(Model.)

2 Sheets—Sheet 1.

E. A. JEFFERY.

SPRING BED.

No. 245,174. Patented Aug. 2, 1881.

Fig. 1.

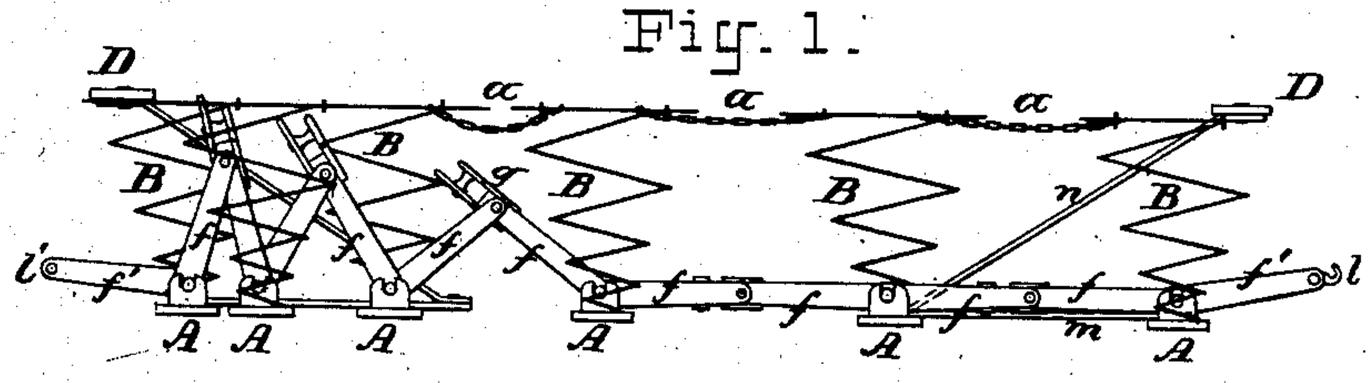


Fig. 2.

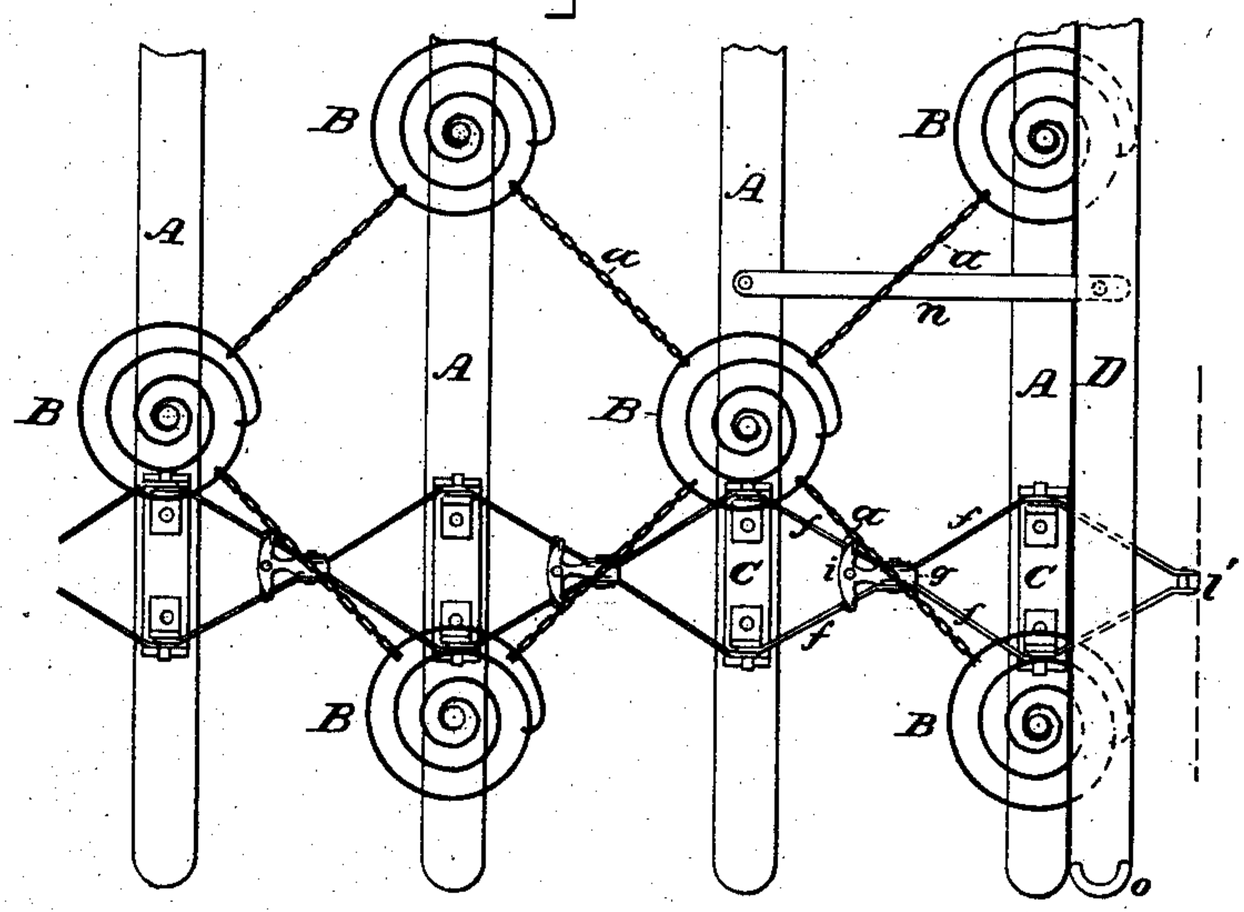


Fig. 4.

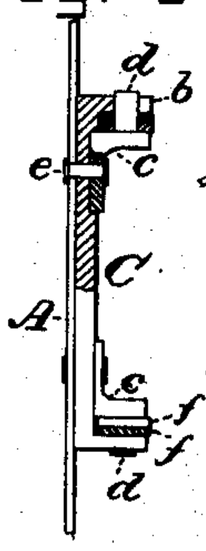


Fig. 3.

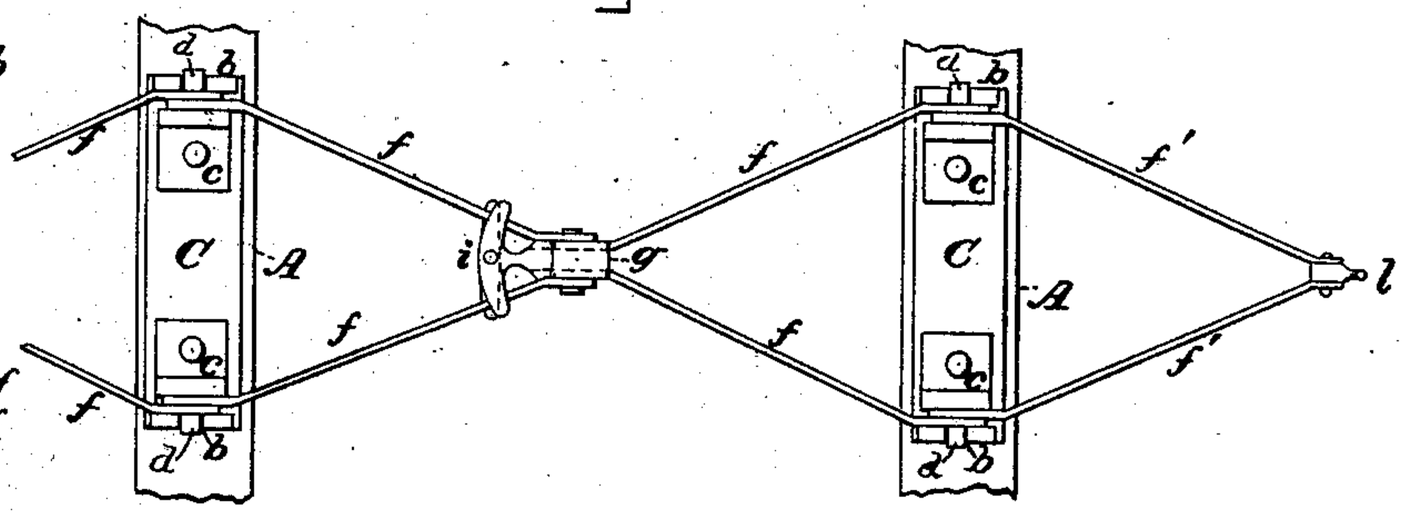
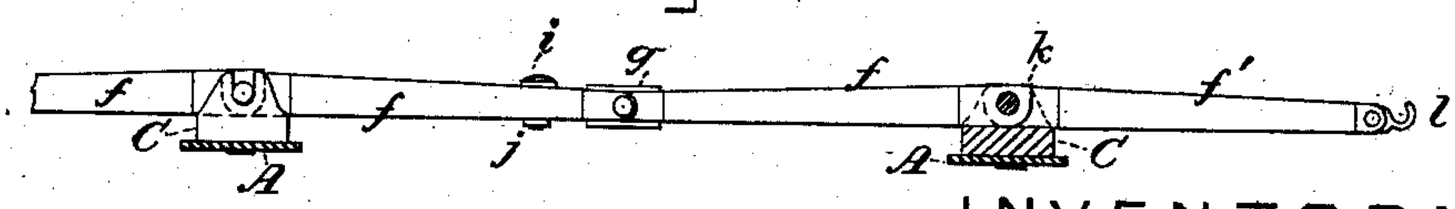


Fig. 5.



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INVENTOR:

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(Model.)

2 Sheets—Sheet 2.

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SPRING BED.

No. 245,174. Patented Aug. 2, 1881.

Fig. 6.

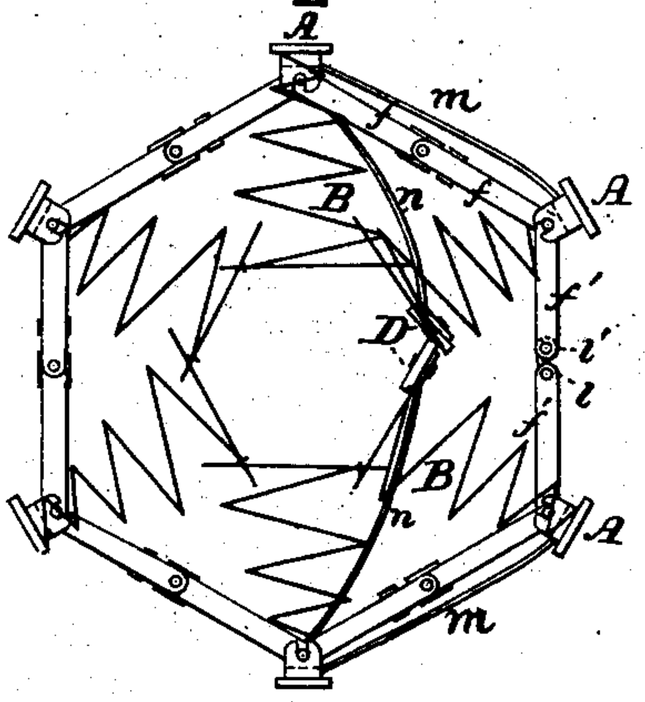


Fig. 7.

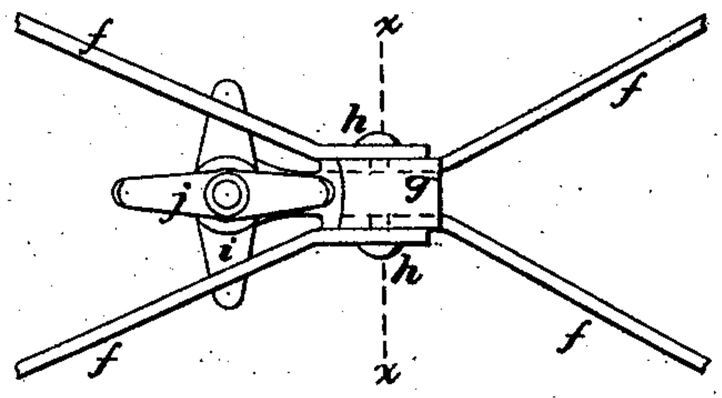


Fig. 8.

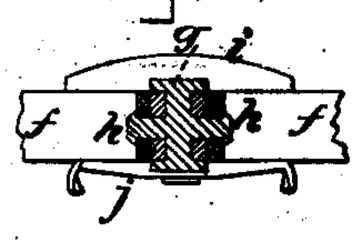
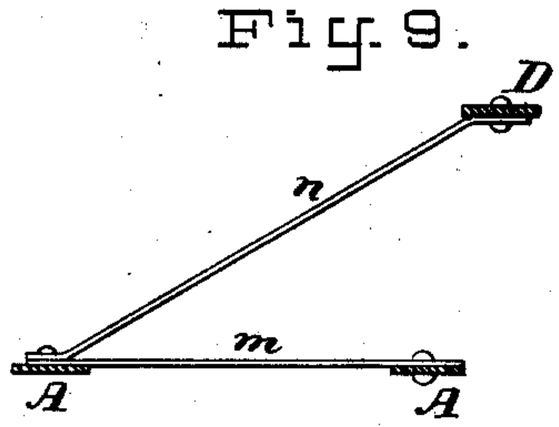


Fig. 9.



INVENTOR:

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UNITED STATES PATENT OFFICE.

EDWIN A. JEFFERY, OF JERSEY CITY, NEW JERSEY.

SPRING-BED.

SPECIFICATION forming part of Letters Patent No. 245,174, dated August 2, 1881.

Application filed July 30, 1880. (Model.)

To all whom it may concern:

Be it known that I, EDWIN A. JEFFERY, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain Improvements in Spring-Beds, of which the following is a specification.

This invention relates to spring-beds or bed-bottoms adapted to collapse or close together, the springs being mounted upon slats which are connected together by hinges or links and adapted to be distended or separated.

In my patent of November 4, 1879, No. 221,317, I showed a bed of this character in which the bracing-links which connect the slats were simply linked at the center between the slats, and a straining-rod was employed to keep the bed distended.

In my herein-described bed I employ a lock joint or hinge between the slats, whereby the said straining-rod is dispensed with.

My present invention also embodies other improvements, which will be hereinafter set forth.

In the drawings which serve to illustrate my invention, Figure 1 is an end view of my bed or bed-bottom, showing some of the slats wholly or partially closed together and some fully distended or separated and locked. Fig. 2 is a plan of a part of the bed, showing the slats distended or separated. Fig. 3 is a plan view, showing the bracing-links and locks enlarged, as well as the device for hinging them on the slats; and Fig. 4 is a sectional and side view of the latter device. Fig. 5 is an elevation of Fig. 3. Fig. 6 is an end view, showing the bed rolled up instead of collapsed, as it may be for temporary handling, if desired. Fig. 7 is a view of the under side of the lock enlarged, and Fig. 8 a cross-section of the same on the line *x x*. Fig. 9 is a detached view of the brace for the side rail or slat.

I prefer to construct my bed entirely of metal, and have shown it so constructed; but I do not wish to confine myself to the use of any particular kind of materials.

The general arrangement of the springs and slats shown is that in common use, A A being the slats, B B the springs, and *a a* the chains which connect them at the top. The slats are connected by links hinged on the slats, and also at points about midway between them, as shown, so that when the slats are closed together these links turn on their hinges and stand upright, or nearly so, as shown in Fig. 1. These links and their locking devices and attachments possess some novel features.

Let C represent a hinge-plate, which I prefer to make of cast metal. This I provide with recessed bearings *b b*, turned up at its ends, and slight recesses or depressions to receive stud-plates *c c*, the studs *d d* on which rest when the plates are in place in the recesses in the bearings *b b*. The plates C are mounted on the slats at the proper points, and are affixed thereto by means of rivets *e e*, which pass through both the plates C and *c* and the slat A, as clearly indicated in Fig. 4.

The strips *f f*, which form the bracing-links, are preferably made of sheet metal. These are hinged on the studs *d d* and brought together at their other ends so as to embrace a lock-piece, *g*. By referring to Figs. 7 and 8 it will be seen that this piece is recessed at the sides to receive the two ends of the strips, the recesses having sufficient width and depth to receive them. The ends of the other two strips embrace these, and studs *h h*, preferably cast on or with the piece *g*, pass through both and are riveted down. This attaches the inner strips, *f*, rigidly to the piece *g*, while the outer ones are free to turn on the studs *h*.

So far as described the device serves only as a hinge; and to enable it to perform the functions of a lock, whereby the hinge is made rigid when the links are extended, as in Fig. 5, I provide the piece *g* with a T-shaped head, *i*, arranged, when the links are extended, to span the angle between the link-strips and to rest on the same, as shown. This prevents the links from passing a horizontal line when pressed down; and to prevent from lifting accidentally and collapsing the bed, I provide the head *i* with a button, *j*, pivoted on a stud at its under side, as shown, and long enough to reach over from one strip *f* to the other. This locks the hinge between the slats and keeps the bed rigidly distended. When it is desired to collapse the bed the button *j* is turned to the position shown in Fig. 7, and the hinge may then "break" upward. There may be two or more sets of these bracing-links arranged across the

bed; but I prefer two sets, one at each end, and back of the first row of springs, as in Fig. 2. The angular arrangement of the links, which have nearly the form of equilateral triangles, forms a sufficient bracing for the bed without the necessity of employing diagonal braces.

To prevent the links from falling over to one side or the other when the bed is collapsed, I leave a salient angle at *k* on each strip *f*, (see at the right in Fig. 5,) which prevents the said strips from attaining quite to a vertical position, the said angle or corner impinging upon the plate C when the links are raised high enough, as indicated at the left in Fig. 1.

Beyond the marginal slat of the bed on both sides may project a link or brace, formed of two strips, *f' f'*. These project a little farther than the overhanging side rail, D, and bear against the bedstead-rail so as to prevent the spring-bed from moving sidewise. They may also be provided one with a hook, *l*, and the one on the opposite side with an eye or cross-pin, *l'*, to form a fastening when the bed is rolled up, as in Fig. 6.

To prevent the side rail, D, from turning inward when the weight is thrown upon the bed, I provide the bracing device shown best in Fig. 9. This consists of a plate or strip, *m*, secured to the marginal slat, and long enough to extend to and rest upon, but is not fastened to, the next slat when the bed is extended, and another plate, *n*, secured to the side rail at one end and to the plate *m* at the other. There may be one or more of these braces at each side of the bed; but I think two on each side will be preferable. They should not, however, be arranged opposite to each other, but so that they may pass each other when the bed is collapsed.

I do not wish to confine myself to the precise construction and arrangement of the parts as herein shown, as these may be varied somewhat without materially affecting the essential characteristics of my invention—as, for example, the button *j* might be dispensed with and the head *i* provided with spring-catches to hold it in place, and the plates *m* and *n* of the brace shown in Fig. 9 might be made in one instead of two pieces.

Instead of rivets, screws or other means may be employed for connecting the various parts together.

Having thus described my invention, I claim—

1. A collapsing spring-bed or bed-bottom having the slats connected by means of links hinged onto the slats, the links being also hinged together about midway between the slats, the hinges being provided with locks or clamps, whereby the tie between the slats is made substantially rigid, for the purposes set forth.

2. A collapsing spring-bed or bed-bottom having the slats connected by means of angularly-arranged bracing-links, each hinged at two points on or to the slats and at one point about midway between the slats, each hinge-joint between the slats being provided, independently of the others, with means for rigidly locking or clamping the hinge when the bed is distended for use, substantially as and for the purposes set forth.

3. The combination of the hinge-plate C, provided with recessed bearings *b b* and the plates *c c*, provided with lugs *d d*, with the slat A, and the attaching-rivets *e e*, all arranged substantially as and for the purposes set forth.

4. The combination, with the strips *f f*, of the lock-piece *g*, provided with the T-shaped head *i* and the button *j*, all constructed and arranged to operate substantially as set forth.

5. A bed-bottom having the outside or marginal slats of the bed provided with the hinged braces *f' f'*, projecting beyond the side rails, D, and arranged to abut against the rails of the bedstead, substantially as and for the purposes set forth.

6. The combination, in a collapsible spring-bed, of the side rail mounted on the top of the marginal row of springs, the said springs, the marginal slat upon which the springs are mounted, the horizontal plate *m*, attached to the marginal slat and projecting far enough to rest on the next slat when the bed is distended, and the angular brace *n*, secured to the side rail at one end and connected with the plate *m* at the other, whereby, when the bed is collapsed, the slats may move under the plate *m*, substantially as set forth.

7. The combination, in a spring-bed, of the slats upon which the springs are mounted, connected together by means of links hinged midway between the slats, and the said hinging-links provided with stops in the nature of shoulders or angles at their butts, which impinge upon the slats when the bed is collapsed and serve to prevent the links from toppling over and the slats from turning, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWIN A. JEFFERY.

Witnesses:

HENRY CONNETT,

E. B. BOLTON.