

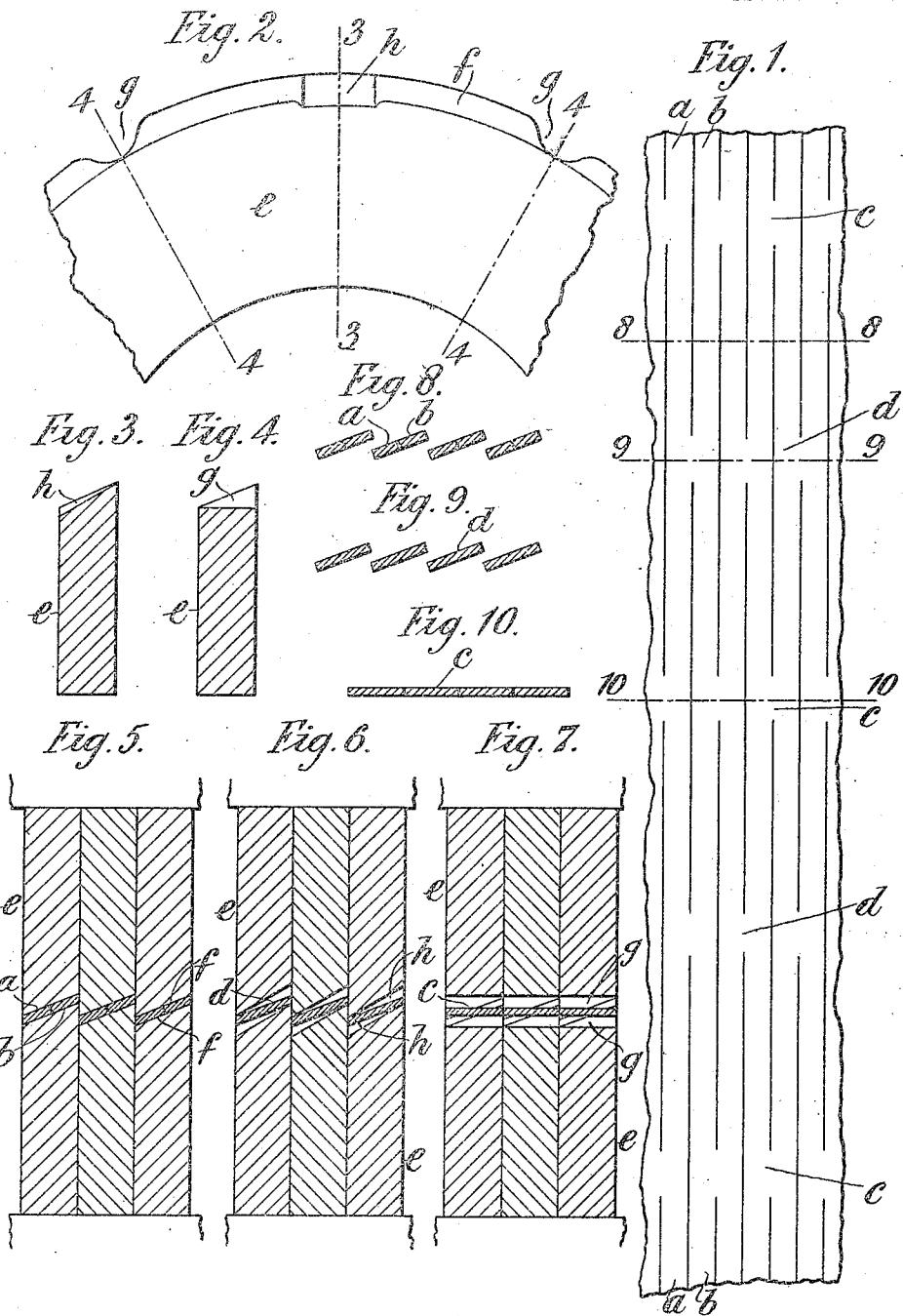
999,264.

H. SALMON.

PROCESS OF MANUFACTURING EXPANDED METAL.  
APPLICATION FILED JAN. 3, 1911.

Patented Aug. 1, 1911.

2 SHEETS—SHEET 1.



Witnesses.

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2 SHEETS—SHEET 2.

Fig. 11.

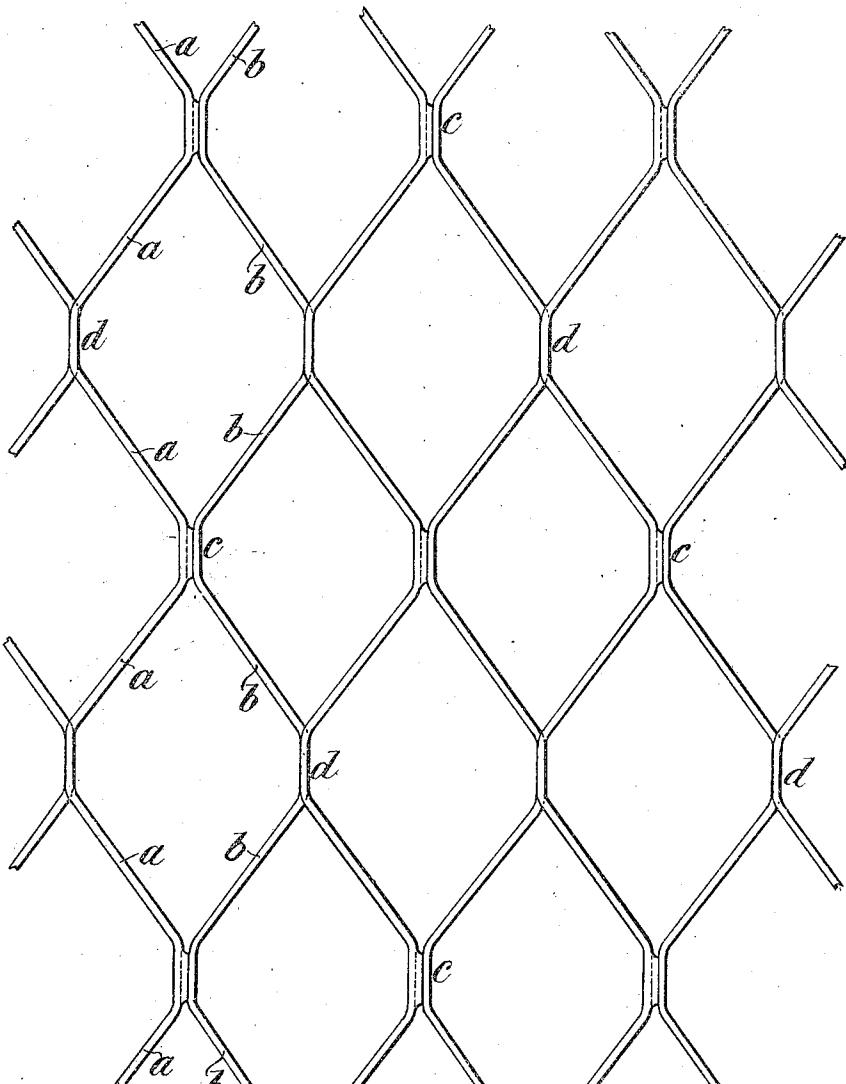
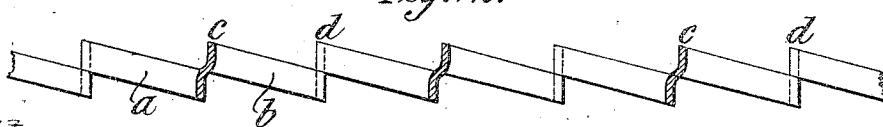


Fig. 12.



Witnesses.

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# UNITED STATES PATENT OFFICE.

HARRY SALMON, OF WESTMINSTER, ENGLAND, ASSIGNOR TO THE EXPANDED METAL COMPANY, LIMITED, OF WESTMINSTER, ENGLAND.

## PROCESS OF MANUFACTURING EXPANDED METAL.

999,264.

Specification of Letters Patent. Patented Aug. 1, 1911.

Application filed January 3, 1911. Serial No. 600,650.

*To all whom it may concern:*

Be it known that I, HARRY SALMON, a subject of the King of Great Britain, residing at York Mansion, York street, in the city of Westminster, England, have invented new and useful Improvements in Processes of Manufacturing Expanded Metal, of which the following is a specification.

According to this invention expanded metal is made by first forming in a sheet as is usual parallel longitudinal rows of slits the junctions between the ends of the slits of each row being between the slits of adjacent rows. The strips or strands so formed are according to this invention turned in pairs all in the same direction out of the plane of the sheet one strip being turned up and the adjacent one down, provision is however made so that every other row of junctions is turned as little as possible. The sheet is then expanded the mesh in its final condition being square or diamond shaped as desired. The strips may be turned out of the plane of the sheet by means of conical rolls having surfaces set all in the same direction out of the plane of the sheet and having recesses at the points of contact with the junctions.

The manufacture is preferably carried out in the machine described in the specification of the United States Patent No. 890127, the conical rolls as described above being substituted for the saw toothed rolls shown in the drawings annexed to that specification.

35 *Description of the drawings.*—Figure 1 is a plan of a sheet after it has been slit. Fig. 2 is a side elevation of one of the rolls. Figs. 3 and 4 are sections on the lines 3, 3 and 4, 4 Fig. 2. Figs. 5, 6 and 7 are vertical sections of the rolls. Figs. 8, 9 and 10 are transverse sections of the sheet shown in Fig. 1 on the lines 8, 8, 9, 9; and 10, 10, after the sheet has been passed through the rolls and correspond with Figs. 5, 6 and 7. 45 Fig. 11 is a plan and Fig. 12 a transverse section of the sheet after it has been expanded.

In Fig. 1 the sheet of metal has been divided by the slits into narrow strips *a b*, *a b*, *c d*, *c d* connected together by rectangular junctions *e e* as is shown in Figs. 5, 6 and 7. The rolls have conical surfaces *f* in which are recesses *g* and *h*. The deep recesses *g*

in each pair of rolls coöperate together when passing the junctions *c* at the ends of the pairs of strips, these junctions being turned as little as possible, and the shallow recesses *h* coöperate together when passing the junctions *d* connecting the middles of the pairs of strips. The sheet is then expanded and in the finished sheet as shown in Figs. 11 and 12 all the metal has been turned substantially through a right angle and the rows of mesh are in parallel planes as is shown in Fig. 12. The mesh shown is diamond shaped but it may be made square by further expansion.

In another application I have claimed the improved mechanism herein shown and described.

What I claim is:—

1. The process of manufacturing expanded metal consisting of forming in a sheet parallel longitudinal rows of slits, the junctions between the ends of the slits of each row being between the slits of adjacent rows, then turning the adjacent strips on opposite sides of each alternate slit in the same direction out of the plane of the sheet, and finally expanding the sheet.

2. The process of manufacturing expanded metal consisting of forming in a sheet parallel longitudinal rows of slits, the junctions between the ends of the slits of each row being between the slits of adjacent rows, then turning the adjacent strips on opposite sides of each alternate slit in the same direction so that one strip is above the plane of the sheet and the other below the same and finally expanding the sheet.

3. The process of manufacturing expanded metal consisting of forming in a sheet parallel longitudinal rows of slits, the junctions between the ends of the slits of each row being between the slits of adjacent rows, then turning the adjacent strips on opposite sides of each alternate slit and every other row of junctions all in the same direction out of the plane of the sheet but turning the other junctions as little as possible and finally expanding the sheet.

4. The process of manufacturing expanded metal consisting of forming in a sheet parallel longitudinal rows of slits, the junctions between the ends of the slits of each row being between the slits of adjacent rows, then turning each junction of every other

transverse row of junctions together with the pair of strips connecting such junction to the junctions of the adjacent transverse rows to an angle to the plane of the sheet, 5 all such junctions being turned in the same direction while the junctions of the adjacent transverse rows remain substantially in the

plane of the sheet and finally expanding the sheet.

**HARRY SALMON.**

Witnesses:

**HENRY SCHOLFIELD,  
R. WESTACOTT.**