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H. RICHARDSON.
WIRE FABRIC.
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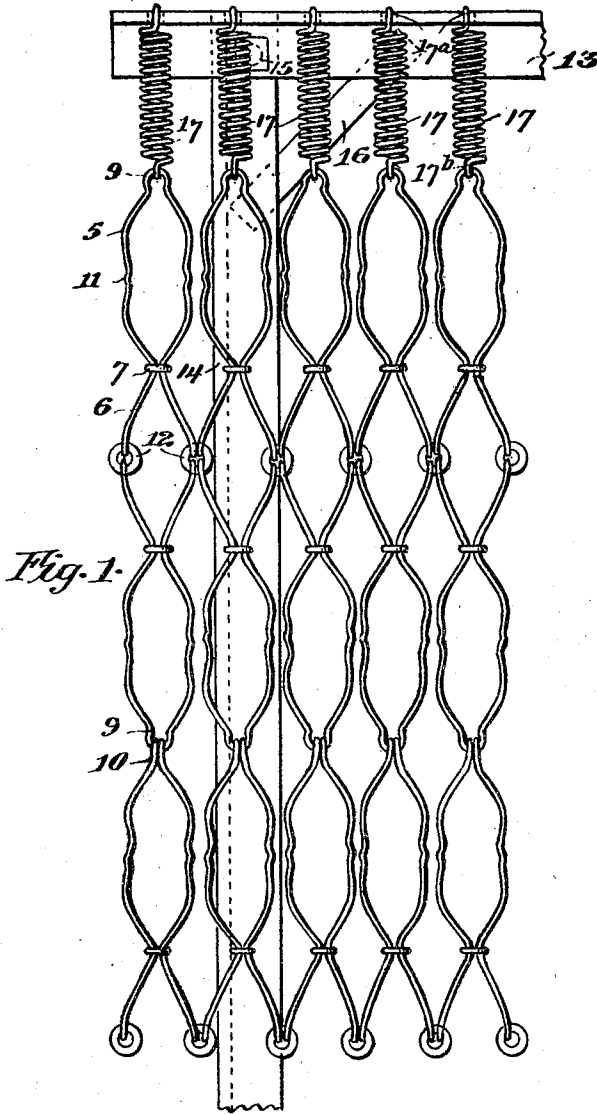


Fig. 1.

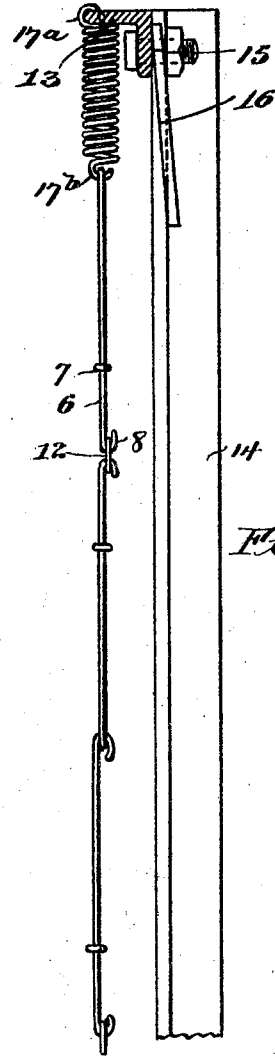


Fig. 2.



Fig. 3.

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WIRE FABRIC.

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To all whom it may concern:

Be it known that I, HENRY RICHARDSON, a subject of the King of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wire Fabrics, of which the following is a specification.

My invention relates to wire fabrics of that general class which are made up by a series of longitudinally and transversely connected elements designed to afford flexibility of the fabric in both lengthwise and crosswise directions.

The principal object of my invention is to provide a fabric of the class referred to, which shall be simple and easy to manufacture, economical in respect to cost of production, attractive in design and appearance, and efficient in use, and in which when used as a support the strains shall be transmitted in a longitudinal rather than oblique direction.

With these objects in view the invention consists of a wire fabric having the peculiarities of form, construction, and relative arrangement of elements substantially as hereinafter described, and pointed out in the claims.

The wire fabric of my invention is capable of a variety of uses or applications, and in order to illustrate one of the leading uses for which it is intended I have in the accompanying drawings shown the same as constituting an elastic bed-bottom.

Referring to the drawings, Figure 1 is a top plan view of a section of fabric constructed in accordance with my invention, the same being shown as attached to the frame of a bed-bottom. Fig. 2 is an edge view of the same, and Fig. 3 is a detail view of a double-wire hook constituted by extending and bending over the closed end portion of one of the links and constituting an important feature of the invention.

My improved fabric is composed, essentially, of a series of bent-wire units, each of which, as herein shown, consists of a generally oval-loop portion 5 and a semi-oval-shaped portion 6. The two sides of the unit at the meeting point of one end of the oval portion 5, with the closed end of the semi-oval portion 6, are united by clips 7. The free ends of the semi-oval portion 6 are bent backwardly a short distance to form hooks 8. At the other end of the oval portion 5 certain of the units are bent to form an eye 9, open toward the inside of the loop, while in certain

other of the elements the same closed end of the loop is extended with the sides thereof in substantial parallelism for some distance and then bent backward upon itself to form a double-wire hook 10. This latter, which is more particularly shown in the detail view, Fig. 3, constitutes a leading and important feature of the invention. Preferably and as herein shown the opposite sides of the oval or loop shaped members 5 are crimped or wrinkled, as shown at 11, which adds to the strength of the member to resist longitudinal strains without contraction, besides contributing to its attractive appearance.

In assembling the units to make up a sheet of fabric the units are placed in inverse endwise engagement to form longitudinally-extending strands and are united at their open ends by means of connecting devices which serve the function of uniting the units longitudinally and at the same time uniting the strands transversely. As herein shown, these connecting members consist simply of rings 12, which receive the hooks 8 of the semi-oval portion 6 of the units, each of the rings (excepting those on the outer margins of the fabric) receiving the endwise adjacent hooks at the meeting ends of the units of two sidewise adjacent longitudinal strands. At their endwise meeting closed ends the units are united by simply engaging the bent or hooked end 10 of one unit with the eye 9 of the next unit. This, it will be seen, is an extremely simple operation, capable of performance with great expedition and celerity, and thus contributing largely to the ease and facility with which the units may be assembled. It is furthermore evident that the connecting up of the units to form the longitudinal strands in the manner and by the means described at the same time effects their transverse connection through the rings 12 in such a manner as to avoid cross-tension and afford longitudinal elasticity, this also contributing to the ease and facility with which the fabric may be assembled.

To illustrate one of the uses to which the fabric of the present invention may advantageously be applied, I have shown the same in connection with the frame of a bed-bottom, wherein 13 may represent the end transverse bar and 14 the longitudinal side bar of such frame, the two united at their points of intersection by a bolt 15 and diagonal brace 16. The transverse bar 13 is commonly made of angle iron or steel, and to the vertical mem-

ber thereof are secured a series of helical springs 17 by means of hooks 17^a, engaging apertures in the cross-bar, while the inner ends of the springs have similar hooks 17^b, that may engage the eyes 9 of the adjacent series of loops.

From the foregoing it will be seen that the fabric is made up, essentially, of a series of bent-wire units consisting of links or loops closed at one end and open at the other and arranged in transverse rows or series, adjacent rows or series having the units inversely disposed as regards longitudinal direction. It will also be observed that the units of endwise adjacent transverse rows differ in the formation of the closed end of the loop, the units of one series having the closed end bent over to form a hook to engage an eye in the closed end of the other series, thus dispensing entirely with separate connecting devices at such points. This, so far as I am aware, constitutes a novel and important feature of the present fabric.

I claim—

1. A wire fabric composed of a series of endwise and transversely connected units, each unit comprising a wire bent to form a substantially oval loop portion and a semi-oval portion constituting an integral endwise extension of said loop portion, and a clip uniting the sides of the unit at the junction of said oval and semi-oval portions, substantially as described.

2. A wire fabric comprising a series of units each composed of a wire bent to form a substantially oval loop portion and a semi-oval portion constituting an integral extension of said loop-shaped portion, said units being arranged with their closed ends interhooked and their open ends in proximity and means uniting said open ends to create longitudinal strands, substantially as described.

3. A wire fabric comprising a plurality of units each composed of a wire bent to form a loop portion and a semiloop portion constituting an endwise extension of said loop portion, clips uniting the sides of the units at the junction of the loop and semiloop portions, and means connecting the open ends of the semiloop portions of endwise adjacent units, substantially as described.

4. A wire fabric comprising a plurality of

units each consisting of a wire bent to form a loop portion and a semiloop portion constituting an end extension of said loop portion, the semiloop portions of all of said units terminating at their open ends in hooks, and the loop portions of certain of said units terminating in eyes and of certain other of said units in hooks of double wire to engage said eyes, clips uniting the sides of the units at the junctions of the loop and semiloop portions, and rings engaging the hooks of the semiloop portions of both endwise and sidewise adjacent units whereby to connect the units of the fabric both longitudinally and transversely, substantially as described.

5. A wire fabric of the class described, comprising a series of independent bent-wire units disposed side by side and each having an open and a closed end, in combination with a corresponding series of independent bent-wire units also disposed side by side and having each an open and a closed end extended and bent to form hooks engaging the closed ends of said first-mentioned series of units, and links transversely connecting the open ends of sidewise adjacent units, substantially as described.

6. A wire fabric of the class described, comprising a series of independent bent-wire units disposed side by side and each having an open and a closed end formed with an eye, in combination with a corresponding series of independent bent-wire units also disposed side by side and having each an open end and a closed end extended and bent to form double-wire hooks engaging the eyes of said first-mentioned series of units, and links transversely connecting the open ends of sidewise adjacent units, substantially as described.

7. A wire fabric of the class described, composed of a series of endwise and crosswise connected units each made of a wire bent to form a loop portion and a semiloop portion, the side members of said loop portion being crimped or wrinkled to afford increased resistance to longitudinal strains, substantially as described.

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