H. E. WHITE.

EXPANDED METAL STRUCTURE.

APPLICATION FILED MAR. 27, 1912.

1,112,181. Patented Sept. 29, 1914.

2 SHEETS—SHEET 1.

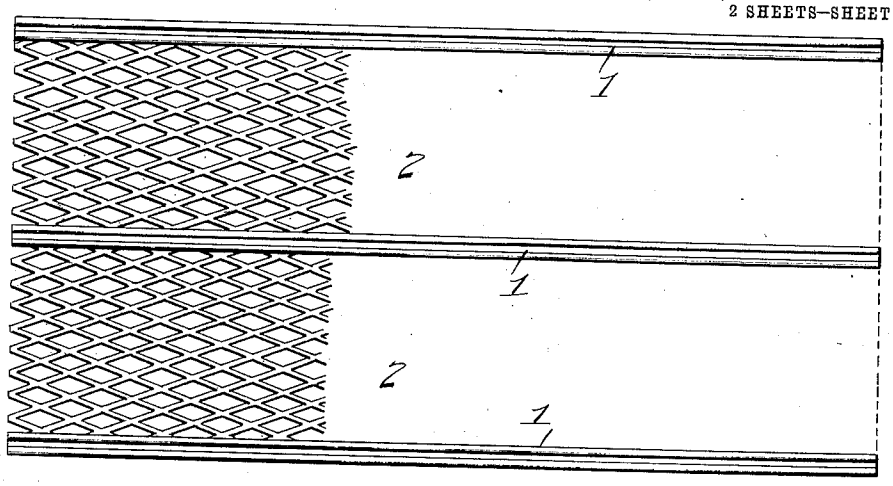


Fig. 1

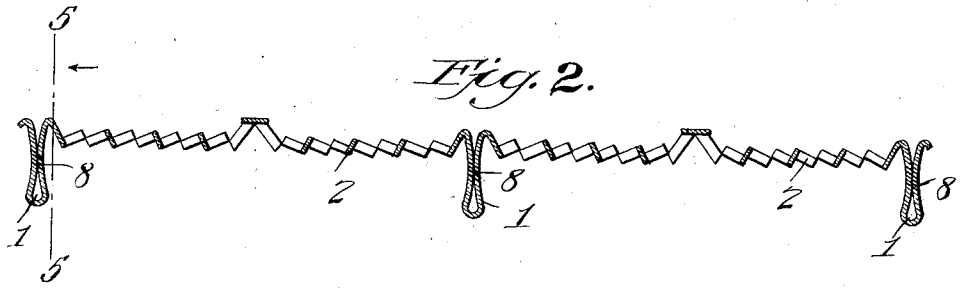
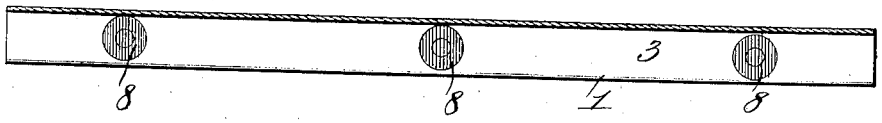


Fig. 2.

Fig. 3.



WITNESSES

T. L. Macrae

Edward Groff

INVENTOR

Herbert E. White

By W. C. Carman

Attorney

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2 SHEETS—SHEET 2.

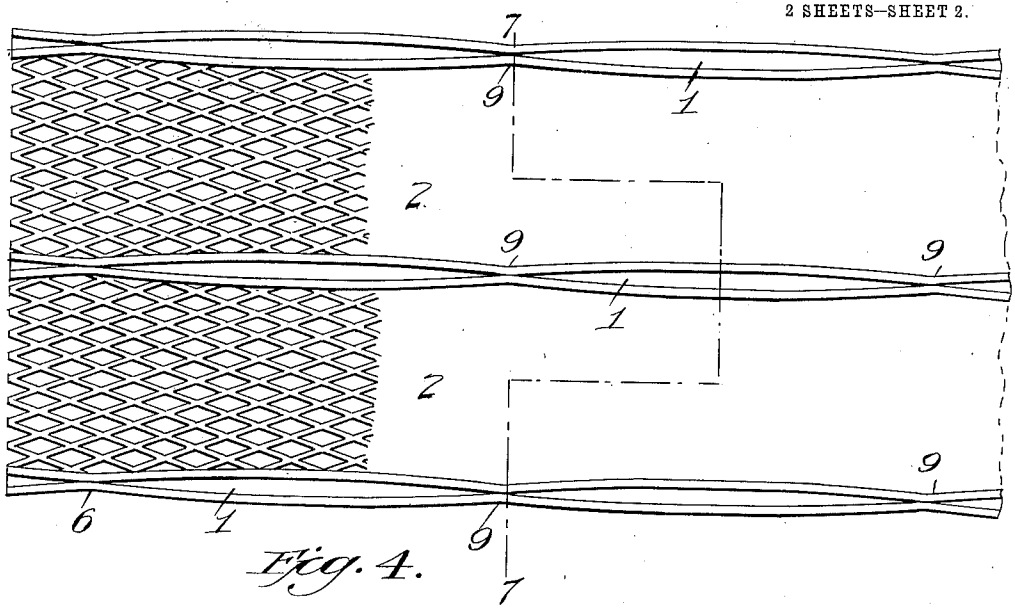


Fig. 4.

Fig. 5

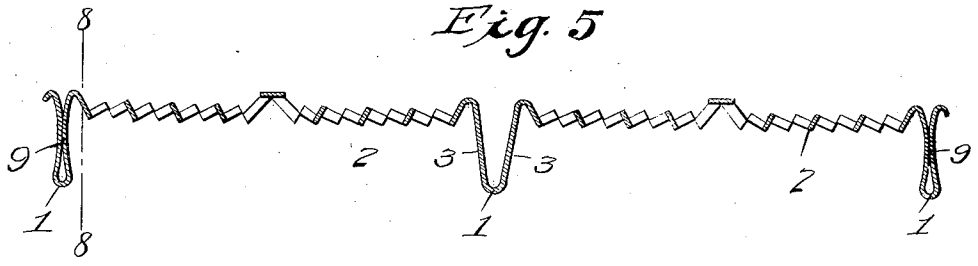
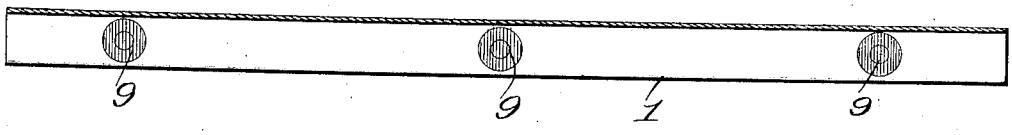


Fig. 6.



WITNESSES

T. L. Mochrie

Emory L. Groff

INVENTOR

Herbert E. White

By W. C. Carman

Attorney

UNITED STATES PATENT OFFICE.

HERBERT E. WHITE, OF YOUNGSTOWN, OHIO, ASSIGNOR TO THE GENERAL FIREPROOFING COMPANY, OF YOUNGSTOWN, OHIO, A CORPORATION OF OHIO.

EXPANDED METAL STRUCTURE.

1,112,181. Specification of Letters Patent. Patented Sept. 29, 1914.

Application filed March 27, 1912. Serial No. 686,603.

To all whom it may concern:

Be it known that I, HERBERT E. WHITE, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Expanded Metal Structures, of which the following is a specification.

This invention relates to expanded metal structures of the type having deep stiffening ribs along the body thereof, and an expanded reticulated web portion between the ribs.

The object of the invention is to provide simple and practical means for additionally strengthening and reinforcing an expanded metal structure of the character mentioned, and more particularly to fasten, tie, or anchor, the walls of the ribs in such a manner as to prevent spreading or opening thereof under temperature conditions.

Practical experience with reticulated and ribbed expanded metal structures, employed especially as a lath, has demonstrated that after the lath is attached in place and covered with plaster, and especially where subjected to the influence of heat and cold, the grooves through the ribs, or more properly speaking the ribs themselves, spread or open up slightly thereby causing a cracking of the plaster. The present invention proposes to correct this tendency by tying the walls of the ribs at suitable points so as to effectually hold such walls perfectly rigid and braced against spreading or opening, while at the same time the anti-spreader fastening means will constitute additional reinforcement for the structure, thus making the same available not only for use as a lath, but also for employment in concrete work. Furthermore the effect of the improvement referred to is to materially increase the resistance of the expanded structure.

Though susceptible of embodiment in a variety of different ways, and in connection with different kinds of ribbed sheet metal structures, a few of the preferred and practical embodiments of the invention are shown in the accompanying drawings, in which—

Figure 1 is a plan view of the expanded metal structure showing the ribs close-rolled throughout, to narrow the same, and the opposite walls thereof fastened together by spot-welding at different points. Fig. 2 is a cross sectional view of the construction shown in Fig. 3. Fig. 3 is a longitudinal view, on the section line 5—5 of Fig. 4. Fig. 4 is a view similar to Fig. 3, showing the spot-welding in connection with ribs of rather wide formation. Fig. 5 is a cross sectional view on the line 7—7 of Fig. 6. Fig. 6 is a longitudinal view on the line 8—8 of Fig. 7.

Like references designate corresponding parts in the several figures of the drawings.

In carrying out the invention, it is intended to make the same applicable to any of the several forms of ribbed metal laths on the market. However, for illustrative purposes, there is shown in the drawings, an expanded metal structure or lath including in its construction a sheet metal body having deep stiffenings ribs 1, and an expanded reticulated web portion 2 between the ribs. According to this invention, means are provided for tying together the opposite walls 3 of each rib so as to hold such walls perfectly rigid and braced against spreading or opening after the plaster or other cementitious substance is applied thereto.

According to the embodiment of the invention shown in Figs. 1, 2 and 3 of the drawings, the ribs 1 of the structure may be closely rolled throughout to bring the rib walls quite close together, and at suitable distances apart the said walls are brought into contact and rigidly united by spot-welding, as indicated at the various points designated 8 on Figs. 2 and 3 of the drawings.

A modification of the invention as shown in Figs. 4, 5 and 6 of the drawings, wherein the ribs 3 are left in the comparatively open form, and the opposite walls thereof are brought together in contact at various points and spot-welded thereat, as indicated by the reference numeral 9 in said Figs. 4, 5 and 6 of the drawings. Other equivalent expedients may be resorted to for the same purpose, and in each instance means are provided for rigidly tying the ribs of the structure against spreading while at the same time affording additional reinforcement therefor to render the same available for use as a lath, and also for employment in concrete work.

I claim:—

1. An expanded metal structure having

ribs which are grooved from one side, the opposite walls of each rib contacting at intervals and rigidly united thereat.

2. An expanded metal structure having ribs which are grooved from one side, the opposite walls of each rib contacting at intervals and welded together at such points.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HERBERT E. WHITE.

Witnesses:
E. P. GILRONAN,
O. D. KAISER.