

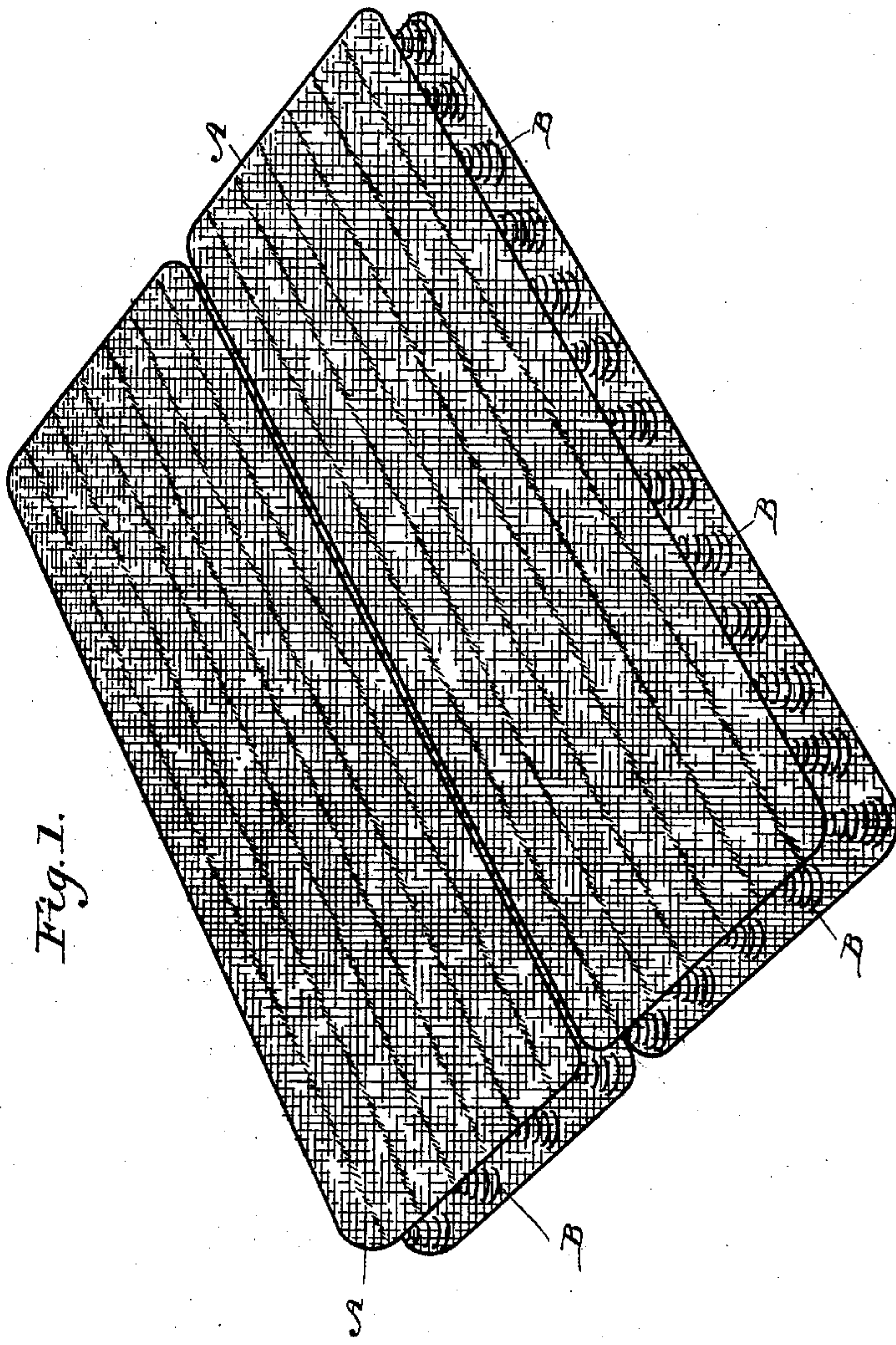
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3 Sheets—Sheet 1.

W. S. SEYMOUR.  
WOVEN WIRE MATTRESS.

No. 410,937.

Patented Sept. 10, 1889.



WITNESSES:

H. W. Elmore.  
W. L. Hilger.

INVENTOR.

William S. Seymour.

By his Attorneys

Samuel Goldsborough



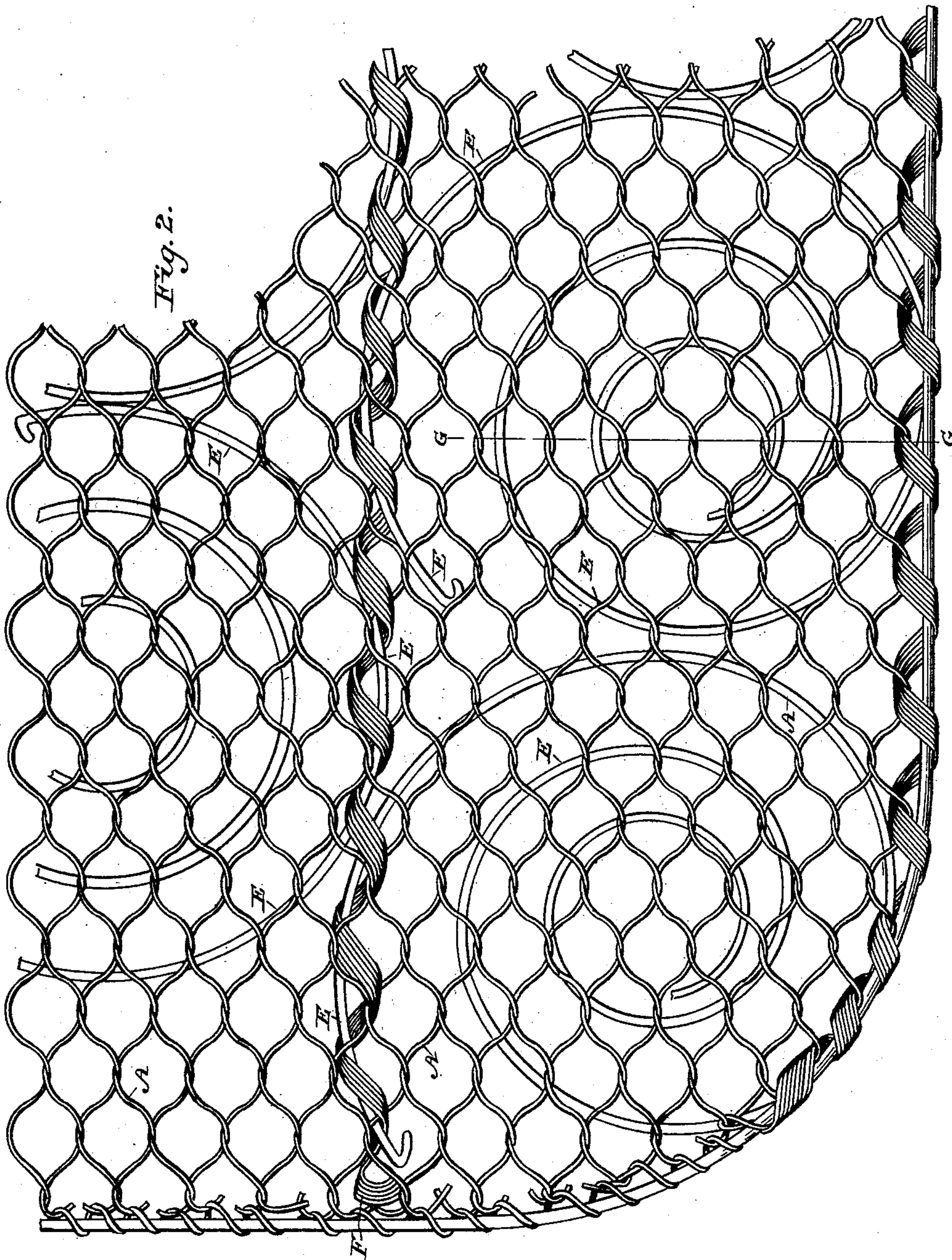
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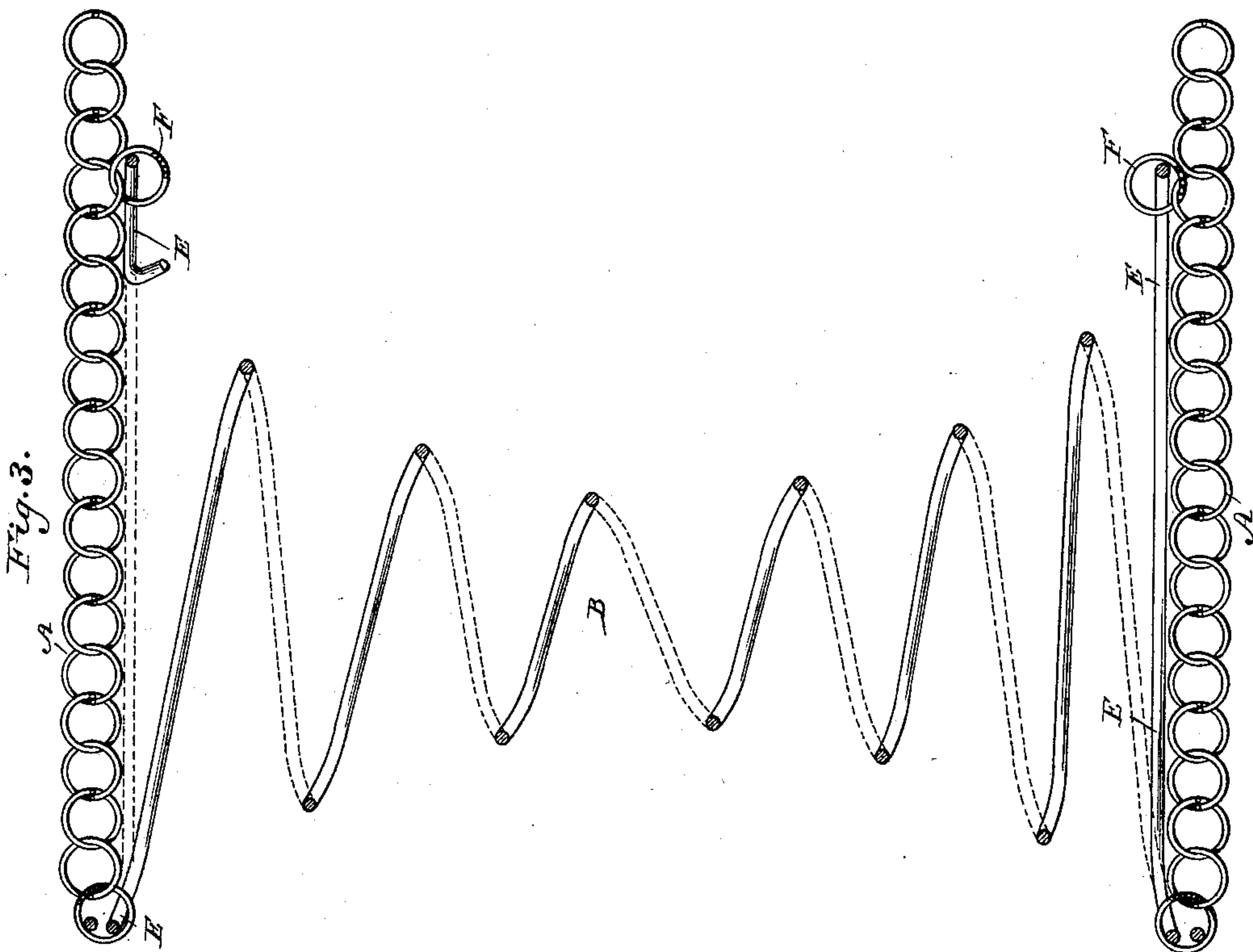
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# UNITED STATES PATENT OFFICE.

WILLIAM S. SEYMOUR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF  
ONE-HALF TO ELMER H. GREY, OF SAME PLACE.

## WOVEN-WIRE MATTRESS.

SPECIFICATION forming part of Letters Patent No. 410,937, dated September 10, 1889.

Application filed July 18, 1889. Serial No. 317,895. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. SEYMOUR, a citizen of the United States, residing in the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Woven-Wire Mattresses, of which the following is a specification.

This invention relates to that class of mattresses known as "woven-wire" mattresses, in which the principal element is a woven-wire fabric kept in a state of tension, so as to form an elastic surface. In the "woven-wire" mattresses of which I am aware the tension of the fabric has been maintained by fastening two or more sides of the fabric to a rigid frame. The main objection to such mattresses is their weight and liability to warp, both of which objections are obviated by my invention.

Woven-wire mattresses with rigid frames have sometimes been used in combination with perpendicular spiral springs; but in such combinations the perpendicular spiral springs have simply been used to furnish a perpendicular support to the fabric, and not to take the place of the rigid frame.

My invention consists in the use of the coiled ends of perpendicular spiral springs to maintain the tension of the wire fabric, thus doing away with the rigid frame and forming a flexible frame-work on which the woven-wire fabric is stretched. I accomplish this result by attaching the coiled ends of the springs in a state of tension to the wire fabric in such a way that the tendency of the ends of the springs to expand keeps the fabric taut. I use as the most desirable way to accomplish this extra wire cables consisting of one or more strands of wire woven into the wire fabric by being intertwined with the wires of the fabric in such a way that they hang or are suspended below the surface of the fabric, said cables being parallel with each other and at a distance from each other less than the diameter of the coiled end of each of the perpendicular spiral springs when not in a state of tension. By slightly compressing the coiled end of each spring and running it through two of these wire cables,

so that each cable is maintained at a uniform distance from the next parallel cable on each side by the outward tension of the end coils of a number of perpendicular spiral springs, the fabric is kept stretched and at the same time the wire cables are kept in position below the surface of the woven-wire fabric, and the said fabric presents a uniform surface stretched above the surface of the ends of the perpendicular spiral springs. In making said woven-wire mattress the perpendicular spiral springs may be mounted on any suitable frame-work of wood or metal; but I prefer, as the best method of making the mattress, to provide a woven-wire fabric for both the upper and the lower ends of the perpendicular spiral springs, connecting the upper ends of the springs to the upper fabric and the lower ends to the lower fabric in the method already described, thereby using both ends of the springs as a flexible frame-work on which to stretch a fabric and making the mattress reversible.

Figure 1 represents a spring bed-bottom or mattress embodying my invention. Fig. 2 represents a plan view of a portion of the same. Fig. 3 represents a section taken on the line G G of Fig. 2.

Similar letters of reference indicate similar parts throughout the several views.

As shown in the drawings, the mattress or bed-bottom consists of an upper and a lower fabric of woven wire A, connected by intermediate perpendicular springs B, as shown, the mattress being for convenience made of two sections hinged or connected together for convenience of transportation and storage. The perpendicular springs are connected at their opposite ends to the upper and lower fabrics by means of auxiliary wires or cables F intertwined within the coils of the fabrics. The upper and lower loops of the springs B are first compressed and in the compressed condition inserted between adjacent cables F. The tendency of the said loops to expand stretches the fabrics, and at the same time the extra wire cables F are drawn below the surface of the woven-wire fabric, so as to leave said surface without any projecting obstruction. It will be evident that with the con-



construction shown the spring bed-bottom or mattress will be reversible, so that either fabric may be uppermost when the mattress is in use.

5 I claim as my invention—

1. In a woven-wire mattress, the combination, with a woven-wire fabric, of perpendicular springs, the terminal coils of said springs being connected with said fabric and being  
10 under lateral tension, whereby the tendency of the coils to expand keeps the fabric taut.

2. In a woven-wire mattress, the combination, with a woven-wire fabric, of extra wire  
15 cables intertwined therewith and perpendicular springs whose terminal coils are held in a state of lateral tension between adjacent cables, the distance between the cables being less than the diameter of the terminal coils  
when not under tension.

20 3. In a woven-wire mattress, the combination, with perpendicular springs, of a woven-

wire fabric for the top of the mattress and a woven-wire fabric for the bottom of the mattress, the terminal coils of said springs at top and bottom being connected with said fabrics  
25 under a state of lateral tension, whereby both sides of the mattress are kept taut and the mattress is reversible.

4. In a woven-wire mattress, the combination, with a woven-wire fabric, of extra wire  
30 cables intertwined therewith, said cables being located beneath the surface of the fabric, and perpendicular springs whose terminal coils are held in a state of lateral tension between adjacent cables, the distance between  
35 the cables being less than the diameter of the terminal coils when not under tension.

WILLIAM S. SEYMOUR.

Witnesses:

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