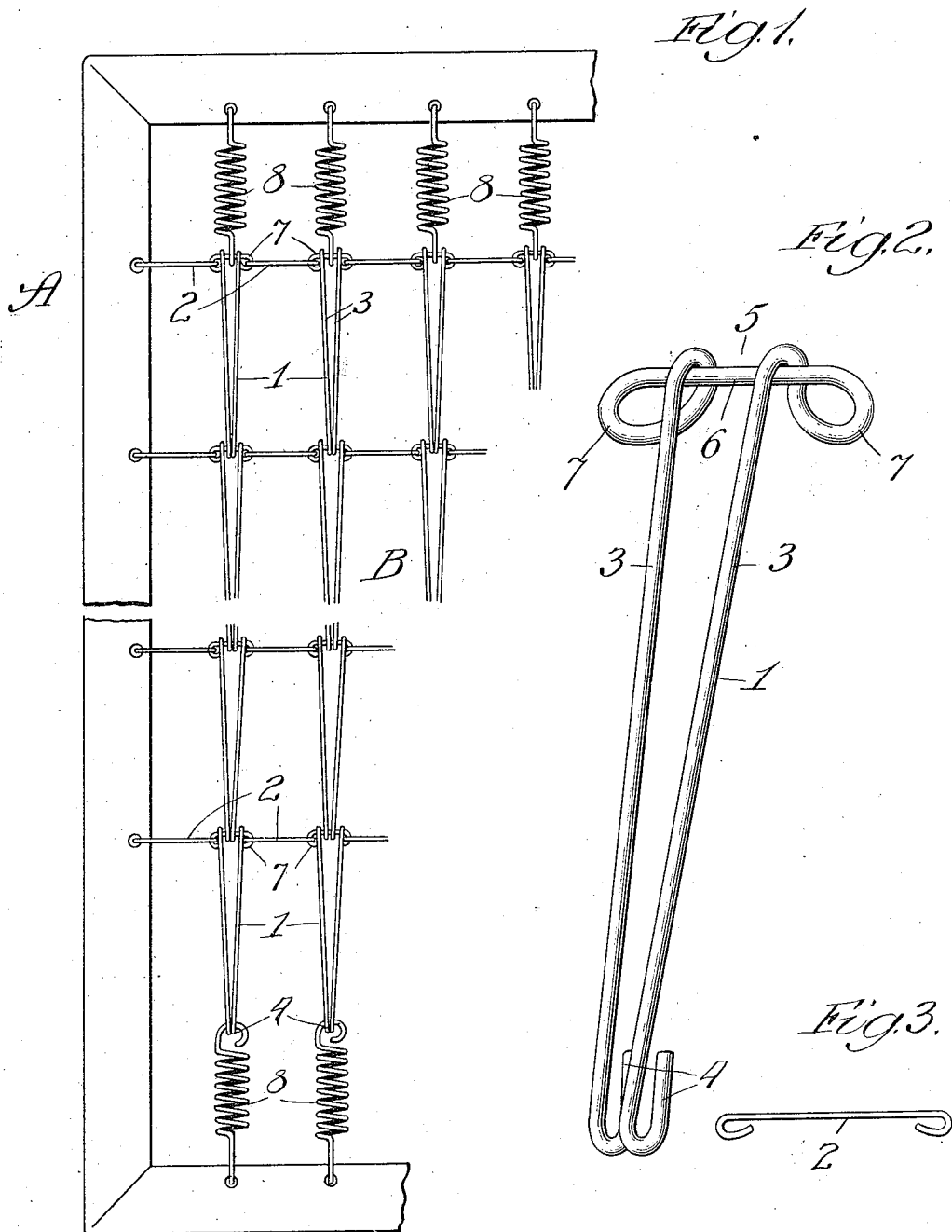


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WIRE FABRIC.
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LOUIS J. WILLEMS, OF KENOSHA, WISCONSIN.

WIRE FABRIC.

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To all whom it may concern:

Be it known that I, LOUIS J. WILLEMS, a citizen of the United States, residing at Kenosha, in the county of Kenosha and State of Wisconsin, have invented a new and useful Improvement in Wire Fabrics, of which the following is a specification.

My invention relates particularly to wire fabrics adapted to serve as a flexible bed-bottom and well adapted for use in connection with folding beds, sofa beds, folding couches, etc.

My primary object is to provide a fabric of the character indicated having links of improved formation, providing for improved pivotal connections between the double-member links employed, the construction being, at the same time, adapted to prevent abnormal displacement of any of the links in the structure, while permitting the necessary independent freedom of movement of the strands with relation to each other.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a broken view of a frame and a fragmentary view of my improved fabric applied thereto; Fig. 2, an enlarged perspective view of the improved two-ply link employed; and Fig. 3, a view of a cross-link employed.

In the drawing, A represents the frame, and B, my improved fabric applied thereto.

The fabric is composed of a plurality of parallel rows of double-member links 1, said rows being spaced apart and connected by transverse links 2. Each link 1 is composed of two substantially straight limbs 3 which converge toward their free ends, where they are provided with downturned hooks 4, the base-ends of said limbs being separated by a space 5 and crossed by a pivot-forming web 6 whose ends are joined by closed loops or eyes 7 to the base-ends of the limbs 3. The character of the formation is such that the loops or closed eyes 7 flank the base-end portions of the limbs 3. The link 1 may be produced by bending a length of wire to produce a pair of limbs and a transversely elongated loop at the base portions of the limbs, folding the base portions of the limbs to bring the web crosswise beneath them, thus forming the eyes; and then giving to the base portions of the limbs a second fold

over the web, so that the web will then lie at the extreme end portion of the base of the link, with the eyes turned away from the web and toward the hook end of the link.

Another method of formation is to bend a length of wire so as to produce a base end, with the base portions of the limbs separated a short distance, and with eyes flanking the base portions of said limbs and connected by a web which underlies the limbs; and then bending the limbs over the web, thereby producing the formation at the base end of the link, which is shown in the drawing.

Either one of the described methods of formation lends itself to the production of the improved fabric by means of a machine, which is an important consideration. In the finished fabric, the links 1 are ranged in longitudinal rows, with the hooks 4 of one link engaging the pivot-forming web 6 of the next link, and so on throughout the row; and the double-ply links are also ranged in transverse rows, with the eyes 7 joined by the transverse links 2. The longitudinal rows are joined to the ends of the frame by helical springs 8, in the illustration given. The marginal longitudinal rows, in the illustration given, are joined to the lateral member of the frame by simple links 2 of the same formation as the links 2 which connect the eyes of the links 1.

It will now be understood that the described fabric is one which may be folded freely along either longitudinal lines or transverse lines; also that stress may be transmitted in direct longitudinal lines and also in direct transverse lines; also that the links of the fabric are not liable to displacement in use, notwithstanding the fact that the longitudinal rows or strands of double-member links are permitted individual freedom of movement with relation to each other; and, finally, that the fabric is substantially noiseless in use, owing to the freedom of pivotal action between the links, which the construction permits. The fabric presents a smooth surface to the mattress due to the fact that the hooks engaging over the web form the upper surface of the links in direct longitudinal alinement, and the several links when so connected together present a continuous surface of uniform level throughout, and thus the wires of the

fabric are well disposed to produce a fabric-mesh which will not be injurious to the mattress.

In some instances, it may be necessary or desirable to so place the fabric on a folding couch, or the like, that the links 2 will extend lengthwise when the structure is in bed form. In such case, it may be desirable to substitute for the marginal links 2 joining the fabric to the frame, the coiled springs 8. In any case, the fabric will lend itself to the necessary folding operation of the structure to which it is applied.

What I regard as new, and desire to secure by Letters-Patent, is:

1. A flexible wire fabric, comprising rows of links, each row composed of links having two straight limbs provided with hooks at their free ends and spaced apart at their base-ends and crossed at said base-ends by a pivot-forming web flanked by closed eyes, the hooks of one link engaging the web of the adjacent link of the row between the limbs and eyes thereof, and transverse means connecting the eyes of adjacent rows of links.

2. A flexible wire fabric, comprising parallel rows of double-member links, each row composed of a series of links, each link having two substantially straight limbs with hooks at their free ends, said limbs spaced apart at their base-ends and crossed by a pivot-forming web and flanked by closed eyes which form the connections between the web and base-ends of said limbs, the hooks of one link engaging the web of the

adjacent link of the row, between the limbs and eyes thereof, and transverse means connecting adjacent rows of links.

3. A flexible wire fabric, comprising parallel rows of double-member links, each row composed of a series of links, each link having two substantially straight limbs converging toward their free ends and provided at their free ends with hooks, said limbs spaced apart at their base ends and crossed by a pivot-forming web and flanked by closed eyes which form the connections between the web and base-ends of said limbs, said eyes lying on that side of the web which is toward the hook end of the link, the hooks of one link engaging the web of the adjacent link of the row between the eyes thereof; and cross links joining the eyes of said double-member links.

4. In a flexible wire fabric, a series of rows of links, each link having a hook at one end and formed at its opposite end with spaced apart members, and a pivot forming web disposed below the plane of said spaced apart members, the hooks of one link engaging the web of the next adjacent link between the spaced apart members thereof and in the same plane therewith, whereby the several links when so connected together present a continuous surface of uniform level throughout, and transverse means connecting adjacent rows of links.

LOUIS J. WILLEMS.

In the presence of—
SAMUEL SKURIS,
JOHN ZENS.