No. 663,351. Patented Dec. 4, 1900.

A. MAUSER.

METAL FABRIC.

(Application filed Sept. 24, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

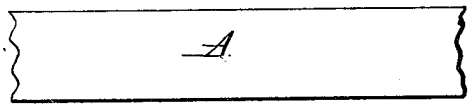


Fig. 2.

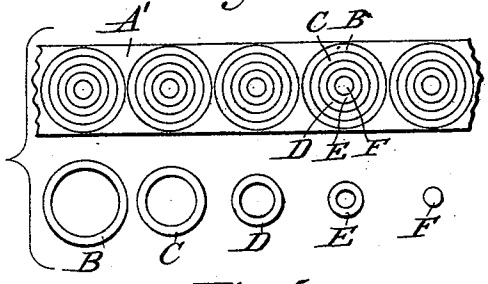


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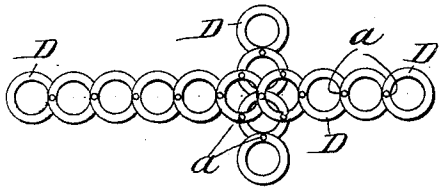


Fig. 5.

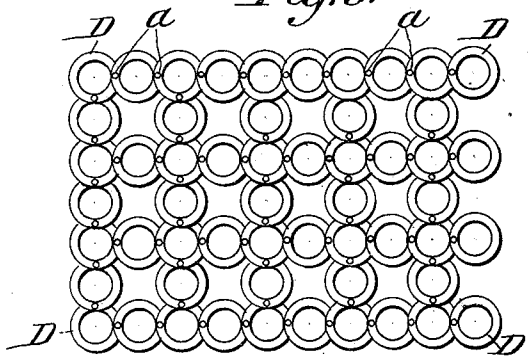


Fig. 4.

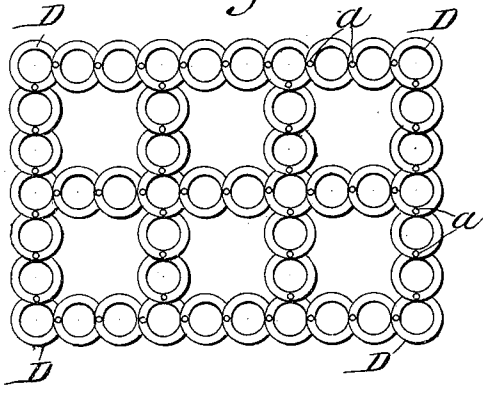
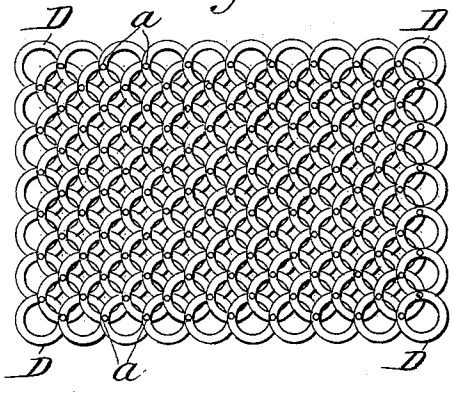


Fig. 6.



Witnesses

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No. 663,351. Patented Dec. 4, 1900.

A. MAUSER.

METAL FABRIC.

(Application filed Sept. 24, 1898.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 7.

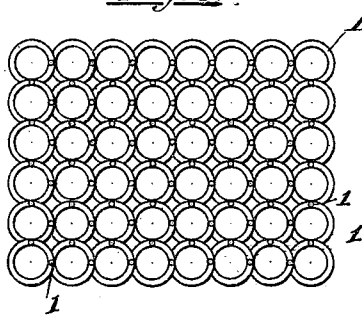


Fig. 8.

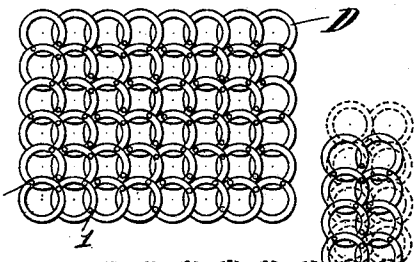


Fig. 9.

Fig. 10.

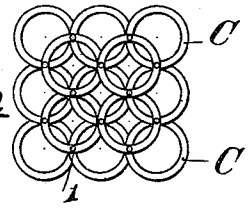


Fig. 11.

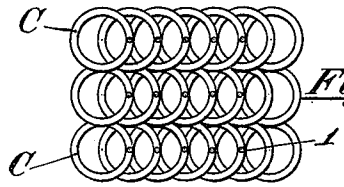


Fig. 12.

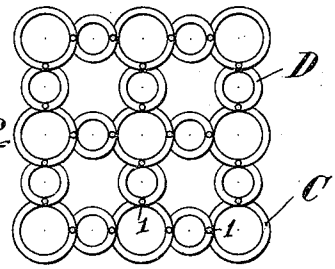


Fig. 13.

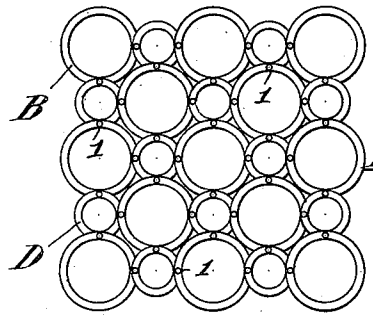


Fig. 14.

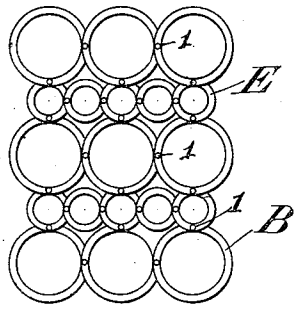
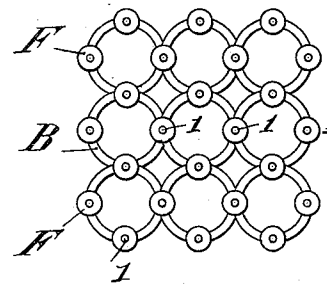


Fig. 15.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALFONS MAUSER, OF STUTTGART, GERMANY.

METAL FABRIC.

SPECIFICATION forming part of Letters Patent No. 663,351, dated December 4, 1900.

Application filed September 24, 1898. Serial No. 691,772. (No specimens.)

To all whom it may concern:

Be it known that I, ALFONS MAUSER, a citizen of the German Empire, residing at Stuttgart, in the Kingdom of Würtemberg, Germany, have invented certain new and useful Improvements in Metal Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to metallic fabrics for different purposes in the arts; and it consists, substantially, in such features of improvement as will hereinafter be more particularly described.

The principal object of the invention is to avoid all waste of material in the production or manufacture of a metallic fabric of the kind referred to in my former Letters Patent, No. 593,484, granted on the 9th day of November, 1897, and particularly in my former Letters Patent, No. 615,728, granted on the 13th day of December, 1898.

A further object is to provide a fabric of this kind which is admirably adapted for use either as a fencing or a filling for insertion in framework of different forms or shapes and also for various other purposes.

These and additional objects are attained by the means shown in the accompanying drawings, in which—

Figure 1 is a blank strip of steel or other metal from which suitable portions are to be stamped out to produce the fabric for producing the fencing shown and described in my former Letters Patent referred to. Fig. 2 is a diagrammatic plan view representing the different concentric rings and central disks as stamped or cut from the blank strip in the production or manufacture of the fabric of my present invention. Figs. 3 to 15, inclusive, are different views in plan representing various modifications in the shapes or formations of fencing, lattice-work, or fencings constructed from the fabric of my present invention.

Referring to the drawings, it may be stated that to produce or manufacture a fabric embodying the essential features of my present invention I take a strip or blank A, Fig. 1, of steel or other suitable metal, and by the use of suitable punching or stamping machinery and dies I cut or stamp out from said blank a number of concentric rings B, C, D, and E, Fig. 2, and which also leaves in the center a disk F. As is of course apparent, these several rings are of different or varying sizes, and I so arrange the rings of either the same or of different sizes, hereinafter referred to, as to produce a metallic fabric of varying shape, pattern, or design, which shape, pattern, or design is capable of variation either to suit the eye or taste in the construction of fencing, as well as to conform the fabric to the shapes of frames or other structures in which the fabric is employed either as a lattice-work, partition, screen, or for other analogous purposes. The rings and disks employed in my present invention, it will therefore be understood, are made up from those parts or portions of metal which in the construction of the fabric of my former patent would ordinarily be waste material. In the formation or manufacture of the present fabric the rings are joined together to form fencings, lattice-work, &c., of different patterns, and said rings can, if desired, be permanently secured or so fastened together by rivets or transverse pins *a*, as shown. Preferably, however, I join the rings (and in some instances both the rings and disks) together in such manner as to enable them to be wholly or partially collapsible, both to occupy smaller space in transportation as well as to render the fabric capable of being shortened or distended within certain limits for different requirements of its use.

Fig. 3 represents a part of a fabric made under my invention and consisting of two simple straight strips or bars united crosswise or at substantially right angles and each made from a number of rings movably joined or swiveled together at *a* by loose rivets or transverse pins, so as to enable each ring to be turned around on the adjoining rings. It will of course be understood that the same bar or bars can in like manner be made up of any of the other sizes of the rings.

In Fig. 4 the rings D (or those of any other size) are arranged in rectangular form, with inner bars of the rings crossing each other. Figs. 5 and 6 are similar views representing successively a greater number of rings employed in the fabric. The rings in each in-

stance are similarly joined together, as in Fig. 3, and therefore the fabric can be partially collapsed and again distended by the application of the necessary force to turn the rings upon their pivots *l*.

Figs. 7 to 15, inclusive, indicate different forms of the fabric made up in some instances of the rings D, in some of the rings C, and in others of the combination of rings D and C, rings B D, rings E B, and finally of rings B and the disks F. It will thus be seen that in the manufacture of the fabric of my present invention I am enabled to use the otherwise waste material of my former patent, and thus I simultaneously produce the material of the desired form for both fabrics.

It will be seen from the above that one essential feature of my invention consists in uniting sheet-metal stampings, such as rings or rings and disks, into a fabric in which the said stampings lie substantially in the same plane. Moreover, the said stampings are so arranged that all the adjoining stampings overlap and are united by transverse pins or rivets. These connecting pins or rivets are, moreover, loose, so as to allow adjoining rings to shift or turn one upon the other to a sufficient extent to make the fabric collapsible in the plane of the fabric to a considerable degree, as indicated in Fig. 9. This collapsibility is secured by connecting the stampings only where they overlap, but not diagonally across, as will appear from an inspection of all the figures of the drawings.

It will be seen that under my invention there are secured, among others, the advantages of enabling a great variety of metal fabrics to be produced, which fabrics while having the requisite degree of stiffness to fit them admirably for fencing, lattice-work, and the like are sufficiently collapsible in the plane of the stampings to enable them to be properly fitted and for other purposes.

Another great advantage flowing from my invention is that it enables me to utilize all of the sheet metal from which the stampings are made and dispenses with waste.

Of course it will be readily understood that the shape of the sheet-metal stamping is immaterial to the invention and that the rings or disks which are stamped out may have any shape besides the circular shape represented.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A metallic fabric composed of a united series of parallel rows of rings, all the rings of each row overlapping each other and loosely fastened together at the points of connection, the parallel rows of rings also overlapping each other all of the contiguous rings of the parallel rows being loosely fastened together.

2. A metallic fabric composed of a united series of parallel rows of rings, all the rings of each row overlapping each other in the same direction and loosely fastened together at the points of juncture, the parallel rows of rings also all overlapping each other in the same direction, all the contiguous rings of the parallel rows being loosely fastened together.

3. A metallic fabric for the purpose stated, composed of a series of rows of rings of varying sizes arranged substantially in the same plane and movably joined together by rivets or transverse pins.

4. A metallic fabric for the purpose stated composed of a series of rows of sheet-metal stampings of different sizes arranged substantially in the same plane and connected together by rivets or transverse pins.

5. A metallic fabric for the purpose stated consisting of a united series of united rows of overlapping sheet-metal stampings, the stampings of each row being movable with respect to each other in substantially the same plane and the rows being also movable with respect to each other in substantially the same plane.

6. A metallic fabric for the purpose stated consisting of an overlapping series of rows of overlapping sheet-metal stampings all arranged in substantially the same plane and all united so as to be collapsible in the said plane.

7. A metallic fabric for the purposes stated consisting of a series of rows of sheet-metal stampings of different sizes all arranged in substantially the same plane and all movably united with respect to each other by transverse pins.

In testimony whereof I affix my signature in presence of two witnesses.

ALFONS MAUSER.

Witnesses:
H. WAGNER,
A. B. DRAUTZ.