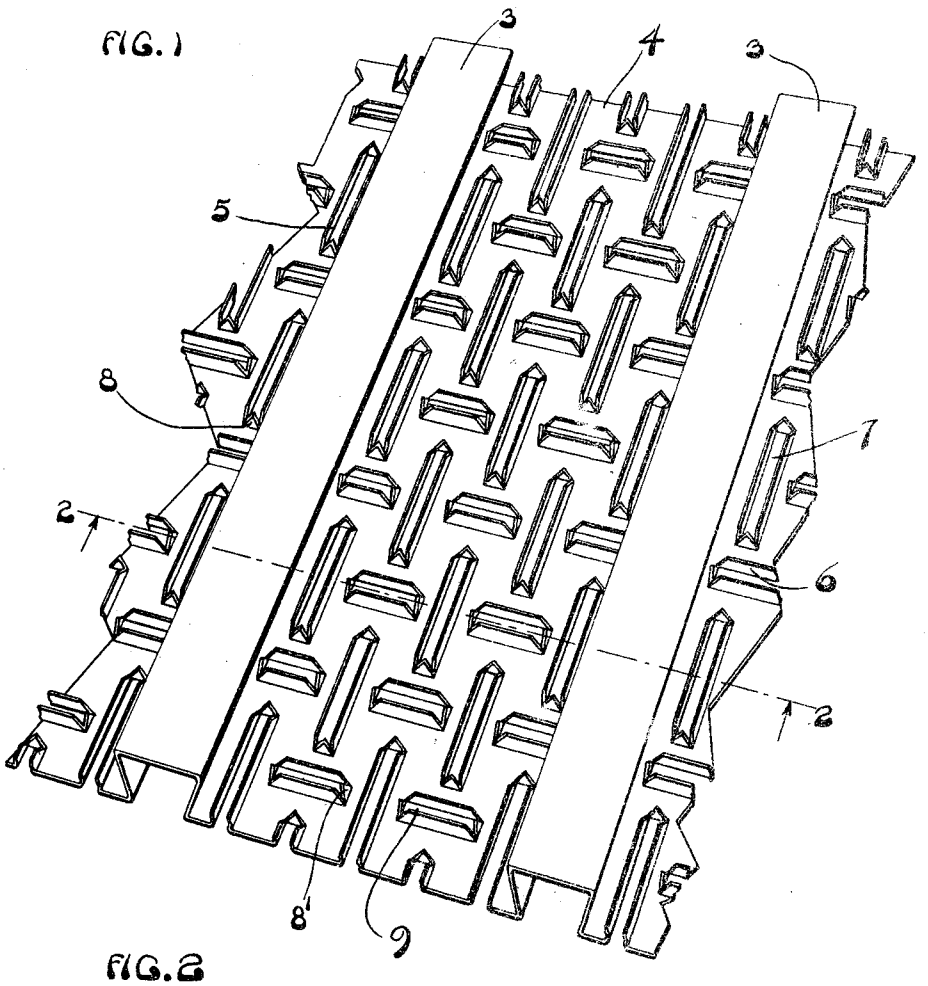
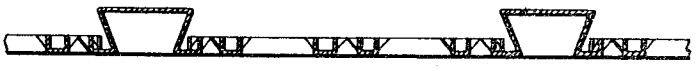


FIG. 2



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM M. GOLDSMITH, OF CINCINNATI, OHIO.

METAL LATH.

1,077,404. Specification of Letters Patent. Patented Nov. 4, 1913.

Application filed October 7, 1912. Serial No. 724,285.

To all whom it may concern:

Be it known that I, WILLIAM M. GOLDSMITH, a citizen of the United States of America, and resident of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Metal Laths, of which the following is a specification.

This invention relates to metallic lath or to metallic sheeting adapted for use as a reinforcing or supporting member for concrete, plastering, or similar materials, and has for an object to produce a lath or sheeting of improved construction, which is strong, is capable of resisting deflection in both directions, and is comparatively light.

A further object is to produce a lath or sheeting provided with flanged openings so arranged that the lath or sheeting is more effective in engaging concrete, plastering or similar materials and is more rigid than similar lath or sheeting of the same weight.

These and other objects I attain by means of a lath or sheeting embodying the features herein described, and illustrated in the drawings accompanying and forming a part of this application.

In the drawings, Figure 1 is a fragmental perspective view of a lath or sheeting embodying my invention. Fig. 2 is a sectional view along the line 2—2 of Fig. 1.

The lath illustrated as an embodiment of my invention consists of a metal sheet or blank which is stamped, rolled or otherwise formed to provide a series of transversely extending, parallel corrugations or ribs 3, which form stiffening ribs and may, if desired, be dove-tailed in form. Each portion 4 of the lath or sheeting, located between adjacent ribs 3, is provided with two distinct sets of tongues or lugs 5 and 6, which are stamped or punched from the metal of the sheet for the purpose of increasing the gripping or engaging qualities of the metal sheeting, and also for the purpose of stiffening the sheeting in both directions; that is, longitudinally and laterally. These tongues are formed in pairs by cutting the metal along lines, such, that when they are bent outwardly, at right angles to the face of the sheeting, rectangular openings are formed in the sheet. As illustrated, each opening is flanged at its edge by four tongues, two of which are relatively long and extend along the lateral edges of the opening, and two are short and are located at the ends of the opening. The short tongues are V-shaped, are located between the longer tongues, and are preferably of the same height as the longer tongues, and have little or no stiffening effect on the sheet.

The lugs 5 extend transversely across the sheet or parallel to the ridges 3, and the operation of forming them produces rectangular openings 7 and the V-shaped lugs or tongues 8, which are located at the ends of the openings. The lugs 6 extend longitudinally of the sheet, or at right angles to the ribs 3, and the operation of forming them results in the formation of rectangular openings 9 and V-shaped lugs or tongues 8′. As illustrated, all of the lugs 5, 6, 8 and 8′ project the same amount beyond the face of the sheet on which they are formed, but the lugs 6 are shorter than the lugs 5 and are arranged in a plurality of parallel rows, which extend at right angles to the ribs 3, or at right angles to the direction of the lugs 5. Each pair of lugs 6 of one row is located in staggered relation with reference to the pairs of lugs 6 of adjacent rows. In other words, each pair of lugs 6 of one row is located midway between the adjacent pairs of lugs of each adjacent row. The rows of lugs 6 are so spaced, longitudinally of the sheet, that the lugs 6, of one row, overlap the lugs 6 of the adjacent rows; that is, the lugs 6 of one row project, longitudinally of the sheet, beyond the transversely extending line joining the adjacent ends of the lugs of adjacent rows. The lugs 5 are also arranged in a plurality of rows, which extend parallel to the ribs 3, or in a direction at right angles to the direction of the lugs 6. Each pair of lugs 5 is so positioned in its row, that it is located midway between adjacent pairs of lugs 5 in adjacent rows, or, in other words, the lugs 5 like the lugs 6 are located in staggered relation across the sheet. The longitudinal rows of lugs 5 are also so spaced and located that the lugs of one row overlap the lugs of adjacent rows, or extend beyond the longitudinally extending line passing through the adjacent ends of the lugs 5, of adjacent rows. In addition to this each pair of lugs 5, except those located along the edges of the sheet, is located between two transverse rows of lugs 6, and likewise, each pair of lugs 6, except those located adjacent to the ribs 3, is located between longitudinally extending rows of lugs 5. With this arrangement, the transverse

stiffening effect of the lugs 5, located in one longitudinal row, overlaps the transverse stiffening effect of the lugs 5 located in adjacent longitudinally extending rows, with the result that all portions of the sheet are stiffened transversely by the combined effect of the coöperation of the lugs 5 of the different longitudinal rows. The lugs 6 accomplish the same result in stiffening the sheet longitudinally.

The stiffening effect of each transverse row of lugs 6 overlaps the stiffening effect of each adjacent transverse row, so that the portions of the sheet between adjacent ribs 3 are stiffened longitudinally by the coöperation of the lugs 5 of the different transverse rows. By locating the groups of lugs 5 and 6 in staggered relation, it is possible to space the longitudinal and transverse rows closer together, and therefore provide more of the lugs 5 and 6 on each sheet or lath. All of the lugs 5 and 6 preferably project on the same side of the sheet from which they are formed, and, as illustrated, they are located on the side on which the ribs 3 are embossed.

The lugs surrounding each opening cooperate with the concrete, plastering, or similar material, to hold it in place with relation to the sheet, and the concrete, plastering, or similar material, also protrudes through the openings 7 and 9 and forms keys or lugs, which, after the concrete or plastering is set, coöperates with the lugs in holding the concrete or plastering in place. It will be apparent that the lock between the plastering and the lath is rendered more effective by providing the two sets of lugs 5 and 6, and by positioning the lugs of each set at right angles to the lugs of the other set. This is easily demonstrated, when the lath is employed in a vertical position, with the ribs 3 extending vertically. Under such conditions, each group of lugs 6 is absolutely effective in preventing the plastering from slipping down along the lath, and, when the lath is turned at right angles to this position, so that the ribs 3 are located in a horizontal direction, the lugs 5 are equally effective in holding the plastering in place. The lugs 5 and 6 also coöperate with each other in holding the plastering in place, when the lath is turned at an angle, so that the ribs 3 are inclined from the vertical. The coöperation between the two sets is equally effective, no matter which way the sheet is inclined.

In accordance with the United States patent statutes, I have described and illustrated the preferred embodiment of my invention, but I desire it to be understood that various changes, modifications and substitutions may be made in the details of construction, without departing from the spirit and scope of my invention as set forth in the appended claim.

What I claim is:

A sheet metal lath having rows of transverse openings in staggered relation, and rows of longitudinal openings in staggered relation, the transverse being longer than the longitudinal openings, and outwardly extending lugs along each side of each opening, each transverse opening and its transverse lugs crossing a straight line joining the ends of adjacent transverse openings, whereby said lugs stiffen the sheet along said lines.

In testimony whereof, I have hereunto subscribed my name this 4th day of October, 1912.

WILLIAM M. GOLDSMITH.

Witnesses:

W. THORNTON BOGERT,

E. W. MCCALLISTER.