

(No Model.)

J. B. RYAN.
BED BOTTOM.

No. 605,680.

Patented June 14, 1898.

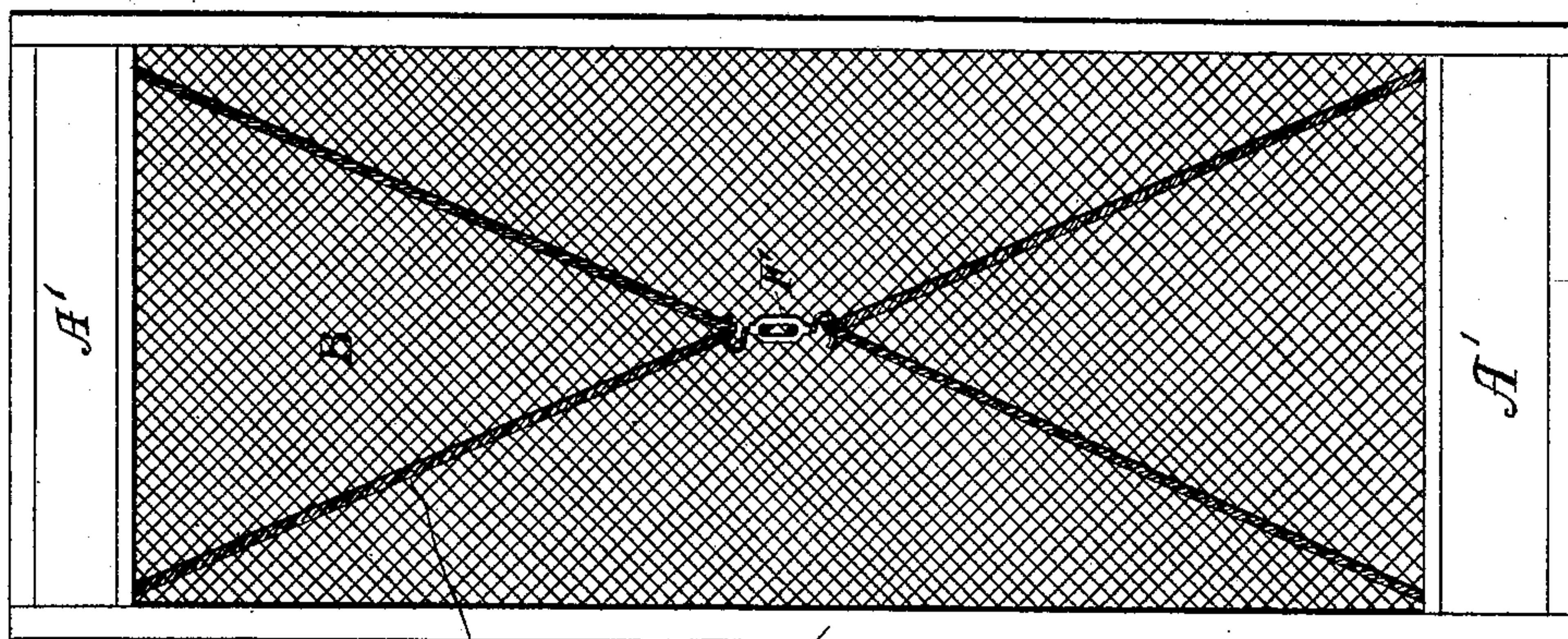


Fig. 2-

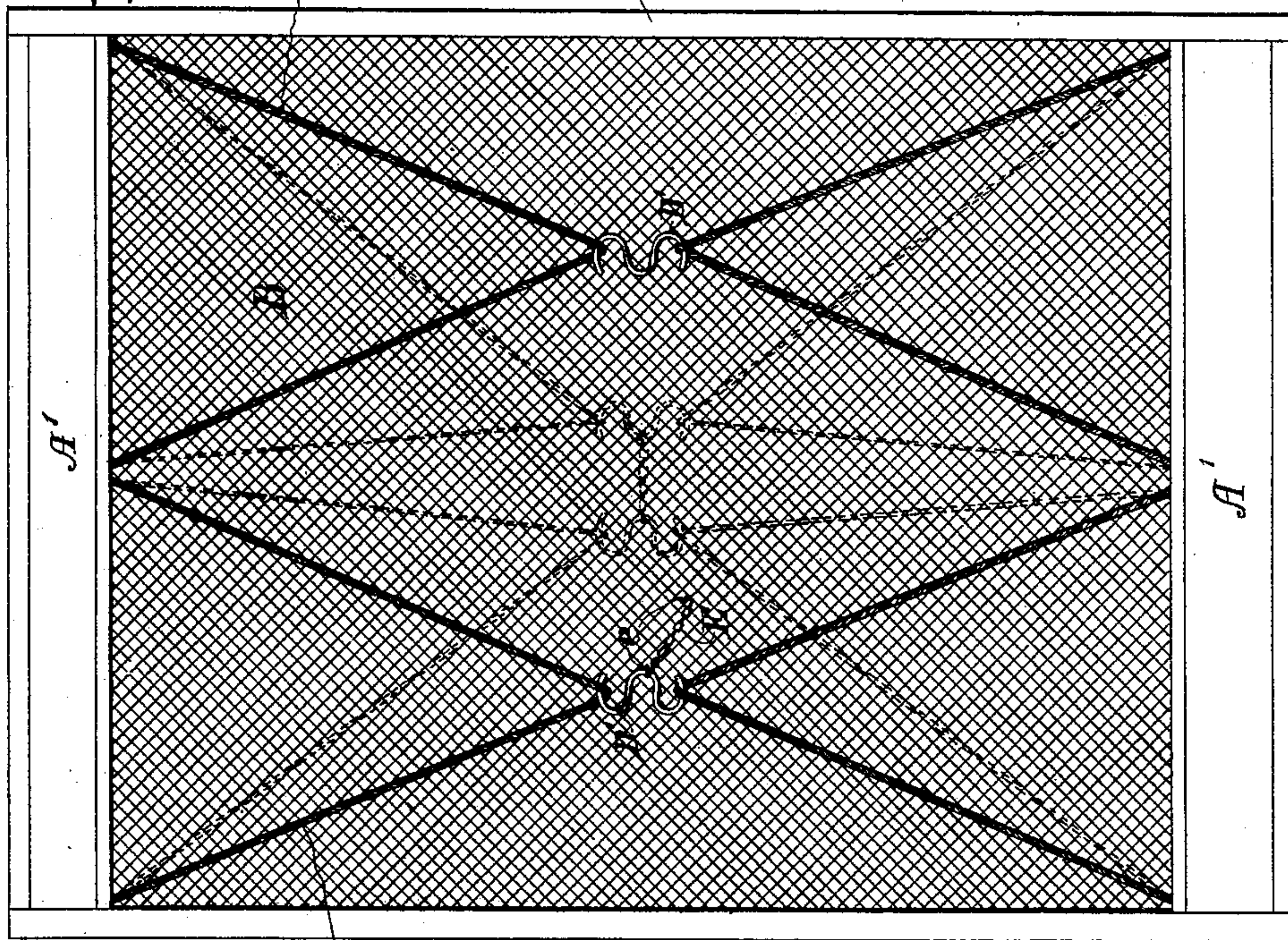


Fig. 1-

WITNESSES:

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Fig. 3-

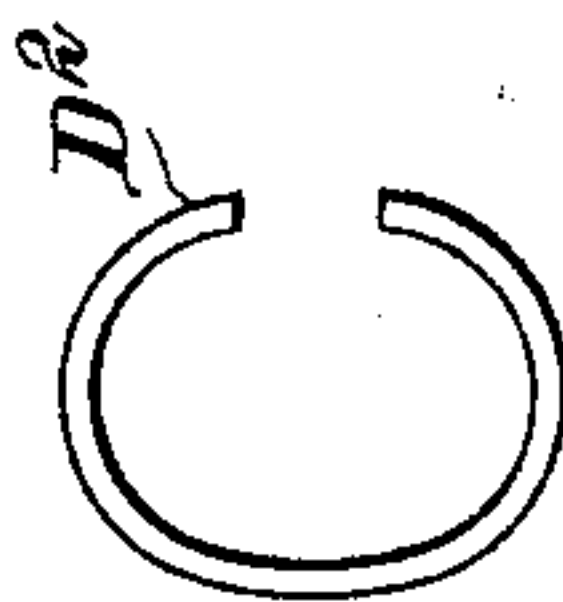


Fig. 4-

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BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 605,680, dated June 14, 1898.

Application filed July 1, 1897. Serial No. 643,175. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. RYAN, a citizen of the United States, residing at the city of New York, county and State of New York, have invented a new and useful Improvement in Bed-Bottoms, of which the following is a specification.

My invention relates to improvements in bed-bottoms, and particularly to that class of bed-bottoms in which woven-wire fabric forms the chief element of the primary pressure plane. It is illustrated in the accompanying drawings, referred to herein, like letters referring to like parts in each figure thereof.

In the said drawings, Figure 1 is a plan view of a bed-bottom embodying my invention. Fig. 2 is a modification of the same. Figs. 3 and 4 are modifications.

A represents the frame of the bed, upon which the woven-wire fabric B is stretched.

C are elastic wire cables, such as are commonly used in the trade, having their two ends secured to the end rail A' of the frame either at or near the ends of the said rail or having one end connected to the end thereof and the other secured at or near the middle. These cables extend about half-way of the length of the bed and are disposed in a V shape underneath the fabric, being looped through the hooks D, D', D², or F, which join them together near the center of the bed. These hooks are preferably of an S shape or other bent or curved form, so as to possess a certain amount of elasticity, forming a non-rigid connection between the cables stretched from either end rail of the bed. The hook F is provided with a turnbuckle for the purpose of adjusting the tension of the cables. Where the hooks are not provided with turnbuckles, the tension may be adjusted by using hooks of different lengths to increase or diminish the stretch of the cables, as required.

The chain E serves as a coupler when two or more of my supporting devices are used on one bed, as shown in Fig. 1, and are adapted to connect the cable-hooks and prevent them from spreading laterally. It is provided with a small hook e at either end, by which it may be connected to the said cable-hooks at the part d', as shown in Fig. 1, or otherwise, or when it is desired to couple these hooks closer

together than the length of the chain will allow the chain may be looped through the hooks and secured by passing the hooks e through one of its own links or by hooking them together, and in this manner the cable-hooks may be coupled at any desired distance apart.

By the use of this device various advantages are obtained not heretofore secured by such reinforcing contrivances. One of these advantages is that the S-hook is very easily placed in position, requiring simply to be hooked into the loops c of the cable, and may be as easily removed therefrom, and by their use the cables may be first secured at their ends to the frame of the bed-bottom and then connected by means of the hook instead of passing them first through the center plate or other connecting medium and then securing their ends to the frame, as has heretofore been the custom in the manufacture of these beds. This admits of the cables being more easily and uniformly stretched, since it is difficult to secure the ends of the cable to the frame while under tension and a uniform stretching of the cables is not always in this manner obtained. By measuring the length of the cable to be used for each V or loop, so that the desired amount of stretching will be required to draw each pair together and secure them at the center of the bed by the hook an absolutely uniform tension may be insured. The cables also being continuous from end to end and passing through and not terminating in the hook or link will have the tension distributed evenly throughout their entire lengths, and thus the stretching and consequent loosening of one diagonal length more than another is prevented. When the cables become loosened, as they invariably do under long use, a ready means of tightening them is afforded by the use of these hooks by replacing any given hook by one of lesser length, and thus drawing the points of the cable-loops nearer together, and, again, by the use of the turnbuckle F (shown in Fig. 2) the tension of the cables may be easily increased or diminished to any required extent to accommodate the weight of the person using the bed. The S-hooks having also a certain amount of elasticity make the support entirely elastic from end to end of the bed.

The chain E is of advantage when used in connection with my support, as the said support is adapted to be used for a full-sized bed and offers advantages not heretofore secured by these supporting devices, since by its use an extensive lateral adjustment of the support is allowed. This is of great advantage, inasmuch as the weight when one person only is occupying the bed is generally entirely in the center, whereas when occupied by two persons the weight is disposed at either side thereof. By coupling the two hooks together with the link or chain E the support is disposed entirely beneath the center, as shown by dotted lines on Fig. 1, and an effective reinforcement for the fabric is provided when the bed is occupied by one person, while when the coupler is removed and the supports disposed at either side of the bed it offers an effective reinforcement for the fabric when the weight of two persons is superimposed thereon. The total length of cable in both sides of each V will be the same when the hooks are drawn toward the center as when they are disposed at either side, and the support will therefore remain in a central position without the assistance of the link F or chain E. The link, however, I have found of value in preventing the hooks from spreading when pressure is imposed upon the center of the bed.

I am aware that elastic cables have hereto-

fore been used as a support for a woven-wire bed-bottom, arranged in various ways, and that they have sometimes been stretched from the corners of the frame and secured at or near the center to a plate, cross-tie, or like device. I do not claim this arrangement, broadly.

What I claim is—

1. In a bed-bottom the combination of a frame and an elastic fabric stretched thereon, and two or more endwise-elastic cables disposed beneath the fabric, and having their ends secured to the end rail, a hook at or near the center through which said cables pass and by means of which they are connected to each other; said hooks being lengthwise adjustable and adapted to regulate the distance between the parts of the cables passing through it.

2. In a bed-bottom the combination of a frame and an elastic woven-wire fabric stretched thereon, and a plurality of endwise-elastic cables; two or more being secured to each end rail of the frame and connected centrally in pairs, extending from opposite end rails, and hooks connecting said cables; said hooks being secured together by means of a transverse tie.

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Witnesses:

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