No. 875,154. PATENTED DEC. 31, 1907.

N. E. CLARK.

EXPANDED METAL.

APPLICATION FILED MAY 15, 1907.

Fig. 1.

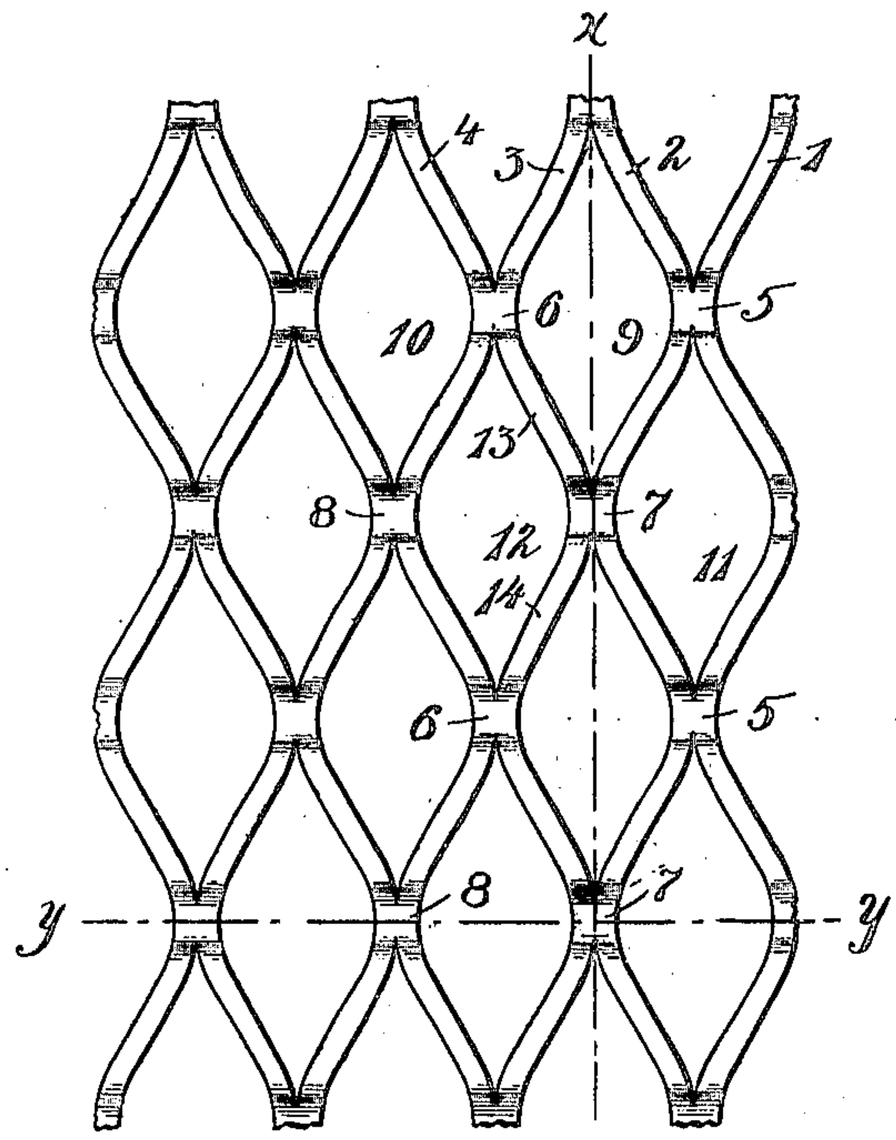


Fig. 2.

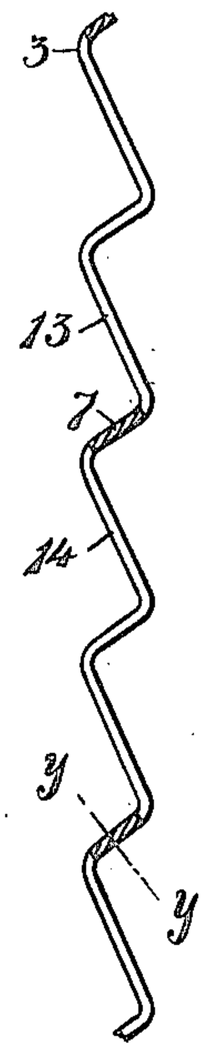
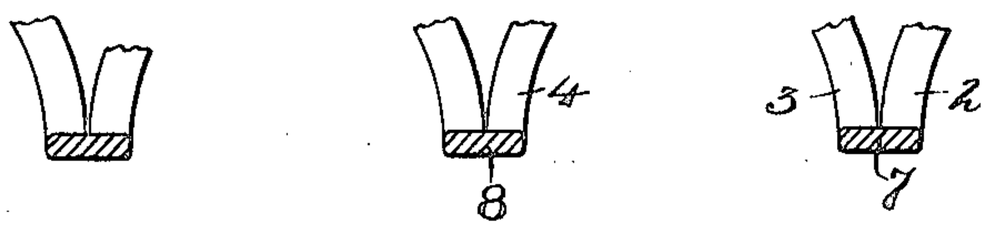


Fig. 3.



Witnesses:
Chas. A. Peard
Langdon Moore.

Inventor
NORRIS ELMORE CLARK
By his Attorneys
Bartlett Brownell & Mitchell

UNITED STATES PATENT OFFICE.

NORRIS ELMORE CLARK, OF PLAINVILLE, CONNECTICUT.

EXPANDED METAL.

No. 875,154. Specification of Letters Patent. Patented Dec. 31, 1907.

Original application filed June 26, 1906, Serial No. 323,451. Divided and this application filed May 15, 1907. Serial No. 373,702.

To all whom it may concern:

Be it known that I, NORRIS ELMORE CLARK, a citizen of the United States, residing at Plainville, Hartford county, Connecticut, have invented certain new and useful Improvements in Expanded Metal, of which the following is a full, clear, and exact description.

My invention relates to improvements in expanded metal manufacture, and this application is a divisional one from Serial No. 323,451, filed by me June 26, 1906.

The material is particularly adapted to use as lathing and as reinforcement for cement and concrete.

The main object is to provide a material having great strength for its weight. This is due largely to the new method of manufacture and its special form.

Another object is to provide a construction particularly capable of supporting plaster on side walls or ceilings and to which the plaster will adhere without danger of cracking off.

One form of product of my invention is illustrated in the accompanying single sheet of drawings.

Figure 1 is a view of a fragment of the expanded fabric. Fig. 2 is a longitudinal section on the plane of the line X—X of Fig. 1. Fig. 3 is a transverse section on the plane of the line Y—Y of Figs. 1 and 2.

The sheet may be considered to be made up of a series of corrugated flat strips, such as 1, 2, 3, 4, etc., connected at alternating intervals by "bonds" such as 5, 6, 7, 8, etc., and between which are elongated openings such as 9, 10, 11, 12, etc. The portions 13 and 14 of a strip between bonds are usually termed "strands" and are longer than the bonds.

The expanded sheet is preferably formed by slitting a sheet of metal and then stretching and rolling it preferably while cold to bring the bonds and strands all into a common plane. The edges of the slits (which subsequently become openings) are beveled or compressed smooth. The compression at the edges of the bonds may be increased by punch action. In the rolling action the smoothness is accentuated to roundness. The product is hence very smooth at the edges of the openings.

After expansion the sheet preferably while cold is corrugated at right angles to the openings, the corrugating bends occurring at the ends of the bonds. This provides inclined platforms at the ends of the openings, which, when the material is used as lathing, are adapted to support plaster which is protruded through the adjacent openings. The corrugating action does not affect the smooth edges, and the finished fabric has, therefore, no rough or sharp edges to cut or start fractures in the plaster which may be used. In the claims I shall use the term "rounded" in referring to the character of the edges as including beveled or compressed, so as to distinguish from sharp edges whether smooth or rough.

Since the corrugations are regular relative to the bonds and strands, all the bonds are parallel to each other and I prefer that they be arranged in regular alternation in the adjacent parallel rows, so that the strength of the sheet is more uniform throughout. The adjacent strands diverge from each other at the end of a bond in the same plane and tangentially to each other, so that the full tensile strength of the metal is thus available. The corrugations stiffen the sheet and the elastic limit of the material when worked cold, is increased.

What I claim is:

1. A corrugated sheet metal fabric consisting of flat strands and bonds with openings in alternating arrangement, the edges of the strands and bonds being rounded.

2. A sheet metal fabric consisting of a plurality of strips regularly spaced apart at alternating intervals to form elongated openings and having inclined flat platforms at the ends of the openings.

3. A sheet metal fabric consisting of a plurality of strips regularly spaced apart at alternating intervals to form elongated openings and having inclined flat platforms at the ends of the openings, the corners of the edges of the openings being rounded.

4. A corrugated expanded metal fabric consisting of flat strips bonded at intervals and with elongated openings between, the corrugations being at the ends of the bonds and extending transversely of the openings.

5. A corrugated expanded metal fabric consisting of flat strips bonded at intervals and with elongated openings between, the corrugations being at the ends of the bonds and extending transversely of the openings, and the edges of the openings being rounded.

6. A corrugated expanded metal fabric consisting of a plurality of parallel flat bonds connected at intervals in alternating arrangement by flat parallel strands inclined

relative to the bonds and of greater length than the bonds.

7. A corrugated expanded metal fabric consisting of a plurality of parallel flat bonds connected at intervals in alternating arrangement by flat parallel strands inclined relative to the bonds and of greater length than the bonds, the edges of the strands being rounded.

8. An expanded metal fabric composed of corrugated flat strands connected at intervals by bonds, the adjacent strands at the bonds diverging from each other tangentially and in the same plane.

9. A corrugated expanded metal fabric composed of strands and bonds, the edges of the bonds being compressed.

10. The method of forming a corrugated and reticulated sheet metal fabric which consists in expanding a sheet of slitted metal, rolling it down flat and corrugating it regularly at the bonds at right angles to the direction of the slits.

11. The method of forming a corrugated and reticulated metal fabric which includes forming an expanded sheet having openings with rounded edges and then corrugating the sheet.

12. The method of forming an expanded metal fabric which consists in slitting a sheet to form strands connected in alternating arrangement, opening the slits but maintaining the ends of adjacent strands tangential to each other at the points of connection, and then corrugating the sheet.

13. The method of forming an expanded metal fabric which consists in slitting a sheet to form strands connected in alternating arrangement, opening the slits but maintaining the ends of adjacent strands tangential to each other at the points of connection, and then corrugating the sheet at the ends of the strands.

NORRIS ELMORE CLARK.

Witnesses:
D. G. CLARK,
A. V. BROCK.