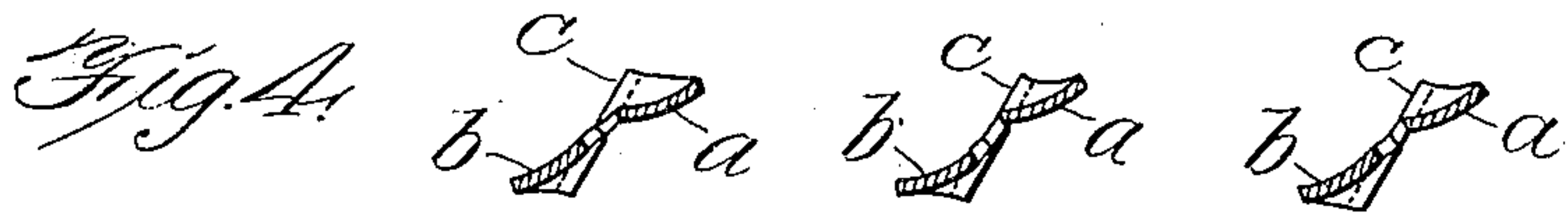
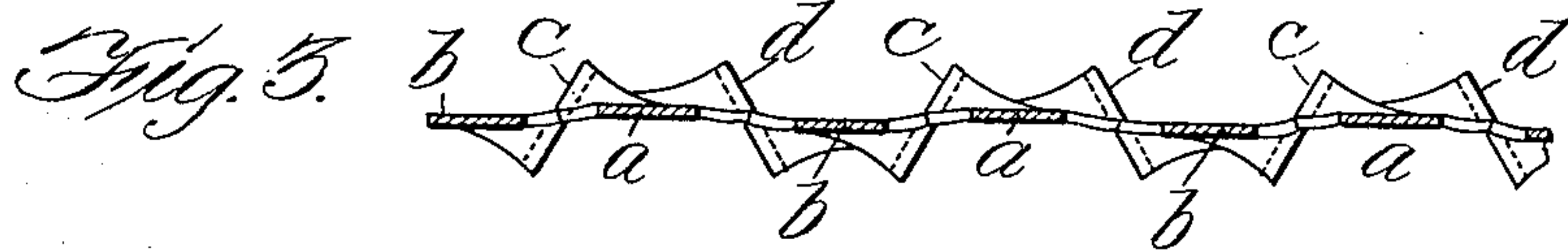
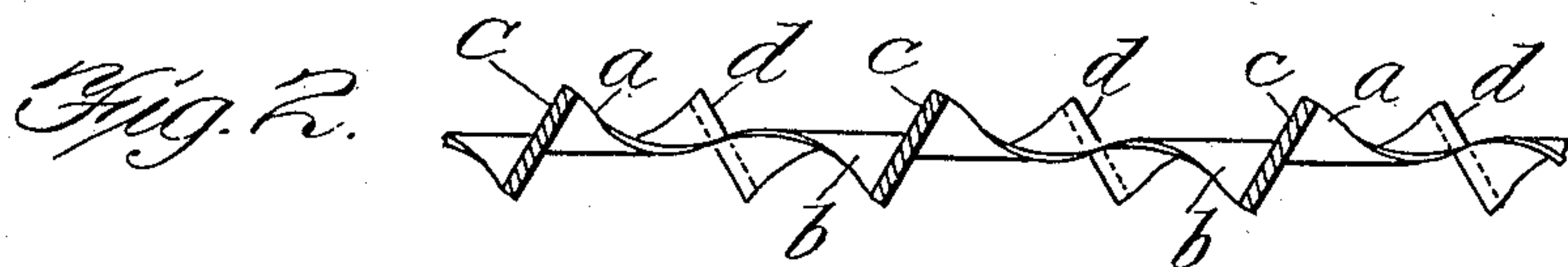
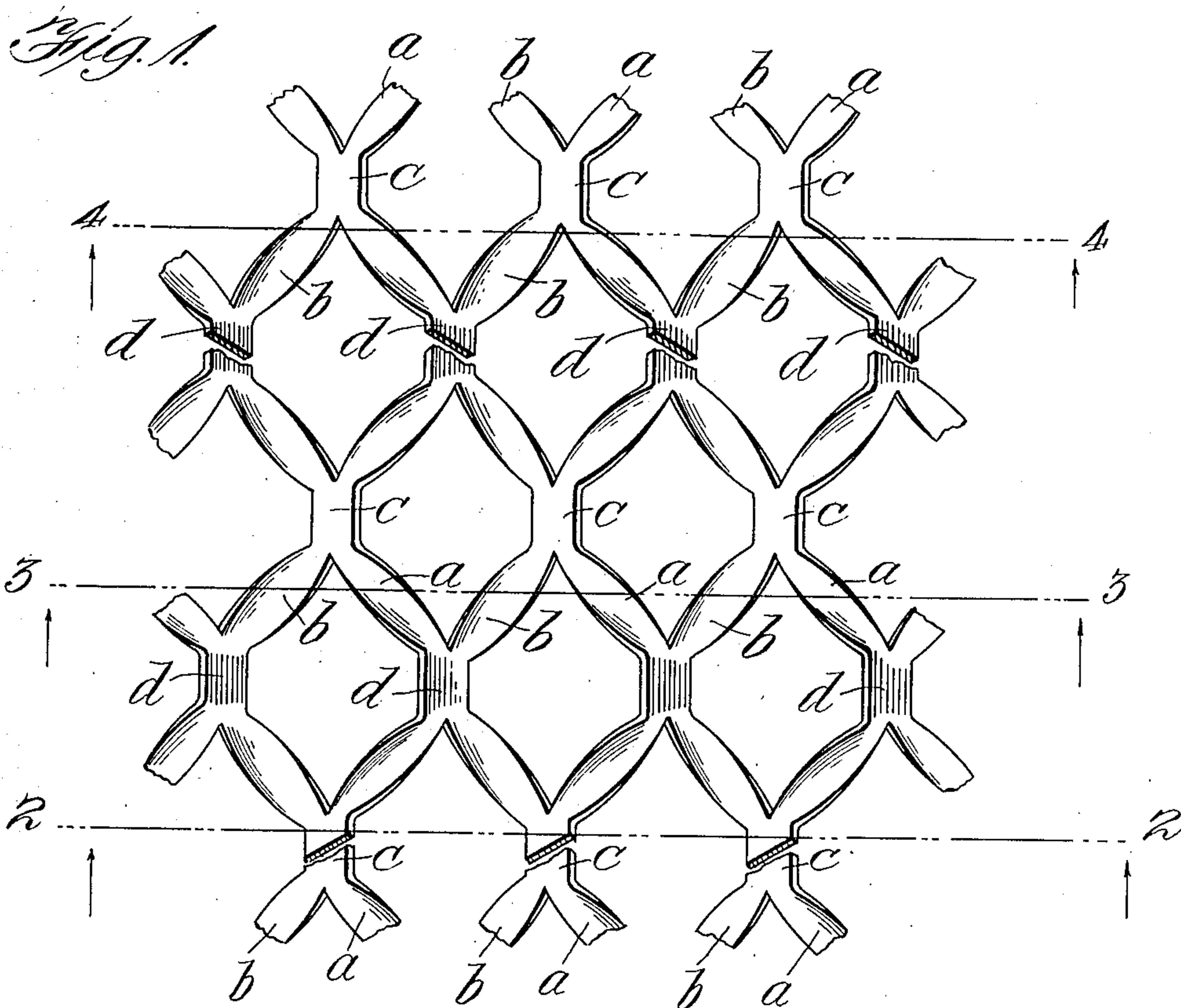


No. 892,938.

PATENTED JULY 7, 1908.

F. H. CRITTALL.
EXPANDED METAL.
APPLICATION FILED APR. 7, 1908.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANCIS HENRY CRITTALL, OF BRAINTREE, ENGLAND.

EXPANDED METAL.

No. 892,938.

Specification of Letters Patent.

Patented July 7, 1908.

Original application filed February 17, 1908, Serial No. 416,233. Divided and this application filed April 7, 1908.
Serial No. 425,717.

To all whom it may concern:

Be it known that I, FRANCIS HENRY CRITTALL, a subject of the King of Great Britain, residing at Manor Works, Braintree, in the
5 county of Essex, England, engineer, have invented new and useful Expanded Metal, of which the following is a specification.

Expanded metal as commonly made consists of longitudinal zig-zag strips connected
10 together by junctions of twice the width of each strip. According to this invention these junctions are turned in a novel way out of the plane of the sheet and the strips between them are helically twisted in the man-
15 ner hereinafter described.

Figure 1 is a plan of a sheet of expanded metal constructed according to this invention. Figs. 2, 3, and 4 are sections respectively on lines 2—2, 3—3 and 4—4 of Fig. 1.
20 *a a* are longitudinal zig-zag strips and *b b* are similar longitudinal strips alternating with them. The transverse rows of junctions between these strips are lettered *c* and *d* alternately. It will be observed that all the
25 strips *a* are situated above the plane of the sheet and all the strips *b* below it. Also that all the junctions *c* are turned anti-clockwise (Fig. 2) out of the plane of the sheet while all the junctions *d* are turned clockwise, the
30 junctions themselves remaining practically unbent and therefore not in any way substantially weakened. Again it will be seen that the portions of the strips *a* and *b* between any row *c* of junctions and the row *d*
35 next beyond it (Fig. 1) are twisted helically in one direction while the portions of the strips between any row *d* of junctions and the row *c* next above it are twisted helically in the opposite direction.

40 In Fig. 4 I have shown clearly how the strips *a* lie above the plane of the expanded sheet. This is also shown in Fig. 3 but this peculiarity is more pronounced near the junctions *c* where the section of Fig. 4 is
45 taken.

The meshes of the fabric, it will be observed, are substantially square. In this way the maximum area from a given amount of metal is obtained and yet this is done
50 without weakening the junctions while the helical twisting of the strips provide an efficient key to the plaster supported by the sheet.

55 This application is a division of my application for Patent No. 416,233, filed February

17, 1908, which claims the process of producing the expanded metal herein claimed. The machine for producing this expanded metal is claimed in my application for Patent No. 416, 234, filed February 17, 1908.

What I claim is:—

1. Expanded metal in which the strips forming the sides of the meshes are twisted helically, the strips on opposite sides of each mesh being on opposite sides of the plane of
60 the expanded sheet.

2. Expanded metal in which the strips between the slits are situated alternately on the two sides of the plane of the expanded sheet, the junctions between the strips being at
70 an angle to that plane and the portions of each strip between adjacent junctions being twisted helically.

3. Expanded metal consisting of longitudinal zig-zag strips connected by transverse
75 rows of junctions, all the junctions in one transverse row being turned in one direction to project from opposite sides of the sheet and all the junctions in the two adjacent transverse rows being turned in the
80 reverse direction to project from opposite sides of the sheet.

4. Expanded metal consisting of longitudinal zig-zag strips connected by transverse
85 rows of junctions, the portions of the strips between two adjacent transverse rows of junctions being all helically twisted in one direction and all the adjacent portions of the strips being helically twisted in the opposite
90 direction.

5. Expanded metal consisting of longitudinal zig-zag strips connected by transverse
95 rows of junctions, all the junctions in one transverse row being turned out of the plane of the sheet in one direction and all the junctions in the two adjacent transverse rows being turned out of the plane of the sheet in the reverse direction and the portions of the strips between two adjacent transverse rows of junctions being all helically twisted in one
100 direction and all the adjacent portions of the strips being helically twisted in the opposite direction.

6. Expanded metal consisting of longitudinal zig-zag strips connected by transverse
105 rows of junctions, the strips being situated alternately on the two sides of the plane of the sheet, all the junctions in one transverse row being turned out of the plane of the sheet in one direction and all the junctions in the
110

two adjacent transverse rows being turned out of the plane of the sheet in the reverse direction.

5 7. Expanded metal consisting of longitudinal zig-zag strips connected by transverse rows of junctions, the strips being situated alternately on the two sides of the plane of the sheet, the portions of the strips between two adjacent transverse rows of junctions
10 being all helically twisted in one direction and all the adjacent portions of the strips being helically twisted in the opposite direction.

15 8. Expanded metal consisting of longitudinal zig-zag strips connected by transverse rows of junctions, the strips being situated

alternately on the two sides of the plane of the sheet, all the junctions in one transverse row being turned out of the plane of the sheet in one direction and all the junctions in the two adjacent transverse rows being turned out of the plane of the sheet in the reverse direction and the portions of the strips between two adjacent transverse rows of junctions being all helically twisted in one direction and all the adjacent portions of the strips being helically twisted in the opposite direction. 20 25

FRANCIS HENRY CRITTALL

Witnesses:

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R. F. WILLIAMS.