

No. 834,873.

PATENTED OCT. 30, 1906.

L. E. CURTIS.
EXPANDED METAL.
APPLICATION FILED FEB. 15, 1905.

Fig. 1

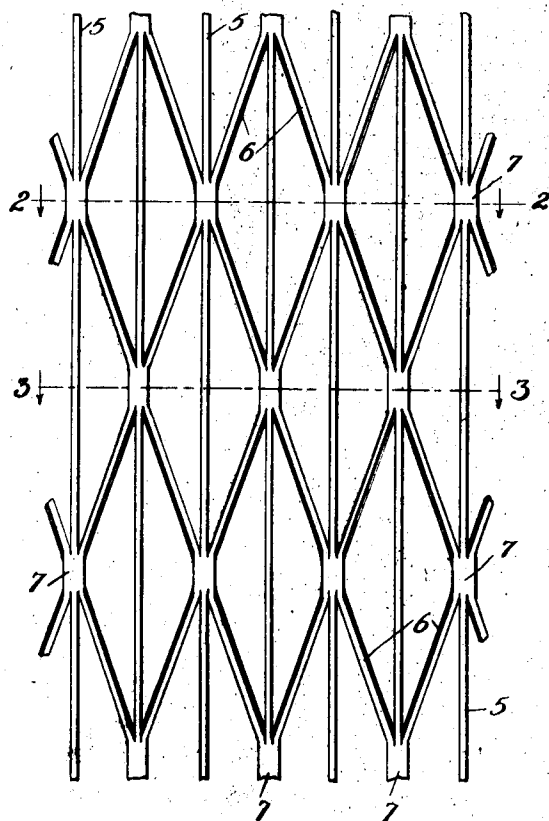


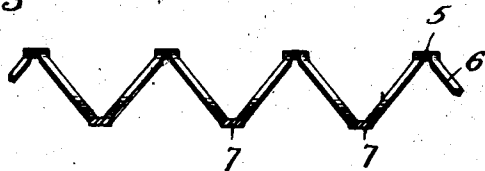
Fig. 4



Fig. 2



Fig. 3



Witnesses:

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EXPANDED METAL.

No. 834,873.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed February 15, 1905. Serial No. 245,658.

To all whom it may concern:

Be it known that I, LEWIS E. CURTIS, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Expanded Metal, of which the following is a specification.

This invention relates to an improved construction of expanded metal, and is intended for use primarily in floors and ceilings and in other places where in addition to tensile strength it is desirable that the structure be able to support heavy weights or resist lateral pressure without buckling or material bending. The ordinary expanded metal possesses considerable tensile strength, but is weak in its resistance to buckling or bending strains; and my object in this invention has been to so construct it as to increase its ability to resist buckling or bending to a marked degree. Incidentally, also, my invention gives the metal a much greater tensile strength than that of the ordinary expanded metal.

The nature of my improvement is fully illustrated in the accompanying drawings, which form a part of this specification, and is also fully described below.

In the drawings, Figure 1 is a plan of my invention. Figs. 2 and 3 are sections on the lines 2 2 and 3 3, respectively, of Fig. 1. Fig. 4 is a plan of the slitted sheet from which the invention is formed.

In making my improved metal I form short longitudinal slits in rows in the sheet, as seen at Fig. 4, the slits being differently arranged relative to each other, however, from the arrangement customary in making other forms of expanded metal, my object in this change being to enable the use of every alternate strand as a straight member of the full length of the sheet and free from bends, while the intervening members or strands are short and connected at their ends to the straight members at each side of them, and when the slitted sheet is opened these intervening members assume diagonal positions, so that they act as trusses to the straight members.

In the drawings I have shown the straight or unbent strands at 5 and the bent or intervening strands at 6. The slits between adjacent strands 5 are staggered relatively; but the slits on the opposite sides of the strands 5 and in the same transverse plane are coincident instead of being staggered. The construction brings three strands together at

each of the bonds 7, and the meshes formed in the metal are triangular with two short sides and one long one.

The slitted sheet, either after it has been opened or at the time of opening it, is also bent so as to carry every other one of the straight strands laterally from the plane of the original sheet, as clearly shown at Figs. 2 and 3. I thus increase the thickness, so to speak, of the fabric, which then consists of straight strands upon each surface and intervening diagonal or trussing strands. When laid in a floor, such a fabric will be so stiff as to enable it to sustain loads much heavier than those carried by prevailing constructions of expanded metal without buckling or dangerous deflection between its end supports. In the sheet having this zigzag or corrugated feature the diagonal strands which intersect with the straight ones at short intervals support the latter in every direction, so that the latter are stiffened and strengthened and enabled to resist pressure which may come upon the fabric laterally or which may come laterally upon the individual strands, and the usefulness of such a fabric in the building of concrete arches and in what are known as "solid partitions" is very apparent.

I claim—

1. The new article of expanded sheet metal herein described, consisting of straight or unbent strands and intervening trussing-strands uniting the straight strands, the alternate straight strands being located in different planes and the trussing-strands being inclined between said planes.

2. The expanded sheet-metal fabric herein shown consisting of straight members of the full length of the original sheet, and short trussing members, the fabric being bent so as to carry each alternate straight member to different planes and to incline the trussing members between said planes.

3. The new article of expanded sheet metal herein described consisting of a series of straight continuous strands arranged in two planes and intervening trussing-strands uniting the continuous strands and arranged at an angle thereto and to the plane of the original sheet.

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Witnesses:

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