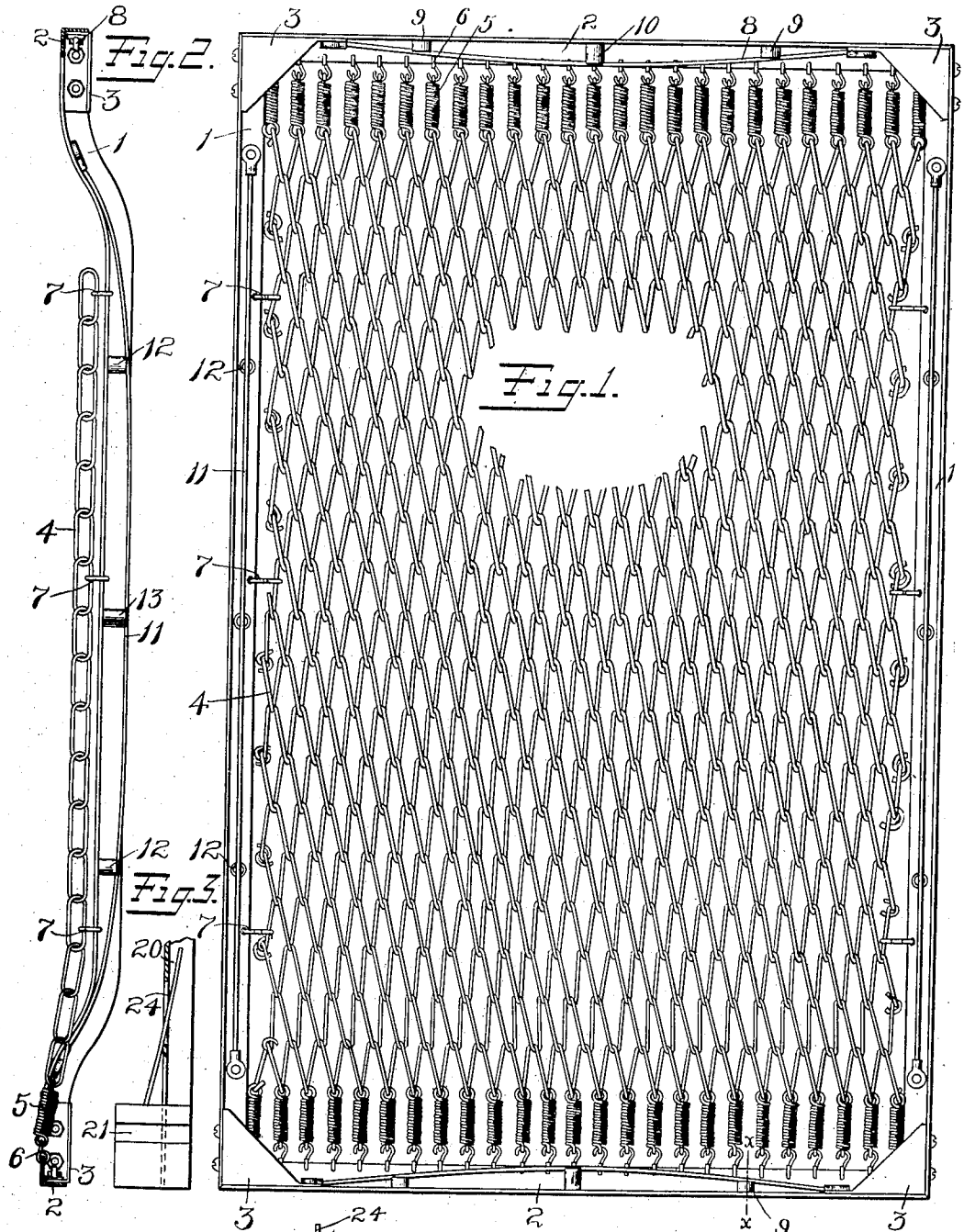
No. 892,566. PATENTED JULY 7, 1908.

C. W. STEVENS.

SPRING MATTRESS.

APPLICATION FILED DEC. 14, 1904.



Witnesses
Chas. A. Peard
Robt. S. Allyn

Inventor
Charles W. Stevens
By His Attorneys
Bartlett, Brownell & Mitchell

UNITED STATES PATENT OFFICE.

CHARLES W. STEVENS, OF NEW YORK, N. Y.

SPRING-MATTRESS.

No. 892,566. Specification of Letters Patent. Patented July 7, 1908.

Application filed December 14, 1904. Serial No. 236,785.

To all whom it may concern:

Be it known that I, CHARLES W. STEVENS, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Spring-Mattresses, of which the following is a full, clear, and exact description.

My invention relates to improvements in beds and particularly to spring mattresses.

The object of my invention is to provide a cheap, light, resilient mattress having great strength and capable of adjustment for accommodating different weights.

The invention consists in a mattress embodying the principles illustrated in the accompanying single sheet of drawings.

Figure 1 is a view of the preferred form of the mattress from beneath. Fig. 2 is a longitudinal sectional view of the same, part of the spring fabric being broken away. Fig. 3 is a fragmentary side view of a side member of modified form. Fig. 4 is a fragmentary plan view of the corner joint of a structure embodying the modification. Fig. 5 is a detail sectional view on a plane of the line *x*—*x* Fig. 1.

1, 1, are the side members of the frame. These are formed preferably of wrought angle-iron. 2, 2, are the end members also preferably of wrought angle-iron.

3, 3, 3, 3, indicate four corner plates for uniting the adjacent ends of the frame members. These plates are preferably riveted or otherwise permanently secured to the end members and attached by bolts to the side members, but so that the frame may be taken apart when desired.

4 indicates the fabric or springs which is woven in any suitable manner.

5 indicates one of a series of spiral springs connected to the ends of the fabric and in turn connected to the end members of the frame by hooks, such as 6. The tension of the fabric will depend upon the tension of the springs 5. The frame may be taken apart when the springs are disconnected from one end.

7, 7, 7, indicate hooks for connecting the sides of the fabric to the side members of the frame.

When such a structure as just described is in use the vertical pressure applied to the fabric is resolved into two components. The horizontal component exerts a horizontal bending stress upon the end members of the frame. The total is taken up by end thrust on the side members of the frame. The other component, inclined slightly from the vertical, exerts a bending or twisting action upon the side members in a vertical plane. In addition to this, a certain amount of vertical pressure is transmitted directly to the side members through the medium of the connecting hooks 7. I have endeavored to provide a construction in which these various stresses are taken care of in the most economical manner.

8 is a truss rod lying in a horizontal plane and attached to the end member.

9, 9, are short strut members which serve to support the truss near the ends. 10 is a central strut member which is preferably provided for affording additional support to the truss at this point. When a vertical pressure is applied upon the fabric, the centers of the end members tend to approach each other. This is resisted by the truss. The resistance afforded may be varied or adjusted by sliding the strut members 9, 9, toward or away from the center. Similarly the side members are reinforced in vertical plane by the truss rod 11.

12, 12, are strut members which bridge the truss rod 11. These also are adjusted longitudinally for varying the resistance of the side members to vertical bending action.

13 is a central strut member for supporting the center of the truss. The central portions of the side members are preferably on a lower plane than the ends and thus additionally reinforce the structure as well as provide low sides which are more comfortable to sit upon, avoiding the danger of contact with the side member itself, since the fabric is raised above it.

In Figs. 3 and 4, I have shown a modification in which the side member 20 is straight and secured to a block 21. The end member 22 is secured to a block 23, the two blocks being provided with a dovetailed joint so that they may be readily taken apart. The truss rod 24 in this case is secured to the block 21 and passes down through an opening in the top flange of the side member 20. The other parts of the construction would be similar to the form shown in Fig. 1. In both cases the end members are on a higher plane than the principal portions of the side members.

While such a construction is very light, it is capable of withstanding very great pres-

sure without change of shape or danger of fracture. While I have shown a mattress only, it will be understood that it may be employed with a bedstead or made a part thereof.

What I claim is:

In a spring mattress, the combination of a frame formed of angle-irons, a resilient fabric carried thereby and reinforcing truss-rods carried by the side members of the said frame and lying in a vertical plane, each end of each of said side bars being curved downwardly but depressing the central portion of the same, the truss rods being supported by said curved portion.

Signed at New York city, N. Y., this 13th day of December, 1904.

CHARLES W. STEVENS.

Witnesses:
G. H. MITCHELL,
L. VREELAND.