

No. 767,798.

PATENTED AUG. 16, 1904.

N. E. CLARK.
EXPANDED METAL.

APPLICATION FILED JUNE 25, 1904.

NO MODEL.

Fig. 1.

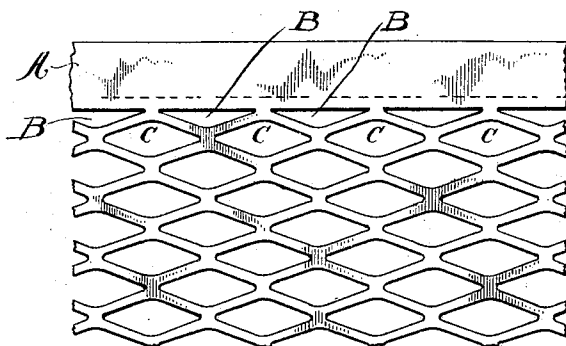


Fig. 2.



Fig. 3.

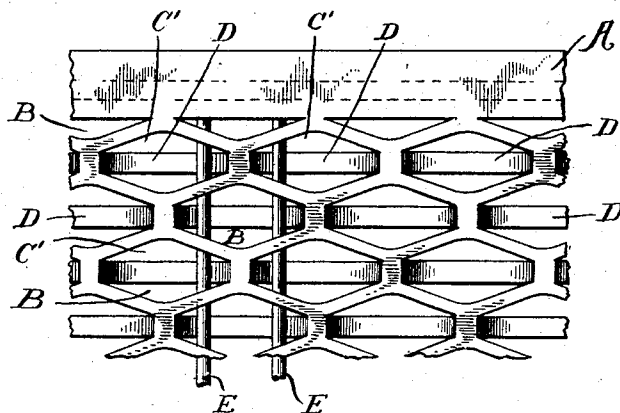


Fig. 4.



Witnesses
Chas. A. Beard
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By his Attorneys
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UNITED STATES PATENT OFFICE.

NORRIS ELMORE CLARK, OF PLAINVILLE, CONNECTICUT.

EXPANDED METAL.

SPECIFICATION forming part of Letters Patent No. 767,798, dated August 16, 1904.

Application filed June 25, 1904. Serial No. 214,105. (No model.)

To all whom it may concern:

Be it known that I, NORRIS ELMORE CLARK, a citizen of the United States, residing at Plainville, in the county of Hartford, State of 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 expanded metal, which may be used in any desired connection.

The object of the invention is to produce an expanded metal economically and rapidly, the product being strong and durable and adapted to use in a great variety of ways.

In the drawings, Figure 1 is a plan view of a portion of a strip of expanded metal constructed to embody my invention. Fig. 2 is an edge view thereof. Fig. 3 is a plan view of another form of expanded metal. Fig. 4 is an edge view thereof.

Referring first to the article illustrated in Figs. 1 and 2 of the drawings, A represents the body of the strip, integral with the expanded portion. The metal is expanded in its own plane by suitable cutters or dies, by which the metal is slitted and offset to form openings like those indicated at B B, Fig. 1, preferably triangular. The metal is then fed one step farther under the cutting-dies and then slitted and expanded in a position so as to break joints or alternate with the previous openings, whereupon the metal between the previously-formed openings is forced forward, changing the shape of the opening from triangular to rhombic. These rhombic openings are indicated at C C. All of the rhombic openings are thus separated by strands, the width of which may be determined entirely by the feed of the metal under the cutters or dies. By punching the openings the expanded metal (as distinguished from the unperforated sheet not yet fed to the cutters) is stretched, but confined to its original plane, so that the metal is somewhat shortened in width. In expanding the metal the strands are displaced in the same plane as the plane of the sheet A. Hence no extremely-rough edges are formed; but the metal is perfectly

flat, a feature of advantage when the finished article is to be used in many connections other than that of mere lathing. For example, it might be used for registers and ventilators in which it is desirable to have the surface of the metal present a smooth handsome appearance, and this is attained most effectively by this method of expanding.

In Figs. 3 and 4 the metal is expanded after the same manner as previously described; but extending longitudinally of the rhombic openings I provide depressed bridging-strands DD, the function of which is to give added strength and resistance against bending of said product. In these figures, A represents the margin of the unexpanded portion of the metal sheet. The openings B are formed as before. Then the bridging-strip D is depressed back of the opening B. Then the next series of openings B are formed, alternating with the first, and causing the spaces C' to open up. This form of expanded metal is particularly adapted for use as register-top plates and is an improvement on United States Letters Patent No. 690,698, of January 7, 1902.

A supplemental stiffening means may be provided in the form of a rod E inserted between the bridging-strands D and the main body, as best seen in Fig. 4. In this case, as in the previous case, the upper surface of the expanded metal presents a smooth appearance and may be used advantageously in other connections than that of lathing.

What I claim is—

1. As an article of manufacture, an expanded-metal sheet formed with its main portions lying substantially in a single plane and having a plurality of openings formed therein, the cut edges of said openings being substantially at right angles to the plane of said body portion.

2. A plate formed of expanded sheet metal and having its principal body portion lying substantially in a single plane and having a plurality of openings therein and depressed bridging-strands extending from end to end of said openings, substantially as described.

3. The method of forming expanded-metal sheets which comprises slitting the metal and

expanding the same in the plane of the original plate step by step by alternately-arranged openings, substantially as described.

4. The method of forming expanded-metal
5 plate which comprises slitting the metal and expanding the same substantially in the plane of the original plate by alternately-arranged openings and depressing bridging-spans between said openings into a plane the principal

portion of which is parallel to the original plane of said plate for the purpose specified.

Signed at Plainville, Connecticut, this 17th day of June, 1904.

NORRIS ELMORE CLARK.

Witnesses:

HENRIETTA L. GOODRICH,
DWIGHT G. CLARK.