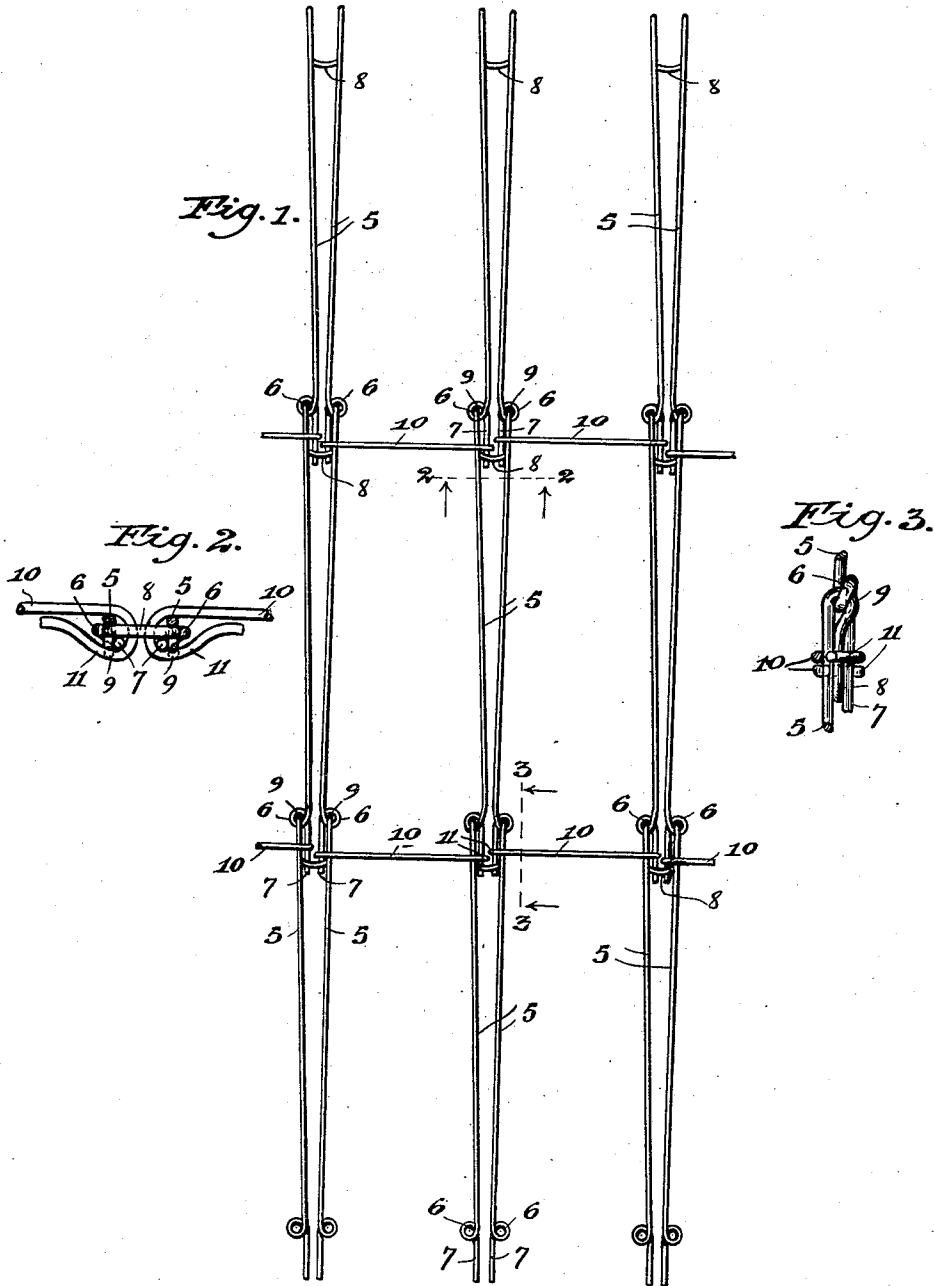


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WIRE FABRIC.

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To all whom it may concern:

Be it known that I, SAMUEL N. POND, a citizen of the United States, 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.

This invention relates to wire fabrics, and has reference more particularly to wire link fabrics of the kind at present extensively used to form the bottoms of beds, couches and like articles of furniture.

More specifically, my invention relates to that type of such wire link fabrics which are composed of parallel longitudinal rows of interlooped or interhooked longitudinal wire links connected transversely at intervals by wire cross-links.

The weakest point in this type of fabrics resides in the loops or hooks by which the longitudinal links or units are connected up end to end. The stretching strains imposed on the longitudinal strands in service tend to pull or straighten out the free end portions of these loops or hooks, and the capacity of the latter to resist these tension strains is very far below the tensional resistance capacity of the body portions of the links themselves. This necessitates the employment of a much heavier and stiffer wire than would otherwise be necessary.

The object of this invention is to provide a construction that will permit the use of a much lighter wire than has heretofore been possible in wire fabrics of this type, thereby reducing both the weight and the cost; and this object is accomplished by a construction wherein the free end portions of the interengaging loops of the longitudinal links are securely held by the cross-links of the fabric against pulling or straightening out under tensional strain.

In the accompanying drawing I have illustrated one practical form in which the principle of my invention may be embodied, in which—

Figure 1 is a top plan view of a fragment of my improved wire link fabric; and Figs. 2 and 3 are enlarged detail views in cross-section on the lines 2—2 and 3—3, respectively, of Fig. 1.

Referring to the drawing, and first describing the longitudinal strands of the fabric, each of these is made up of a plurality of endwise connected duplicate links or units, each of which latter is bent to form

from a single length of wire and comprises a main twin-limb body portion 5, in the limbs of which, at the lower or open end of the link, are formed loops 6 that consist simply of single coils or turns in the wire, terminating in straight free end extensions 7 that lie approximately in alinement with the limbs of the main body portions 5. The opposite or closed end portion of the link is doubled back beneath the upper body portion in the form of a U-shaped fold 8 (Fig. 3) that for the most part lies flat against the body portion and forms with the latter, at the extreme upper end of the link, a pair of loops 9 that respectively interengage with the loops 6 of the next adjacent link. As clearly shown in Fig. 3, the straight free end extensions 7 of the loops 6 snugly underlie the fold 8 and extend slightly beyond the cross-member of the latter.

The longitudinal links of the fabric may be inter-connected in the manner shown by first folding back the closed end 8 of one link, thereby forming the loops 9; then bending the free end portions 7 of the limbs 5 of the next end-wise adjacent link outwardly substantially at right-angles to the longitudinal axis of the link; then inserting these rectangularly bent ends 7 through the loops 9, then bending the ends 7 inwardly and downwardly through an angle of approximately 270 degrees, thus forming the loops 6 around the loops 9; and, finally, compressing the loops 6 thus formed in a direction normal to the plane of the fabric, thereby causing the free extensions 7 to lie snugly against the U-shaped fold 8, as shown in Fig. 3, in a position convenient for the application of the cross-links 10.

The longitudinal strands, made up of directly interlooped duplicate longitudinal bent wire links or units formed and engaged with each other as described, are connected laterally at uniform intervals by cross-links 10, each of these consisting of a short straight length of wire formed at both ends with substantially closed hooks or loops 11 (Fig. 2), each of which loops 11 embraces and binds together one of the body limbs 5 and one of the folded over free end portions of a loop 9 of one link and one of the free end extensions 7 of the loop 6 of the next adjacent link.

In situations where an interlooped or interhooked wire link fabric of this type is

under tensile strain lengthwise of the longitudinal strands, as, for instance, in bed and couch bottoms, there is a pronounced tendency for the free end portions of the interconnected loops or hooks of the longitudinal links to bend and straighten out, thus breaking the connections between the individual links of the strand. This has heretofore necessitated the use, in such fabrics, of a gage of wire much heavier and stiffer than would be required where the tensile strength of the wire alone had to be considered. Now it will be observed, as constituting the chief distinguishing characteristic of the fabric of my invention, that both the free end portions of the interengaging loops 9 and 6 lie side by side and substantially parallel with each other and with the upper end portions of the limbs 5, and are tied or bound against pulling or straightening out under tensile strain by the loops 11 of the cross-links 10 which embrace said parts and tie or bind them laterally to the main limb 5 of the link. This construction permits the employment in the fabric of a much lighter gage of wire than has heretofore been possible by bringing the tensile strength at the joints of the longitudinal strands, or points of connection between the links of the strands, practically up to the tensile strength of the wire itself, thus materially reducing both the weight of the fabric and its cost of manufacture.

I claim—

1. A wire link fabric of the character described, comprising a series of parallel longitudinal strands each made up of duplicate wire links interlooped end to end, and cross links connecting said longitudinal strands and formed with end loops embracing and binding together the free end portions of the interengaging loops of said longitudinal links and the main body portions of the latter.

2. A wire link fabric of the character described, comprising a series of parallel longitudinal strands each made up of duplicate bent wire links, each of said links comprising a twin-limb body portion and a pair of loops at each end of said body portion; the loops at one end of the body portion of each link being interlooped with the loops at the opposite end of the body portion of the next adjacent link of the strand, and the free end portions of interengaging loops lying side by side and substantially parallel with each other and with the limbs of said body portions; and cross-links connecting said longitudinal strands and formed with end loops embracing and binding together said free end portions of interengaging loops and the limbs of said body portions.

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