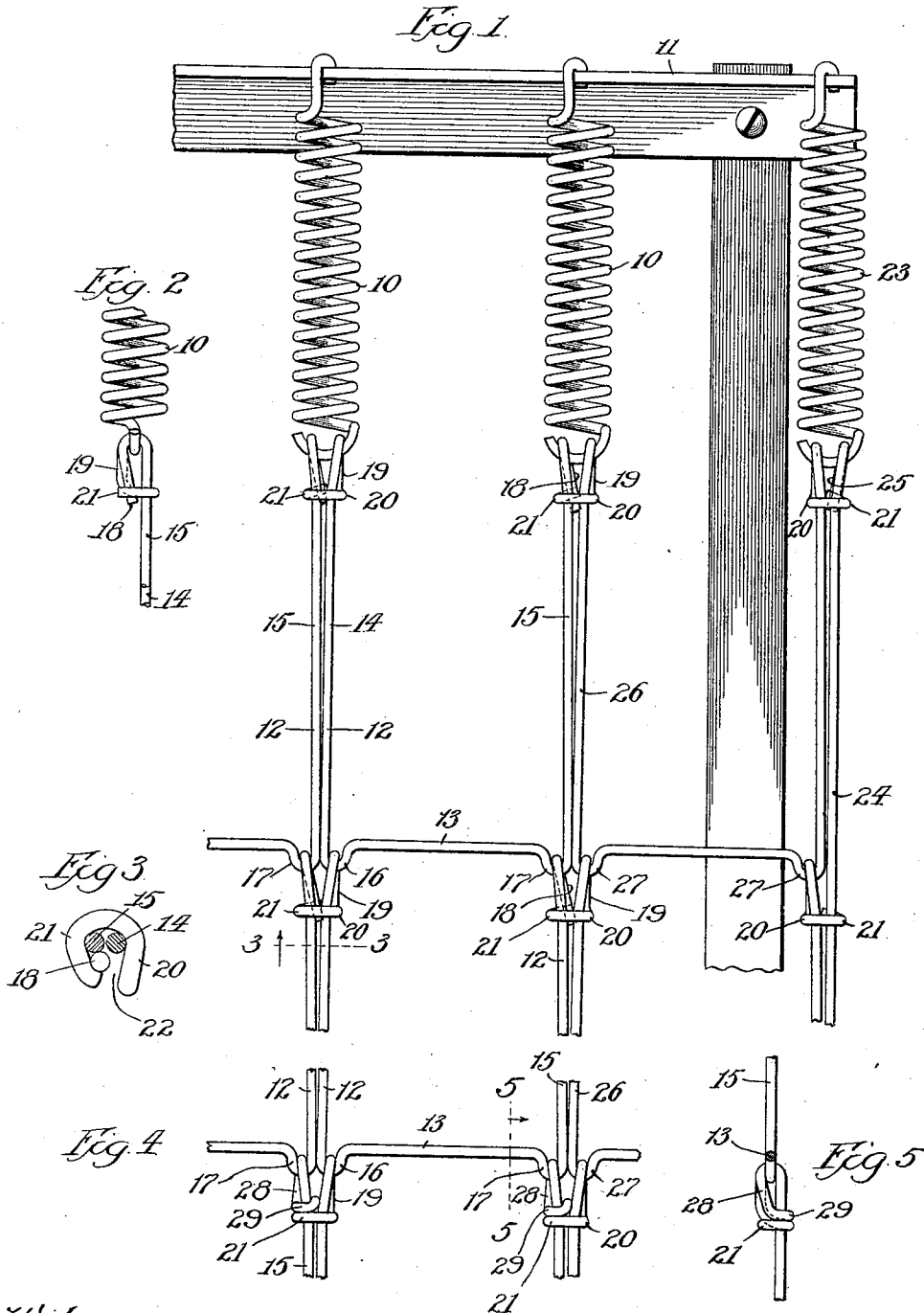


938,569.

Patented Nov. 2, 1909.



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UNITED STATES PATENT OFFICE.

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COUCH FABRIC.

938,569.

Specification of Letters Patent.

Patented Nov. 2, 1909.

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To all whom it may concern:

Be it known that I, CHARLES H. GAIL, a citizen of the United States, residing at Kenosha, in the county of Kenosha and State of Wisconsin, have invented certain new and useful Improvements in Couch Fabrics, of which the following is a specification.

This invention concerns or pertains to wire fabrics such as are used on folding couches, beds, and the like. It has been found that when such a fabric is subjected to excessive strain or weight the parts thereof which will give away first are the hooks or loops securing the links thereof together. Such hooks under such tests tend to straighten out, thereby disconnecting the links.

The object of my invention is, therefore, to provide a fabric of this character of simple and economical construction, which will employ wire of smaller caliber or size than has heretofore been customary or usual, such wire possessing adequate tensile strength for the purpose intended. When using such finer, smaller, and less expensive wire, however, it is desirable or necessary to provide some efficient and effective means for preventing the opening up or straightening out of such hooks or other link connecting or fastening means.

In the preferred embodiment of the invention set out in detail below, the wire links of the longitudinal parallel chains of which the fabric is composed are of substantially U-shape, the ends of the legs or side strands of each link having means for engaging the opposite end of a like or similar link of the same chain. Each link also has a lateral or side hook or loop to interlock with a link of an adjacent chain, whereby the various longitudinal parallel chains are cross-connected, held in proper relation, and suitably joined or bound to one another to effect the desirable distribution of the load.

Various features of novelty and improvement will be made apparent to those skilled in the art from the following detailed description of a desirable embodiment of the invention.

In the accompanying drawing, which forms a part of this specification, and to which reference should be made for a full and complete understanding of this invention—Figure 1 is a plan view of a portion of a couch or bed spring equipped with one of my improved wire fabrics; Fig. 2 is a side view of the lateral or cross connection of one

link with another; Fig. 3 is a cross-section on line 3—3 of Fig. 1; Fig. 4 is a fragmentary plan view of a modified form of fabric; and Fig. 5 is a cross-section on line 5—5 of Fig. 4.

As is usual in constructions and devices of this character, the couch fabric proper is secured at its opposite ends to a plurality of coil expansion springs 10, 10, the outer ends of which are fixed in any suitable manner to a couch or bed spring frame 11, only a portion of which is indicated in the drawing.

My improved fabric or appliance is composed of a series of parallel chains extending from the spiral springs 10 at one end to those at the other end, each chain being composed of a plurality of substantially U-shaped connected or interlocked wire links 12, the wire of which at the junctions of their cross or connecting strands 13 with the legs or side strands 14 and 15 is bent or crimped to provide the pair of bights or seats 16 and 17. The free end of each wire leg or strand 15 is bent downwardly to form a hook 18 adapted to engage the bight 17 of an adjacent link of the same chain, or, as is indicated in the top portion of Fig. 1, engage the loop end of one of the helical expansion supporting springs 10. The wire at the end of the other or companion leg or side strand 14 of each link is bent downwardly to form a loop 19 adapted to take into or engage the bight 16 of the next link of its own chain, or co-act with the inner end of another one of the springs 10, the end of such loop being bent upwardly at 20 (Fig. 3) and then laterally over its own leg 14 to provide a sidewise extended hook 21 with an open mouth or entrance 22 at its lower portion.

The links 12 of the various longitudinal chains are disposed in transverse rows in close proximity to one another, and when the wire fabric is being assembled and fastened to the supporting springs 10, the hook 18 and loop 19 of each link being secured to the ends of a pair of springs, these longitudinal chains are at first unconnected transversely or crosswise. After having been mounted on these elastic supporting springs the various chains may be readily fastened together transversely by slightly shifting each chain longitudinally relative to the next chain so as to permit the hook 21 of each link to be hooked over the leg 15 of the next adjacent sidewise link, and after

such engagement the chains may be permitted to assume their initial or ordinary relation, in which position the hooks 21 extend beneath the ends of the hooks 18 of the adjacent sidewise links, the hooks 21, as will be readily understood, thereby preventing opening up or straightening out of the hooks 18, as is obvious. Owing to this interlocking of the hooks 21 and 18, wire of somewhat smaller diameter may be used than has been customary, such finer wire possessing sufficient and adequate tensile strength for a couch or bed fabric of this character. If desired, the mouths or entrances 22 of the hooks 21 may be made large enough so that the latter hooks may be made to interlock with or receive the legs 15 and hooks 18 of an adjacent link without the slight longitudinal or lengthwise shifting mentioned above.

The coil springs 23 at the edges of the couch or bed spring are connected together by a straight marginal wire 24 having hooks 25 at its opposite ends to take into the loops at the inner ends of the springs, and the outer edge chains of such fabric are desirably composed of U-shaped links 26 having bights or seats 27, the end of each leg of each link having a loop 19 and a transverse hook 21, such outer lateral hook passing around either the marginal wire 24, or such wire and its hook 25, and locking the same against straightening out, the end links of such outer chains performing this latter function.

Instead of having the side hook 21 lock the other hook 18 from straightening out, the same result may be reached, as is indicated in Figs. 4 and 5, by bending the hook 28, which corresponds to the hook 18, upwardly and then downwardly at 29 over its own leg 15 of its link, this additional bend of the wire acting to prevent opening up or straightening out of the hook which in this instance takes the form of a loop. The other leg of the link is equipped with a loop 19 and hook 21, as in the previous instance, but such latter hook simply takes around the leg 15. In each of these instances the ends of the wire are extended downwardly so that the fabric presents a substantially-flat and smooth surface for the reception of a mattress, which is in no danger of being torn or ripped by protruding ends of wires.

Although I have herein set out two embodiments of the invention, it is to be understood that the latter is not limited to these particular constructions, since it is susceptible of a considerable variety of embodiments. It is, therefore, to be understood that the invention is not restricted to the precise structural features shown and described, because these may be varied within comparatively wide limits without departure from the substance and essence of the invention and with-

out sacrificing any of its benefits and advantages.

I claim:—

1. In a wire fabric for couches, beds, and the like, the combination of parallel chains each composed of a series of substantially U-shaped wire links, each of said links having means integral therewith at the ends of their legs or sides engaging the opposite end of an adjacent link of the same chain, one of said engaging means of each link having a portion bent laterally about the leg or side strand of an adjacent link of another chain, whereby said parallel chains are transversely connected together, substantially as described.

2. In a wire fabric for couches, beds, and the like, the combination of parallel chains each composed of a series of substantially U-shaped wire links, each of said links having means integral therewith at the ends of their legs or sides engaging the opposite end of an adjacent link of the same chain, one of said engaging means of each link having a portion extending over its leg of its own link and bent laterally about a leg or side strand of an adjacent link of another chain, whereby said parallel chains are transversely connected together, substantially as described.

3. In a wire fabric for couches, beds, and the like, the combination of parallel chains each composed of a series of substantially U-shaped wire links the wires of which at the junctions of their cross-bars or strands with their legs or side strands are bent or crimped to form bights or seats, each of said links having a hook at the end of one of its legs engaging one of the bights or seats of an adjacent link of the same chain, the end of the other leg of each link having a loop engaging the remaining bight or seat of said adjacent link, said loop having a lateral hook passing over the corresponding leg of its own link and about a leg of an adjacent link of another chain, whereby said parallel chains are transversely connected together, substantially as described.

4. In a wire fabric for couches, beds, and the like, the combination of parallel chains each composed of a series of substantially U-shaped wire links, each of said links having means integral therewith at the ends of their legs or sides engaging the opposite end of an adjacent link of the same chain, one of said engaging means of each link having a portion bent laterally about a leg or side strand of an adjacent link of another chain, whereby said parallel chains are transversely connected together, and means to prevent the other engaging means of each link from opening up or straightening out, substantially as described.

5. In a wire fabric for couches, beds, and the like, the combination of parallel chains

each composed of a series of substantially U-shaped wire links, each of said links having a hook at the end of one of its legs engaging the opposite end of an adjacent link of the same chain, the end of the other leg of each link having a loop also engaging said adjacent link, said loop having a lateral hook passing over the corresponding leg of its own link and about the hook of an adjacent link of another chain, whereby said parallel chains are transversely connected together and the hooks are prevented from opening up or straightening out, substantially as described.

6. As an article of manufacture, a couch fabric wire unit or link of substantially U-shape having a hook at the end of one leg

of the unit, the wire at the end of the other leg being bent to provide a loop disposed lengthwise the unit and a hook disposed laterally thereof, substantially as described.

7. As an article of manufacture, a couch fabric wire unit or link of substantially U-form having a hook at the end of one leg of the unit, the wire at the end of the other leg being bent to provide a loop disposed lengthwise the unit and a hook disposed laterally thereof, said latter leg passing through said latter hook, substantially as described.

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Witnesses:

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