

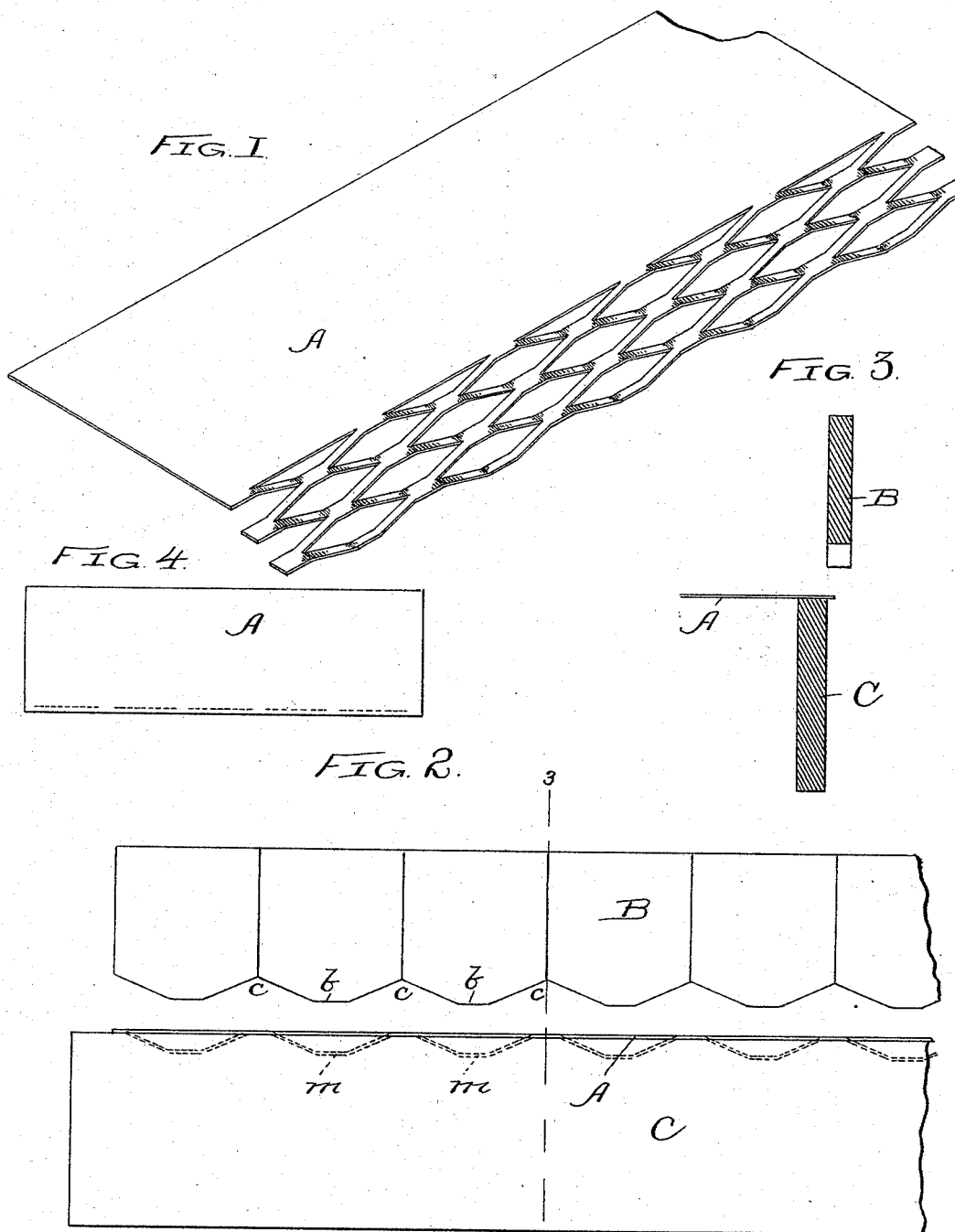
(No Model.)

J. F. GOLDING.

METHOD OF MAKING EXPANDED SHEET METAL.

No. 527,242.

Patented Oct. 9, 1894.



WITNESSES:

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METHOD OF MAKING EXPANDED SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 527,242, dated October 9, 1894.

Application filed May 7, 1894. Serial No. 510,343. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN F. GOLDING, 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 the Art of Expanding Sheet Metal, of which the following is a specification.

In the manufacture of what is now generally known as expanded sheet metal, it has been customary to first cut the slits in the sheet metal at short distances apart, and to open the metal at the cuts thus formed by bending the severed portions or strands in a direction at right angles substantially to the plane of the sheet. It has also been made by simultaneously cutting and opening the metal by means of cutters set off or stepped relatively so as to make the slashes or cuts in different lines in the manner set forth in Patents No. 381,230 or No. 381,231, of April 17, 1888. In both of these methods the product is somewhat shorter and materially wider than the original sheet, but practically no stretching or elongation of the metal forming the strands is caused.

In my present invention I seek to avail myself of the ability of the metal to stretch or distend as well as of its ability to bend under strain or pressure, and the invention consists in the improved method of making expanded metal, viz., by simultaneously cutting and opening or expanding the metal at the cuts by stretching the severed portions.

In the practice of the invention I prefer to make a series of slits in a straight line across the edge of the sheet, and at the time of cutting the slits and as a continuation of that operation to depress or stretch the severed metal, i. e., those portions of the sheet lying outside of the cuts, in a direction at right angles to the sheet, without any contraction from the length of the original sheet. This operation is then repeated after the sheet has been fed forward, the slits being made opposite the portions unsevered at the previous operation, and so on until the entire sheet is expanded.

My invention allows the use of a single straight under knife, which of course does not need to be shifted in changing the loca-

tion of the cuts, and the upper cutters are also arranged in a straight line, but their acting edges represent a corrugated form of alternate transverse projections and recesses adapted to coact with the under knife in cutting the slits at the proper intervals and to stretch the severed strands, and either the upper cutter or the sheet is shifted back and forth between the operations as will be understood.

In the accompanying drawings Figure 1 is a perspective of a sheet, a part of which has been expanded by my invention. Fig. 2 is an elevation of the preferred form of cutters used in manufacturing it. Fig. 3 is a section on line 3—3 of Fig. 2. Fig. 4 is a plan of the sheet showing the first line of slits in dotted lines.

In the drawings A represents the sheet from which the expanded metal is formed.

B represents the series of upper or moving cutters and C is the lower knife which may be and preferably is stationary. The lower edges of the cutters B are so shaped as to form alternate transverse projections *b* and recesses or intervening openings *c*, the projecting portions being adapted to coact with the lower knife in forming the slits. They are also adapted to force or carry downward the severed portions of the metal at the same operation to the position indicated by the broken lines *m* at Fig. 2. It will be noticed that at the time the bend is imparted to the severed portion, there can be no contraction in the product from the length of the sheet A because the ends of the severed portion or strand are still integral with the sheet and will not permit it. The sheet is then fed forward and the slitting and stretching operation is repeated. One line of slits across the sheet is formed at each operation, and the upper cutters, or the sheet, may be shifted and the sheet be fed forward between the operations so that the slits are in every case made back of the portions left unsevered at the preceding operation, or in other words the slits and unsevered portions alternate in position at successive operations. The bend given to the severed portion, or strands as they are usually called, is in a direction at

right angles to the plane of the sheet, and as there is no contraction in the length of the metal, it necessarily follows that the expansion is obtained from the stretch, distension
5 or elongation of the severed strands.

I claim—

The herein described method of making open or reticulated metal work, which consists in simultaneously slitting and bending
10 portions of a plate or sheet of metal in such manner as to stretch or elongate the bars con-

necting the slit portions and body of the sheet or plate, and then similarly slitting and bending in places alternate to the first mentioned portions, thus producing the finished ex- 15 panded sheet metal of the same length as that of the original sheet or plate, substantially as described.

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Witnesses:

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