C. H. GAIL.

WIRE FABRIC.

APPLICATION FILED OCT. 19, 1909.

996,919. **Patented July 4, 1911.**

Fig. 1.

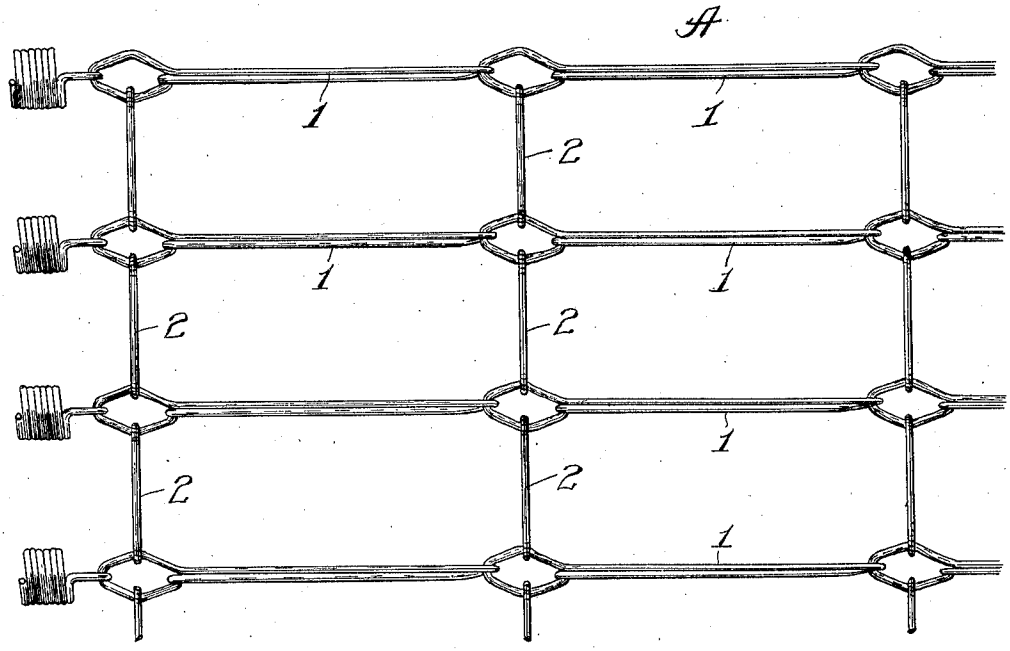


Fig. 2.

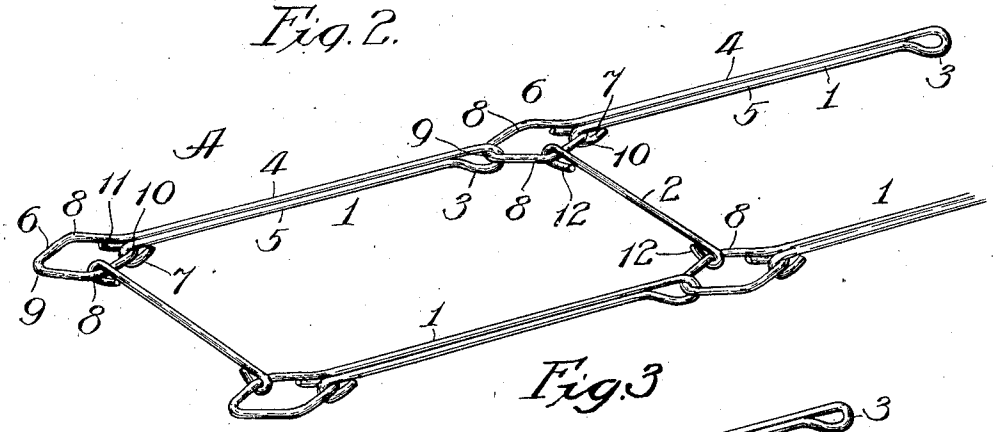
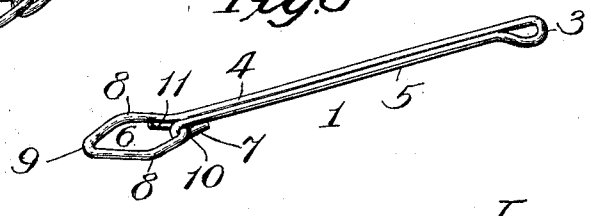


Fig. 3



Witnesses:
John Enders
Chas. H. Buell.

Inventor:
Chas. H. Gail.
By Dyrenforth, Lee, Chritton & Wiles
Attys.

UNITED STATES PATENT OFFICE.

CHARLES H. GAIL, OF KENOSHA, WISCONSIN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE SIMMONS MANUFACTURING COMPANY, OF KENOSHA, WISCONSIN.

WIRE FABRIC.

996,919. Specification of Letters Patent. **Patented July 4, 1911.**

Original application filed April 10, 1909, Serial No. 489,233. Divided and this application filed October 19, 1909. Serial No. 523,468.

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 a new and useful Improvement in Wire Fabric, of which the following is a specification.

My invention relates particularly to wire fabric adapted to serve as a flexible bed-bottom, or wire-mattress, for beds, sofas, couches, etc.; and my primary object is to provide a fabric of the character indicated which is capable of being compactly folded, which can be manufactured at very moderate cost, and which is adapted to resist great longitudinal stress.

An important object, moreover, is to provide a fabric having the qualities mentioned, which may be manufactured by means of simple and inexpensive machinery, thus adapting the fabric to production by small manufacturers who can ill afford to purchase the somewhat complicated and expensive machinery requisite to the manufacture of other fabrics.

The fabric set forth herein is of the general character of the fabric described in my U. S. Patent 946,120, of which this application is a division. The present fabric, while thoroughly adapted to resist great longitudinal stress, is capable of being folded or flexed along any intermediate longitudinal strand of the fabric, and may be manufactured by means of a comparatively simple and inexpensive machine.

The invention is illustrated in its preferred embodiment in the accompanying drawing, in which—

Figure 1 represents a broken plan view of a wire fabric, or wire-mattress, constructed in accordance with my invention; Fig. 2, a broken perspective view of the same; and Fig. 3, a perspective view of one of the longitudinal links employed in the construction of the fabric.

In the preferred construction A represents my improved fabric, comprising longitudinal links 1, arranged in longitudinal rows, and transverse links 2 connecting the longitudinal links. Each longitudinal link 1 preferably comprises a wire which is bent upon itself at an intermediate point, to afford a downwardly extended loop 3 at one end of the link, and substantially parallel members 4 and 5 extending therefrom and lying side by side. The wire member 4 has its extremity bent to afford a substantially diamond-shaped eye 6; and the member 5, which is somewhat shorter than the member 4, has its extremity bent to afford a hook 7 which engages the adjacent angle or hook portion of the diamond-shaped eye 6. As thus described, the eye 6 has lateral angles 8 and end-angles 9 and 10, the angle 10 being engaged by the hook 7. The extreme end 11 of the member 4 forms one portion of the angle 10 of the eye and lies on the under side of the fabric. The members 4 and 5 lie in the plane of the fabric, and the loop 3 is given a half-twist, or half-turn, so as to occupy substantially a vertical plane, the main portion of the loop lying beneath the plane of the fabric. The extremity of the hook 7 also lies beneath the plane of the fabric, so that the fabric presents a smooth upper surface.

The links of each longitudinal row are directly interlinked or connected with each other, the loop 3 of one link engaging the angle 9 of eye 6 of the adjacent link. The transverse links 2 comprise simple wire members having down-turned hooks 12 which engage the lateral angles 8 of the eyes 6 of the longitudinal links. As thus described, the transverse links are arranged in transverse rows, so that a rectangular-mesh fabric is formed, and it will be evident that the fabric may be folded or flexed on any intermediate longitudinal strand and on any intermediate transverse row of links.

It is noteworthy that the eyes and loops of the longitudinal rows of links are closed, or practically closed; and upon reflection it will be understood that the fabric is thus adapted to resist great longitudinal stress.

The construction enables small-gage wire to be employed in the fabric and a minimum length of wire to be used.

It is to be understood, of course, that minor mechanical changes may be made in the construction herein set forth without departure from the substance of my invention and without the sacrifice of any of its substantial benefits and advantages.

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

1. A wire fabric having a chain of interconnected links, each of said links being

made of a strip of wire bent intermediate its ends to form a pair of strands with a loop at one end of the link, one of said strands being bent to form an eye at the opposite end of the link, the two ends of the wire being shaped to provide a pair of interlocking hooks, the portion of the wire constituting the loop of each link extending through the eye of the next adjacent link, substantially as described.

2. A wire fabric having a chain of interconnected links, each of said links being made of a strip of wire bent intermediate its ends to form a pair of strands with a loop at one end of the link, one of said strands being bent to form an eye at the opposite end of the link in a plane other than that of said loop, the two ends of the wire being shaped to provide a pair of interlocking hooks, the portion of the wire constituting the loop of each link extending through the eye of the next adjacent link, substantially as described.

3. A wire fabric having a chain of interconnected links, each of said links being made of a strip of wire bent intermediate its ends to form a pair of substantially-parallel strands with a loop at one end of the link in a plane at approximately a right angle to that of said strands, one of said strands being bent to form an eye at the opposite end of the link substantially in the plane of said strands, the two ends of the wire being shaped to provide a pair of interlocking hooks, the portion of the wire constituting the loop of each link extending through the eye of the next adjacent link, substantially as described.

4. A wire fabric having a chain of interconnected substantially flat-top wire links, each of said links being made of a strip of wire bent intermediate its ends to form a pair of substantially-parallel strands and a downwardly extended loop at one end of the link, one of said strands being bent to form a substantially closed eye at the opposite end of the link approximately in the plane of said strands and to provide a hook interlocking with a downwardly bent hook end of the companion strand, the end of said first hook being below a portion of said eye, the portion of the wire constituting the loop of each link extending through the eye of the next adjacent link, substantially as described.

5. As an article of manufacture, an integral wire unit consisting of a strip of wire bent intermediate its ends to form a pair of strands with a downwardly extended loop at one end of the link, one of said strands being bent to form a substantially-closed eye at the opposite end of the link approximately in the plane of said strands and to provide a hook interlocking with a hook end of the companion strand, the end of said first hook being below a portion of said eye, substantially as described.

CHARLES H. GAIL.

In presence of—
R. BRADSHAW,
ALFRED J. MIRON.