2 Sheets—Sheet 1.

E. L. MATTESON.

Bed-Bottom.

No. 215,528. Patented May 20, 1879.

Fig. 1.

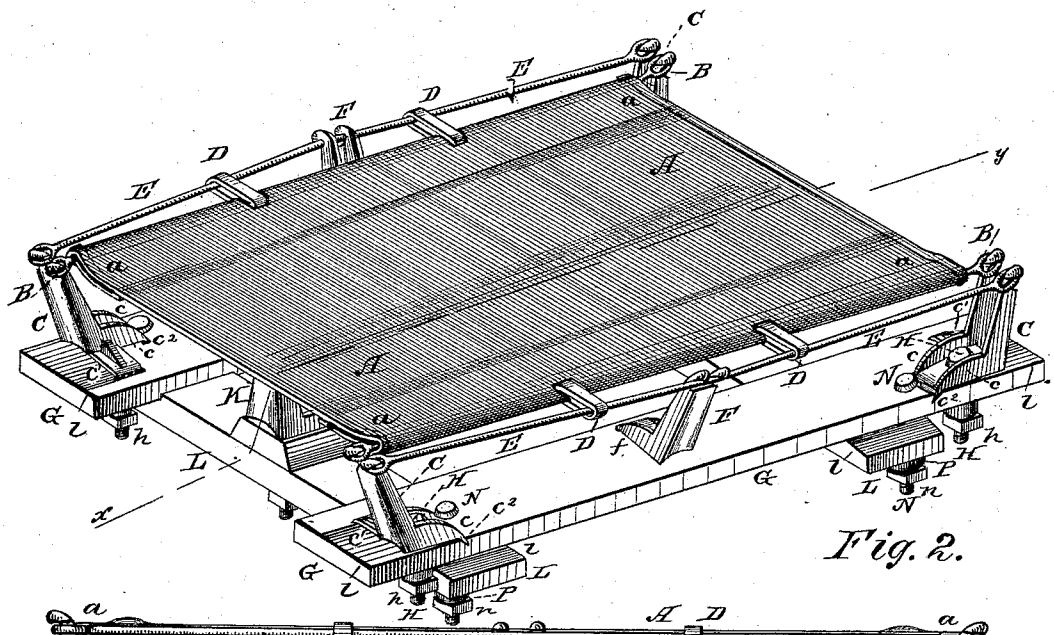


Fig. 2.

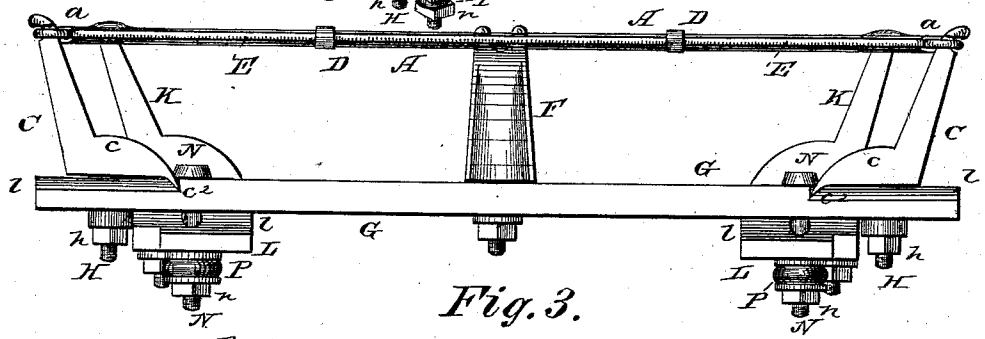
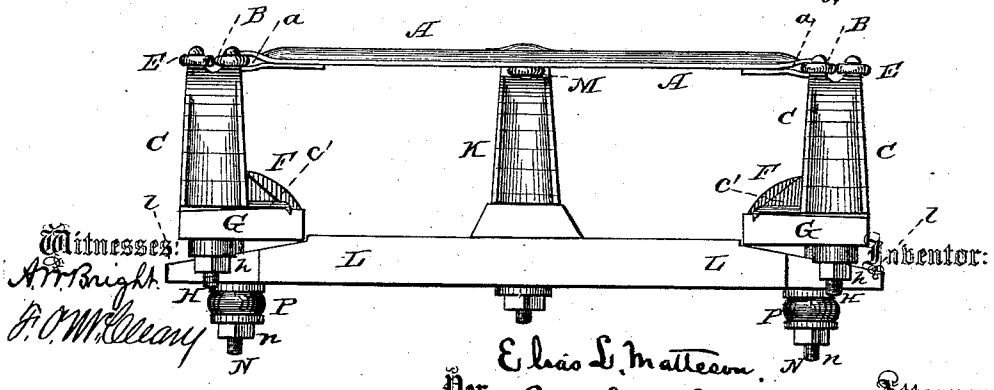


Fig. 3.



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2 Sheets—Sheet 2.

E. L. MATTESON.

Bed-Bottom.

No. 215,528. Patented May 20, 1879.

Fig. 4.

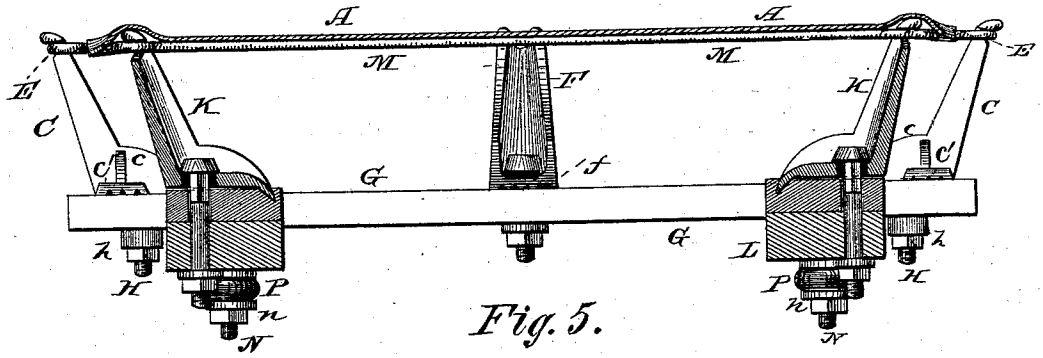


Fig. 5.

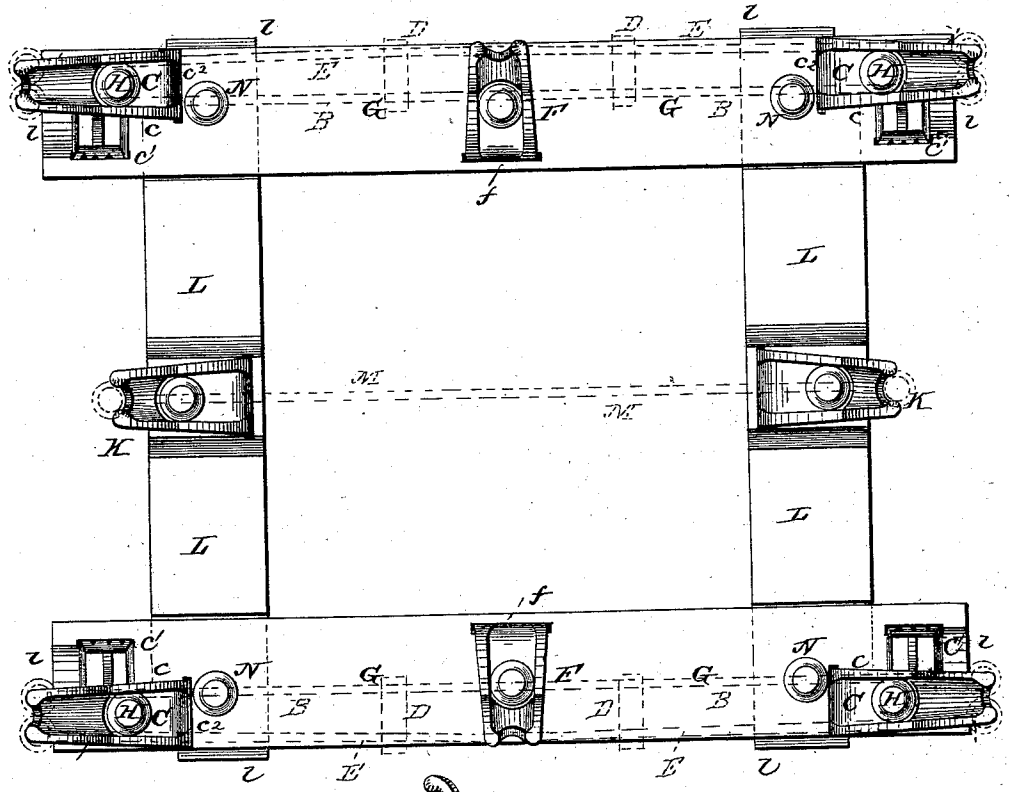
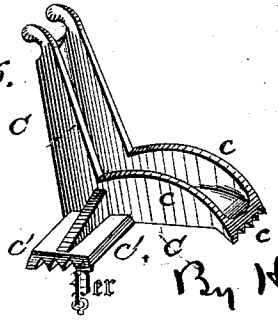


Fig. 6.



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UNITED STATES PATENT OFFICE.

ELIAS L. MATTESON, OF RANDOLPH, NEW YORK.

IMPROVEMENT IN BED-BOTTOMS.

Specification forming part of Letters Patent No. **215,528**, dated May 20, 1879; application filed August 30, 1878.

To all whom it may concern:

Be it known that I, ELIAS L. MATTESON, of Randolph, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Mattress-Supports and Mattress-Support Frames; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to suspension mattress-supports and mattress-support frames. It is designed to provide an improved device adapted to support the body of the occupant in the same horizontal plane under long-continued wear, while at the same time it permits the prominent parts of the body to embed themselves in the mattress-support by reason of the elastic tension of the latter.

Ease and comfort are thus obtained, since the elasticity and flexibility of the mattress are alike extended to all portions of its bearing-surface; and the entire length of the same is adapted to conform at any point to the body of the occupant, whereby the latter is enabled to rest thereon with an equalization of support, and the several parts of the body are rested in a natural easy position.

In addition to the above the mattress-support is made at small cost, of great durability, and is adapted to be readily adjusted, as desired.

The invention consists, first, in the combination, with a rod extending along the length and connected to the side of a mattress-support, of adjusting devices connecting therewith, and capable of being secured in desired position, the same being adapted to exert and maintain adjustable strain upon said rod in the direction, respectively, of the length and of the width of the mattress-support, substantially as set forth; second, in the combination, with a mattress-support and a side rod connected therewith, of a supplemental rod connected to the latter at one or more points, together with adjusting devices, to which the extremities of said supplemental rod are secured, and which are adapted to exert any desired lateral strain upon the same; third, in the combination, with a mattress-support, and a side rod connected therewith, of a supplemental rod connected to the latter at one or more points, together with adjusting devices adapted to exert any desired lateral strain upon both said rods; fourth, in the combination, with a mattress-support and a side rod connected therewith, of a supplemental rod connected to the latter at one or more points, both of said rods being adapted by adjusting devices to have any desired lateral and longitudinal strain applied thereto; fifth, in the combination, with a mattress-support and a side rod connected therewith, of a supplemental rod suitably connected to the latter and one or more adjusting devices, which latter engage with said supplemental rod at a point or points between its opposite extremities, and tend to force it laterally outward; sixth, in the combination, with a mattress-support and a side rod connected therewith, of a tension-arm having two shoulder-pieces formed at relative right angles and sill-clamping mechanism, the same being adapted to cause any desired strain to be applied to said rod in both a lateral and longitudinal direction; seventh, in the combination, with a mattress-support and a side rod connected therewith, of a tension-arm, with which the extremity of the latter engages, said arm having shoulder-pieces formed, respectively, parallel with the length and width of the mattress-support, and whose extremities engage with a supporting-sill, together with clamping mechanism adapted to draw down the main portions of said shoulder-pieces in a greater or less degree of tension upon said sill; eighth, in the combination, with a mattress-support, a side rod connected therewith, and a supplemental rod connected to the latter at one or more points, of an adjustable tension-arm, with which the extremities of both said rods, respectively, engage; ninth, in the combination, with a mattress-support which is suspended by its sides, of a longitudinal central supporting-rod and tension-arms respectively engaging with the opposite extremities of the latter, said arms being formed with shoulder-pieces, which have bearing upon the cross-sills of the mattress-support frame, and are adapted to exert any desired strain upon the

rod by adjusting said arms at either or both of the rod extremities; tenth, in an elastic frame for mattress-supports, consisting in the combination, with side sills which have a rocking movement, of cross-sills, to which they are secured by clamping mechanism adapted to permit of a yielding engagement between the same; eleventh, in a mattress-support frame, the combination, with cross-sills whose extremities have beveled upper surfaces, of side sills which bear thereon and adjustable yielding clamping mechanism; twelfth, in the combination, with a mattress-support frame having laterally-rocking side sills, of adjustable tension-arms, secured to the upper face of the latter, together with rods connecting with the arms, and which extend along and are secured to the side of the mattress-support, said arms being adapted to be adjusted so as to apply strain to said rods in the direcrection of the width, and also of the length of the mattress-support.

Referring to the drawings, Figure 1 is a view, in perspective, of a mattress-support and mattress-support frame illustrating one form of my invention. Fig. 2 is a side elevation of the same; Fig. 3, an end elevation. Fig. 4 is a longitudinal sectional view through line *x y*. Fig. 5 is a plan view with the mattress-support detached. Fig. 6 is detail view of one of the corner tension-arms.

The mattress-support A may be of canvas, as represented herein, of woven or coiled wire, or of any other suitable material. Its two sides are preferably formed with longitudinal sleeves *a*, in which the respective side supporting-rods B are inclosed. These main rods have their opposite extremities connected with the corner tension-arms C at each corner thereof, while at one or more points between the extremities of each of these main rods links D engage them, respectively, with the supplemental rods E, which are parallel therewith. Each supplemental rod has its opposite extremities connected with the corner tension-arms in like manner with the main rods, while one or more tension-arms, F, engage with it at suitable point or points intermediate between said extremities. Each corner tension-arm is constructed with two shoulder-pieces, *c* and c^1, alike provided with flanges or teeth c^2 at their respective extremities, which engage with the supporting-sills G. A bolt, H, passes through a suitable hole in shoulder-piece *c*, and is provided with nut-fastening devices *h*, by which both of the shoulder-pieces are clamped to the sill, so as to give a greater or less tension to the mattress-support. The free extremities of each of the two shoulder-pieces, which latter are located at relative right angles in engagement with the sill, serve as fulcra, upon which the adjustments are made. The arms are adapted to be adjusted either endwise or laterally, so that the rods may be subjected to varying force alike in the direction of the length or of the width of the mattress-support.

The corner tension-arms are adapted by the clamping device to be adjusted so as to draw the shoulder-pieces of each toward the respective side sills or down thereon in contact more or less full and continuous throughout the bearing-surfaces of the same. If desired, an elastic washer may be interposed between the bearing-surfaces of said arm and the supporting-sill.

In order to provide end bearings for the fulcrum extremity of one or both shoulder-pieces of the tension-arms in a horizontal plane above the surface of the sills, I may employ studs or other equivalent devices, which project vertically above said sill-surface, and with which the fulcrum extremity engages. In the drawings, I have illustrated this by employing the heads of the bolts N for this purpose, as their location in the frame renders it unnecessary to use other projecting devices.

The tension-arms F, with which the supplemental rods engage between the corner tension-arms, require but a single shoulder-piece, *f*, respectively, and the same are adjustably secured to the side sills in like manner with said corner arms.

In order to adapt a mattress-support for use as a double bed-bottom, a tension-arm, K, similar to arms F, is adjustably secured to each of the cross-sills L. A longitudinal central supporting-rod, M, has its opposite extremities engaged respectively with said arms K, and as the rod is connected with the mattress-support the latter has its approximate central body provided with any desired degree of tension both longitudinally and laterally. By dispensing with this central rod in instances where the material of the mattress-support is itself strong enough to permit of such adaptation, said arms K may be secured to the respective end portions of the mattress-support, and the required tension be exerted directly upon the latter.

Two distinct sections are thus formed in the mattress-support, which, respectively providing the full comfort and ease previously set forth as resulting from my invention, yet cause the two occupants to be separated from each other; and though the mattress-support be subjected to long and heavy wear, it will, nevertheless, always maintain said sections relatively independent and distinct.

The mattress-support frame is made with its cross-sills beveled on the upper surfaces of their extremities, as shown at *l*. The bolts N connect the same with the side sills, and are provided with suitable nut-clamping mechanism *n*. Rubber sleeves P are suitably interposed between said nut and the cross-sill, which provides a resilient or yielding engagement between the cross and side sills. This yielding engagement causes the frame to be made elastic as well as flexible, and insures a very easy rest for the body of the occupant of the mattress. In addition to this resiliency of the frame, the side sills have a laterally-rocking bearing upon the cross-sills, and thus fur-

ther elasticity is obtained. The rubber sleeves also permit the cross-sills to have a laterally-rocking movement, which provides an elastic bearing for the tension-arms, which engage with the central longitudinal rod when the latter is used.

The foregoing describes the detail features of my preferable form of mechanism; but it is evident that the same may be varied in many different ways without departing from the spirit of my invention. Among other modifications, it may be observed that, instead of making the supporting-rods of wire, other forms of metal may be used, or combined wood and metal, or any suitable material. The form of the tension-arms may be greatly varied. The cross-sills might be made with plane upper surfaces, while the side sills could themselves be formed with rocking bearings; and instead of the rubber sleeves about the bolts which connect the cross and side sills, spring or other form of yielding device could be substituted.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a rod extending along the length and connected to the side of a mattress-support, of adjusting devices connecting therewith and capable of being secured in desired position, the same being adapted to exert and maintain adjustable strain upon said rod in the direction respectively of the length and of the width of the mattress-support, substantially as set forth.

2. The combination, with a mattress-support and a side rod connected therewith, of a supplemental rod connected to the latter at one or more points, together with adjusting devices to which the extremities of said supplemental rod are secured, and which are adapted to exert any desired lateral strain upon the same, substantially as set forth.

3. The combination, with a mattress-support and a side rod connected therewith, of a supplemental rod connected to the latter at one or more points, together with adjusting devices adapted to exert any desired lateral strain upon both said rods, substantially as set forth.

4. The combination, with a mattress-support and a side rod connected therewith, of a supplemental rod connected with the latter at one or more points, both said rods being adapted by adjusting devices to have any desired lateral and longitudinal strain applied thereto, substantially as set forth.

5. The combination, with a mattress-support and a side rod connected therewith, of a supplemental rod suitably connected with the latter and one or more adjusting devices, which latter engage with said supplemental rod at a point or points between its opposite extremities and tend to force it laterally outward, substantially as set forth.

6. The combination, with a mattress-support and a side rod connected therewith, of a tension-arm having two shoulder-pieces formed at relative right angles and sill-clamping mechanism, the same being adapted to cause any desired strain to be applied to said rod in both a lateral and longitudinal direction, substantially as set forth.

7. The combination, with a mattress-support and a side rod connected therewith, of a tension-arm, with which the extremity of the latter engages, said arm having shoulder-pieces formed respectively parallel with the length and width of the mattress-support, and whose extremities engage with a supporting-sill, together with clamping mechanism adapted to draw down the main portions of said shoulder-pieces in a greater or less degree of tension upon said sill, substantially as set forth.

8. The combination, with a mattress-support, a side rod connected therewith, and a supplemental rod connected to the latter at one or more points, of an adjustable tension-arm, with which the extremities of both said rods respectively engage, substantially as set forth.

9. The combination, with a mattress-support which is suspended by its sides, of a longitudinal central supporting-rod and tension-arms respectively engaging with the opposite extremities of the latter, said arms being formed with shoulder-pieces which have bearings upon the cross-sills of the mattress-support frame, and are adapted to exert any desired strain upon the rod by adjusting said arms at either or both of the rod extremities, substantially as set forth.

10. An elastic frame for mattress-supports, consisting in the combination, with side sills which have a rocking movement, of cross-sills, to which they are secured by clamping mechanism adapted to permit of a yielding engagement between the same, substantially as set forth.

11. In a mattress-support frame, the combination, with cross-sills whose extremities have beveled upper surfaces, of side sills, which bear thereon, and adjustable yielding clamping mechanism, substantially as set forth.

12. The combination, with a mattress-support frame having laterally-rocking side sills, of adjustable tension-arms secured to the upper face of the latter, together with rods connecting with the arms, and which extend along and are secured to the side of the mattress-support, said arms being adapted to be adjusted so as to apply strain to said rods in the direction of the width and also of the length of the mattress-support, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 23d day of August, 1878.

ELIAS L. MATTESON. [L. S.]

Witnesses:
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CHARLES C. SHELDON.