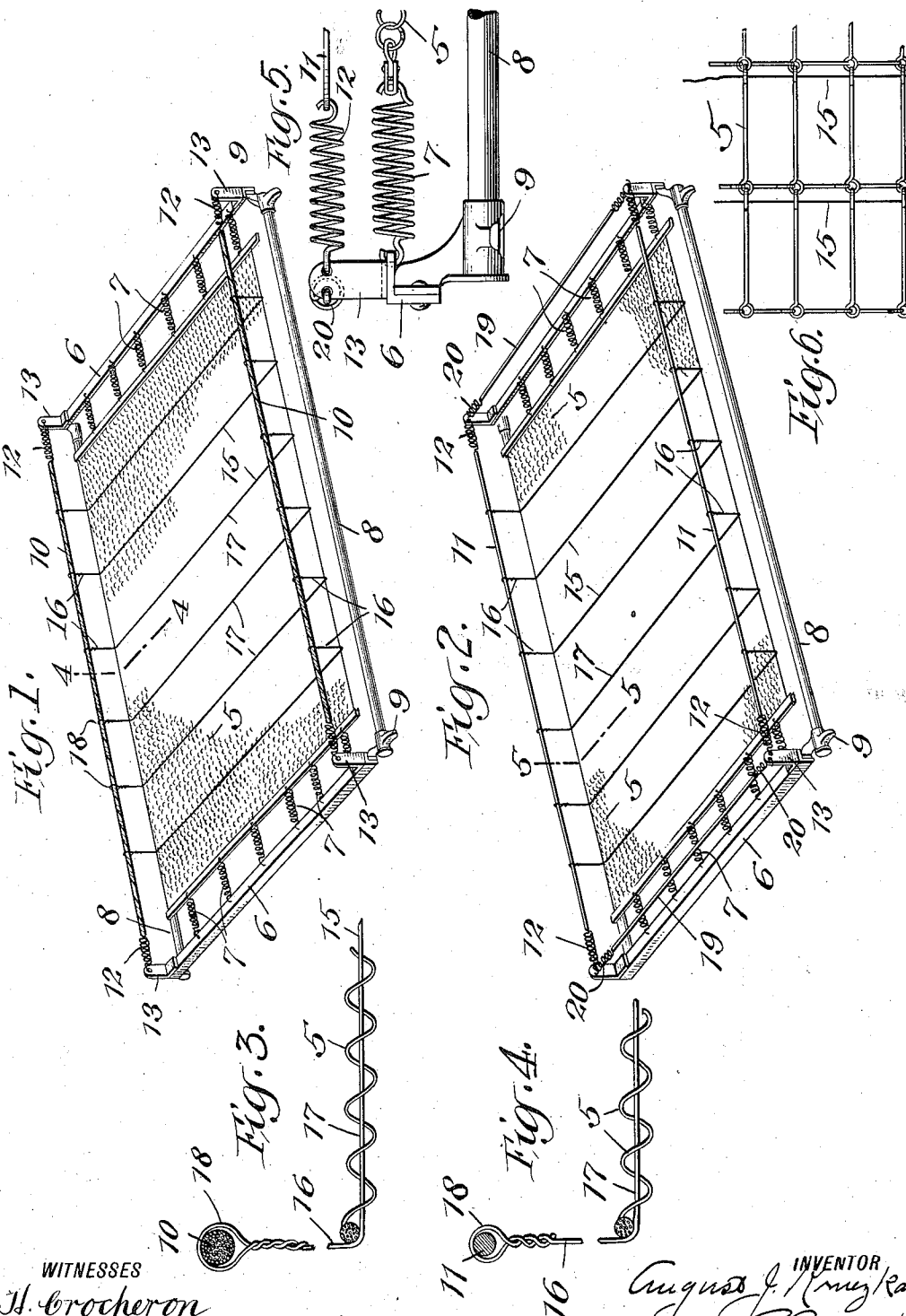


A. J. KREUZKAMP.
SIDE GUARD.
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1,062,341.

Patented May 20, 1913.



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SIDE GUARD.

1,062,341.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, AUGUST J. KREUZKAMP, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Side Guards, of which the following is a specification.

This invention relates to spring mattresses, and more particularly to side guards therefor, the object of the invention being to provide simple, comparatively inexpensive but durable and efficient side guards for spring mattresses, which will maintain the stuffed mattress in position and also reinforce the side edges of the spring fabric.

In the drawings accompanying and forming part of this specification, Figure 1 is a perspective view of one form of the spring mattress detached; Fig. 2 is a perspective view of a spring mattress detached illustrating another form of side guard and also illustrating end guards; Fig. 3 is a cross-sectional view of a part of the structure shown in Fig. 1, taken on the line 4-4 in said Fig. 1; Fig. 4 is a cross-sectional view of a part of the structure shown in Fig. 2, taken on line 5-5, Fig. 2; Fig. 5 is an enlarged detail view of one corner of the structure shown in Fig. 1; and Fig. 6 illustrates a portion of a spring mattress comprising a link-formed bottom.

Similar characters of reference indicate corresponding parts throughout the figures of the drawings.

The bed structure usually comprises a head and foot connected by said rails. Upon this structure a separable spring mattress 5 is supported. This spring mattress usually comprises a pair of transverse end bars or irons 6, between which is located or stretched some suitable form of bottom, frequently of spring formation as for instance woven wire, which is either stretched directly between the end bars hereinbefore referred to or is connected thereto by suitable coiled springs 7, which latter is the form shown in the present instance. For maintaining the bottom in its stretched condition side bars 8 are connected to the end transverse bars and these are provided with suitable means 9 whereby the spring mattress is supported upon the side rails of the bed structure.

A side guard formed of a cable in the

form of a hollow or otherwise spirally wound cable, or in the form of a straight wire of any desired shape, is one of the simplest and least expensive forms of side guard that can be provided, but a practicable side guard requires that it be under tension so that it will automatically return to its initial position and take up the slack and keep the stuffed mattress in its original box-like form and prevent it from spreading and rolling over the edges of the spring mattress or bottom and also prevent it from shifting on such bottom. It must be also of less height than the stuffed mattress, which is usually about five inches, whereas the height of the side guard is about three inches. It must be under considerable tension, and this tension must be constant, and, as stated, any slack which occurs must be taken up immediately. It must also be a part of the spring mattress structure so as to be removable therewith and so that while not interfering in any way with the use of the spring mattress in the ordinary manner in which it is used either to sit upon or to sleep upon it will keep the stuffed mattress in its box-like form and prevent shifting and spreading, and therefore it must be flexible in order to provide a soft edge at the sides of the mattress and yet this flexibility must not be such as to prevent the side guard from quickly returning to its normal position, and in the present improvement it is so located that the side edges of the fabric are materially reinforced. While a single wire is less expensive than a spirally wound cable, yet without some means for imparting tension to that wire it is impracticable as a side guard, and while a spirally wound cable, hollow or otherwise, is well adapted for use as a side guard, yet owing to the fact that it is made of a great many turns it cannot be placed under any very great tension, and moreover will not quickly return to its initial position; in other words, it acts very much like an unstretched string of a musical instrument, and therefore means is necessary to impart to such a guard a tension.

In the form shown in Fig. 1 the guard is made of a spirally wound cable 10, while in the form shown in Figs. 2 and 4 the guard is made of a single wire 11, but in both of these forms means is provided for maintaining the side guard under constant

lengthwise tension, and this means is shown in the form of helical or coiled springs 12, one connected to each end of the cable and also connected to an upstanding lug or projection 13 carried at the end of the transverse end bar, being riveted thereto and therefore carried beyond the spring mattress fabric itself so that they do not sag or move with the fabric, and thus the guard acts to return the edge of the fabric to its proper position on the removal of any weight thereon, and also prevents its sagging to a large extent and thus it reinforces the edge of the spring mattress fabric.

By this construction it will be observed that the side guard is not only flexible so as to present a soft edge to the user, but is maintained under constant lengthwise tension so that the cables will be automatically returned to their initial position when flexed, and running as they do along the side edges of the stuffed mattress between the bottom and top thereof they will keep the same in its original box-like form and prevent shifting and spreading and rolling thereof over the edge of the spring mattress. It is desirable, however, to provide means of some simple form which will prevent the stuffed mattress from protruding under the side guard when the bottom of the spring is under weight, and therefore provide means for connecting the side guard with the bottom of the spring so that they will move in unison, so that when the bottom is in use the guard will move with it and yet so supported that they will reinforce the side edges of the spring fabric. This means, however, must preferably be of a character which will permit the bottom to be stretched under one tension and the side guards under a different tension at times, and must also preferably be of a form which can be readily connected with the bottom when of woven wire so that it will firmly secure the side guard to the bottom without any unnecessary swaying movement of the side guard relatively to such bottom. In the present improvement I have provided such a means, which consists of a series of connecting wires 15, each of which in the present instance is shown as of an integral form and each comprising a pair of upright members 16 and a horizontal member 17, the ends of the upright members being bent to form loops 18 for the passage therethrough of the side guards, while the horizontal members extend crosswise of the bottom and in the present instance are shown interlocked or interwoven with such bottom by being run through the mesh thereof. Thus, it will be apparent that the side guard connecting members not only connect one guard with the other, but also connect both guards with the bottom in a very firm and rigid manner, so that when the bottom moves

under weight the guards must necessarily also move therewith, while at the same time there is no unnecessary swaying movement of the guards relatively to the bottom and furthermore the guards can be given a different tension, if desired, from that given the bottom. It will also be apparent that as the side guard cables are supported by lugs carried by the transverse irons and connected by these wires 15 with its bottom fabric that such fabric is materially reinforced along its side edges and when flexed will be promptly returned to its proper position. These guard connecting members are located preferably at predetermined distances apart and at such intervals that the protrusion of the stuffed mattress under the guard is prevented so that a neat and tidy appearance of the structure when the stuffed mattress is in position is always possible.

In the form shown in Figs. 2 and 4 the spring mattress is provided with end guards 19 likewise maintained under tension by helical or coiled springs 20, which are in the form shown connected to the upright lugs to which the helical springs of the side guards are attached.

In the form shown in Fig. 6 the bottom is of link formation, the ends of each link having hooks for connection with loops of companion links, and in this form the connecting wires of the side guards run through the hooks of certain links.

From the foregoing it will be observed that since the upright lugs 13 are carried by the rigid transverse irons or angle members the fabric bottom when connected with the cable side guards is suspended very much as a suspension bridge, and that the integral transverse wires not only prevent the stuffed mattress from protruding under the cable or horizontal wire portions of the side guards, and not only connect the cable or horizontal wire portions of the side guards with the fabric bottom, but by reason of the fact that they connect one cable with the other, and therefore extend entirely across the bottom, and preferably through the bottom, they give greater stability to the cable portions of the guards so as to prevent improper bulging out thereof, since in order to bulge out, by reason of the formation shown, the integral wires must actually be bent at the points where the upright portions join the horizontal portions, and as there are a large number of these intersecting or interlocking wires along the spring obviously this construction very much increases the tension under which the cable portions of the guards are held.

I claim as my invention:

1. A bed spring comprising a pair of rigid transverse end irons spaced apart and a spring bottom supported thereby, lugs secured to said irons, side-guards extending

lengthwise at the sides of said bottom and connected with said lugs and each comprising a cable and a coiled spring for maintaining the cable under constant lengthwise tension, and supplementary wires having integral upright portions connecting one guard with its companion guard and extending crosswise of the bottom.

2. A bed spring comprising a pair of rigid transverse end irons spaced apart and a spring bottom supported thereby, lugs secured to said irons, side-guards extending lengthwise at the sides of said bottom and connected with said lugs and each comprising a cable and a coiled spring for maintaining the cable under constant lengthwise tension, and supplementary wires having integral upright portions connecting one guard with its companion guard and extending crosswise of the bottom and threaded through the bottom.

3. A bed spring comprising a pair of rigid transverse end members, a spring bottom connected to said members, lugs secured to said members, side-guards extending along

the sides of said spring and connected with said lugs and each comprising a lengthwise inelastic and an elastic portion, and means supplementary to the bottom and having upright integral portions and connecting one side-guard with its companion guard and extending crosswise of such bottom.

4. A bed spring comprising a pair of rigid transverse end members, a spring bottom connected to said members, lugs secured to said members, side-guards extending along the sides of said spring and connected with said lugs and each comprising a lengthwise inelastic and an elastic portion, and a series of integral wires supplementary to the bottom connecting one side-guard with its companion guard and threaded cross-wise through such bottom.

Signed at 1821 Park Row Building, New York, N. Y., this 21st day of February, 1912.

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Witnesses:

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F. E. BOYCE.