L. HULL.
Bed Bottom.

No. 202,032. Patented April 2, 1878.

Fig. 2.

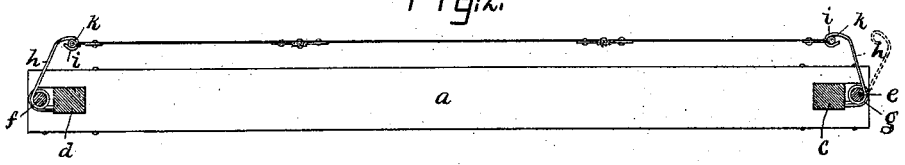
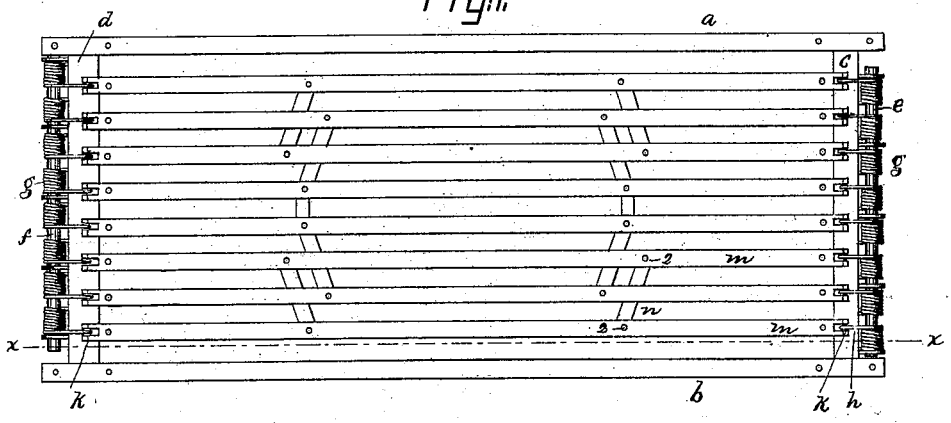


Fig. 1.



Witnesses.
C. C. Perkins.
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UNITED STATES PATENT OFFICE.

LIVERUS HULL, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN BED-BOTTOMS.

Specification forming part of Letters Patent No. **202,032**, dated April 2, 1878; application filed December 19, 1877.

To all whom it may concern:

Be it known that I, LIVERUS HULL, of Charlestown, in the county of Suffolk and State of Massachusetts, have invented an Improved Spring-Bed, of which the following is a specification:

This invention relates to improvements in spring-beds having metallic slats; and consists in the combination, with flexible metallic slats, of springs provided with slat-holding hooks, the ends of the springs, in their normal position, extending upward and backward from the foot and head cross-bars.

In bed-bottoms wherein rigid slats are hooked upon springs, weight thrown upon the slat at one side of the center of its length will depress that end of the slat and throw upward the opposite end of the slat, and the depression of the spring at one end of the slat while the other one is relieved from pressure, as described, will move the slat longitudinally, thereby giving to the bed-bottom an undesirable movement. To prevent the raised end of such a rigid slat from escaping from the spring, as it would do if the spring engaged a pin in the slot, pieces of leather have been added to the ends of the rigid slats, the springs hooking into them.

In this my invention, wherein I employ a flexible metallic slat, any weight placed upon any portion of a slat will depress both springs of the slat, and draw the ends of both springs toward the center of the bed.

By reason of supporting the springs upon rods at the side of the usual head and foot cross-bars, instead of upon such bars, the usual objectionable spaces at the head and foot of the bed are obviated.

With bed-bottoms wherein the springs are mounted upon the head and foot bars, the ends of the slats, when lifted to their normal positions, as when the bed is not occupied, leave a space between the ends of the slats and the head and foot boards, into which the bedding settles, leaving the bed uneven, which is specially objectionable in appearance.

When rigid slats are used they must be of a length less than the distance between the head and foot bars, in order that the ends of the slats, when depressed, may pass such bars. Consequently such a rigid slat cannot be made as long as when supported, as herein described and shown.

Figure 1 represents, in top view, a spring-bed constructed in accordance with my invention; and Fig. 2, a longitudinal section thereof on the line *x x*, Fig. 1.

The side rails *a b* are connected by means of a head-bar, *c*, and a foot-bar, *d;* and at the outer edges of these bars, on rods *e f*, parallel therewith, are coiled springs *g*, having upwardly and backwardly extended arms or ends *h*, having hooks *i*. The dotted lines at right of Fig. 2 show the normal position of these arms *h* when disconnected from the slats.

Whatever may be the weight applied to the flexible metallic slats, the hooks will not descend so low as to form an objectionable opening at the head or foot.

The hooks *i* engage pins *k*, arranged across the eyes or openings at the ends of the slats. The slats, being of thin flexible metal, readily yield to any portion of the body, such as the hip or shoulder; and in the case of the latter the slat itself, yielding so much more easily than the spring connected with its end, permits the mattress to be held up higher at its extreme end than under the shoulder, thus keeping the head elevated. Each slat sustaining the person, as it yields to the shape of the body, is also free to move longitudinally, to a greater or less degree, with relation to the slats next to it, without affecting the position of other slats, for, as herein shown, each pair of alternate slats is connected by means of links, (represented at 2,) such links extending from one to the other side of the bed-bottom, and connecting all the slats together, each link preferably projecting under and forming a support for an intermediate slat.

I claim—

1. The combination, with the thin sheet-metal flexible slats, longer than the distance between the head and foot bars, of the hooked sustaining-springs *h*, applied to the head and foot of the bed-frame, and projecting upward from the cross-pieces at the head and foot, as

described, to operate all substantially as set forth.

2. The frame *a b c d*, and metallic slats and hooked springs *h*, in combination with the rods *e f*, arranged behind and parallel with the bars *c d*, all substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LIVERUS HULL.

Witnesses:
G. W. GREGORY,
W. J. PRATT.