J. P. RADLEY.
Bed-Bottom.

No. 218,686. Patented Aug. 19, 1879.

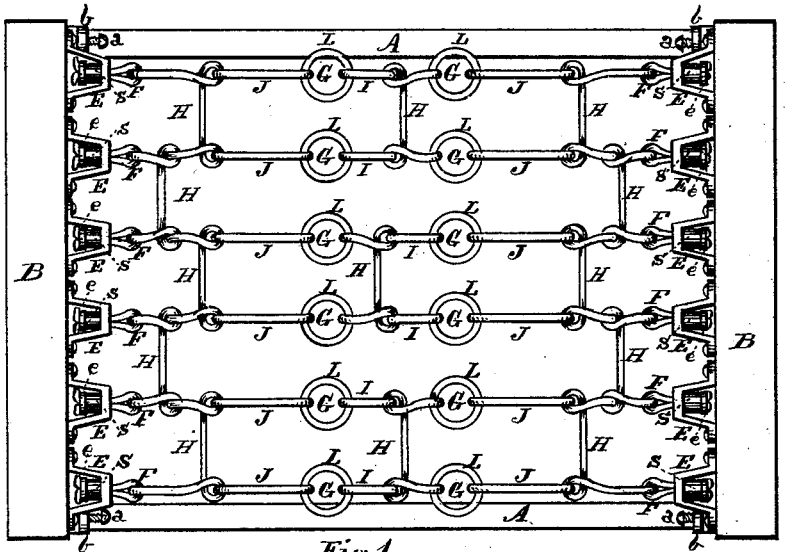


Fig. 1.

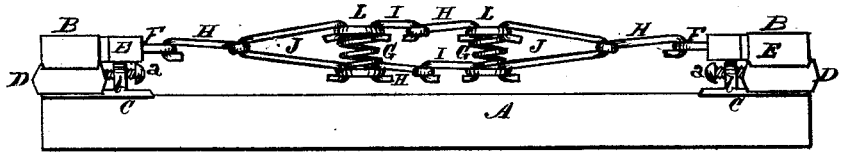


Fig. 2.

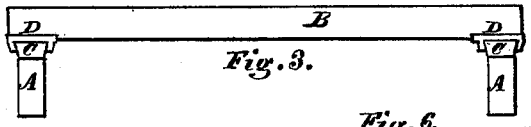


Fig. 3.

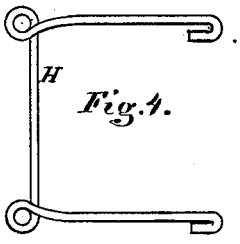


Fig. 4.

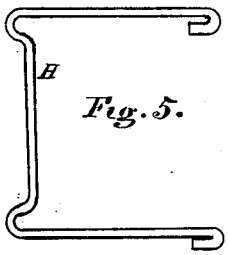
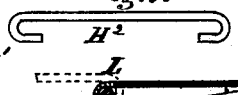


Fig. 5.

Fig. 6.

Fig. 7.



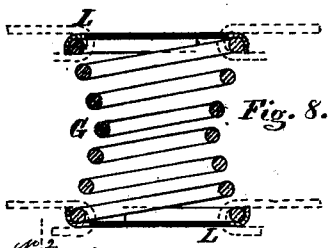


Fig. 8.

Fig. 9.

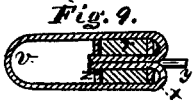


Fig. 10.

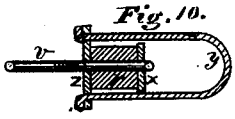


Fig. 11.

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IMPROVEMENT IN BED-BOTTOMS.

Specification forming part of Letters Patent No. **218,686**, dated August 19, 1879; application filed February 26, 1879.

To all whom it may concern:

Be it known that I, JOHN P. RADLEY, of the city and county of Albany, and State of New York, have invented certain new and useful Improvements in Bed-Bottoms, which improvements are fully described in the following specification and accompanying drawings, in which—

Figure 1 represents a plan view of my improved bed-bottom. Fig. 2 is a side elevation of the same. Fig. 3 is an end elevation. Figs. 4 and 5 are modifications of the connecting-links. Figs. 6 and 7 together represent another modification of the link made in two parts. Fig. 8 is a sectional elevation of the vertical springs and their end caps. Fig. 9 is a longitudinal sectional view of a modification of the horizontal springs, taken at line No. 1 in Fig. 11. Fig. 10 is a longitudinal sectional view of the same, taken at line No. 2 in Fig. 11; and Fig. 11 is a cross-sectional view.

My invention relates to a metallic bed-bottom employing horizontal compression end springs, vertical central springs, and links for connection in a horizontal manner of the former with the latter; and consists of the combination and arrangement of parts hereinafter more specifically described and set forth.

The object of my invention is to produce a metallic bed-bottom which may be made at any time more or less tight or stiff, or more or less slack, and will have its middle portions raised to a plane higher than the end portions, and will protect the ticking of the mattress from being cut by the ends of the vertical springs, and will admit of the parts being readily detached for transportation and storage, and be readily secured together by any person of ordinary intelligence.

In the drawings, A A represent the side rails of the bed-bottom. B B are the end rails. Secured to the upper side and at each end of the side rails is the plate C, made in the form of the tongue of a dovetail in its cross-direction, as shown in Fig. 3. A lug, *b*, Figs. 1 and 2, is cast solid with said plate and provided with a set-screw, *a*. Secured to the lower sides of the ends of the end rails is a plate, D, made with a dovetail recesss, *c*, corresponding with the cross-sectional form of plate C, with which said plate D is to engage and form a dovetail joint, and permit the end rails to be moved in either direction, according as the set-screws *a* *a* are screwed inward through their lugs or outward through the same.

Secured to the inner sides of the end rails are a series of stirrups, E, Figs. 1 and 2, each holding a compression-spring, *s*, arranged horizontally, and preferably made of elastic rubber. The ends of these springs off from the end rails bear on the loop of the stirrup. An endwasher or cap, *e*, is placed at the rear of the spring. A draw-loop, F, passes through the bow of the stirrup, and also through the spring and end washer to the rear, where it is secured by having the stem ends of said draw-loop clinched against the rear side of said end washer.

Near the middle portion of the bed-bottom, and in some cases nearer to the head than the foot of the same, is arranged one or more rows or series of vertical spiral springs, G G, which springs are connected with the horizontal end compression-springs *s* by wire or equivalent metal links. When two or more rows of vertical springs, G, are employed I connect them together by links H H, Figs. 1, 2, 4, and 5, or by links formed by pieces, as H^1 and H^2 in Figs. 6 and 7, and also simple hook-links I I, Figs. 1 and 2. These connections of the springs with each other, when more than one row or series is employed, are made with both the upper and lower ends of the said springs, as shown in Fig. 2.

To connect the springs G with the springs *s*, I employ <-shaped links J J and links H, similar to those shown in Figs. 1, 4, and 5, and before described as being used to connect the springs *s s* together when two or more rows are used.

The vertical spiral springs G G, when connected to the horizontal compression-springs *s s* by the links J J and H H, form an elastic truss, the upper side of which will be more elevated than the end portions of the bed-bottom or the end links H and draw-loops F, which form such end portions.

L L are flanged ring-caps, made of metal, either cast or struck, which caps fit over the ends of the vertical spiral springs G both above and below, and to form ring-seats for said ends, to hold and retain the end coils and their terminating ends of wire from shifting in

either direction, while at the same time they operate as a means for more securely holding the springs with the links which connect them with the end rails.

The horizontal compression-springs and their stirrups may be made as shown in the several sectional views in Figs. 9, 10, and 11, in which form of construction *r* is the rubber spring; *z*, a rear washer, made of metal, and provided with ears for receiving the wire stirrup *y*. *x* is the front washer, and *v* the draw-loop. This form of stirrup may be cheaply constructed and attached to the end rails as substitutes for the stirrup E. (Shown in Figs. 1 and 2.)

My improved bed-bottom, being formed by a web composed of the links H, I, and J and the vertical spiral springs G, all made of metal, is not only elastic, but also strong and secure, while a portion of its upper surface at or near the middle is above a plane with the foot and head portions, so that in no case will the web sink in its middle portions below the plane of the end portions, and the middle portions will be rendered slightly more elastic, for the greater ease and comfort of the body of the person thereon. For corpulent persons I would place the springs G more toward the head end of the web than toward the foot end.

It will be readily seen that by the employment of the end compression-springs the web will better retain its strained and stiff condition than would springs made to be drawn outward, as heretofore used.

It will also be readily seen that the same web may be made to be more or less slack for light persons, and have given to it a greater tension for heavy persons, by reason of the set-screws *a* working against the plate D, attached to the movable end rails. Another great advantage is that the end and side rails and the web may all be readily detached and packed in a small compass for transportation or storage, and may be easily and readily placed properly together without requiring more tools than a common wrench or screw-driver for slacking or tightening the set-screws.

Having described my invention, what I claim is—

In a bed-bottom, the combination, with the metallic web formed in its middle portion by vertical spiral springs G G, connected by links H H, and its end portions by <-shaped links J J and links H H, so that the upper surface of the said middle portion will be on a higher plane than said end portions, of the end rails B B, provided with stirrups E, compression-springs *s*, and draw-loops F, and supported and held to side rails A A by dovetailed plates C and D and set-screws *a*, all constructed and arranged for operation substantially as and for the purpose set forth.

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Witnesses:
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ALEX. SELKIRK.