(No Model.)

L. A. WOOD.

SPRING BED.

No. 355,747. Patented Jan. 11, 1887.

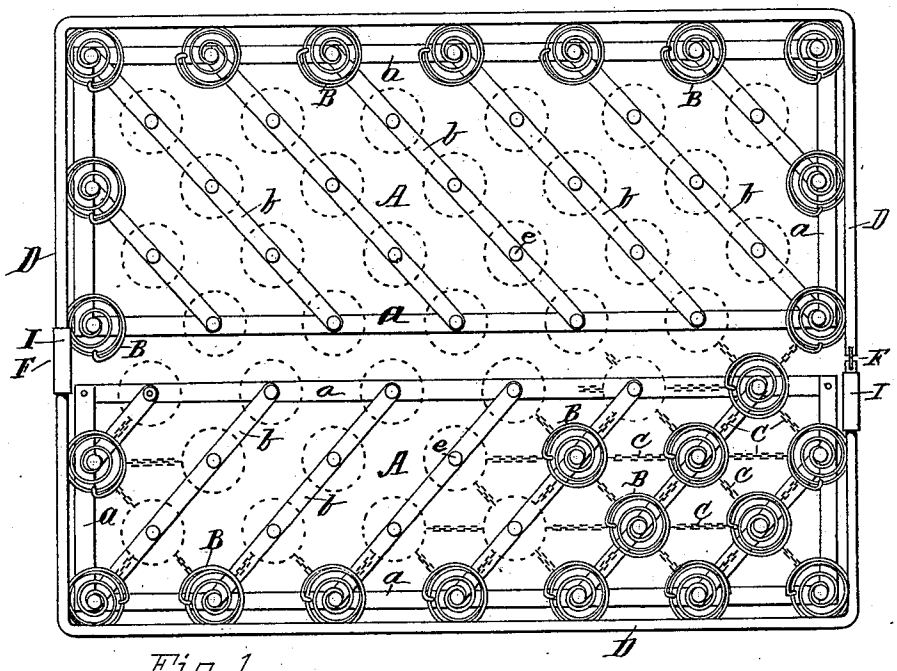


Fig. 1.

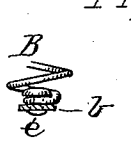


Fig. 7.

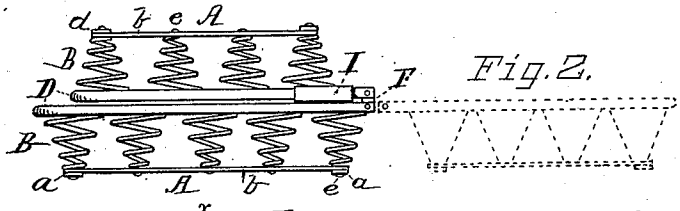


Fig. 2.

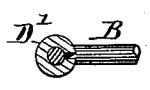


Fig. 9.

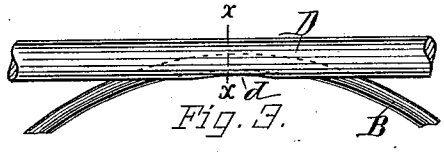


Fig. 3.

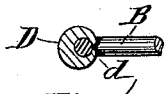


Fig. 4.

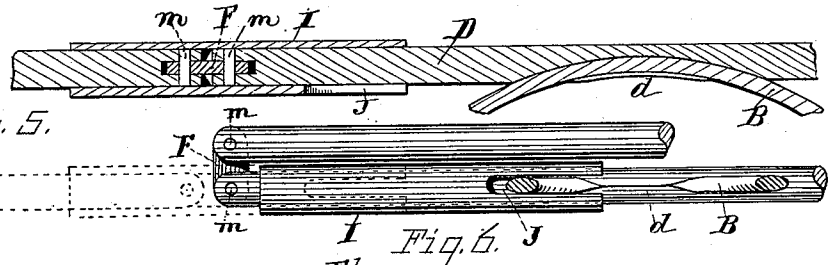


Fig. 5.

Fig. 6.

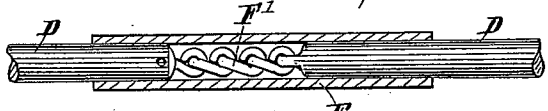


Fig. 8.

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UNITED STATES PATENT OFFICE.

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SPRING-BED.

SPECIFICATION forming part of Letters Patent No. 355,747, dated January 11, 1887.

Application filed October 12, 1885. Serial No. 179,617. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS A. WOOD, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Spring-Beds; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my present invention is to provide a more convenient, serviceable, and desirable spring-bed. The features of improvement consist in the manner of connecting the border frame with the tops of the springs; also, in combining with the hinged or jointed border rod, that connects the tops of the outer row of springs in a folding spring-bed, of means for sustaining the hinging-joint in a stiff and rigid manner when the bed is spread out for use, so that the bed will properly preserve its shape under unequal weights at the sides thereof; also, in the peculiar diagonal arrangement of the spring-supporting frames, and the employment of magnetized springs, as more fully hereinafter explained, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a plan view of my improved spring-bed, a portion of the springs being omitted and indicated by dotted lines on the drawings, so as to show more fully the supporting-frames. Fig. 2 is an end view of the bed folded together, the position when opened being indicated by dotted lines. Fig. 3 is a plan view of the border rail and spring-connection. Fig. 4 is a cross-section of the same at line *x x*, Fig. 3. Fig. 5 is a longitudinal horizontal section of the border-rail joint and spring-connection. Fig. 6 is a side view of the joint mechanism as folded, with dotted lines indicating the position of parts as extended. Fig. 7 shows the connection of the spring with the supporting-frame. Fig. 8 shows a modification in construction of the joint-link. Fig. 9 shows a modification in the border rail, a slit tube being employed in lieu of a rod or wire.

In reference to parts, A denotes the bottom frame, which is made in two independent sections of different widths, each composed of a rectangular border frame, *a*, formed of flat metal bars or hoop-iron, with a series of diagonally-disposed cross-bars, *b*, of similar material, upon which the springs B are supported, said springs being secured thereto by means of rivets *e*, (see Fig. 7,) which pass through the small querl at the foot of the spring and through the support-bar, and are set or riveted down solid, so as to hold the springs rigidly in place upon the frame A. The cross-bars *b* in the two sections are preferably disposed in opposite diagonal directions. This diagonal arrangement of the supporting-bars *b* makes a firm and rigid frame without additional bracings, and also admits of the springs being arranged in uniform order throughout the bed and all properly supported, while requiring a less amount of material for making the frame A than is required with the cross-bars running at right angles to the sides. Advantage is also attained by constructing the bottom sections of different widths, in that it better admits of the desired arrangement of the springs in their complete and uniform order throughout the entire space of the bed, and also gives stronger support at one side of the bed than at the other when spread, thereby adapting the bed for two persons of different weight, so that when properly adjusted the natural sagging of the bed in use will not cause one side to take a lower position than the other, and thus necessitate building up with bedding unequally to give the made-up bed an even and level surface.

The springs B are in the present instance of conical shape of spirally-coiled wire, the upper end being joined to the coil, so as to give a circular top, as usual in this class of spring. All or any desired number of these springs are magnetized, or treated in a manner to make permanent magnets of them, and they may be coppered, japanned, plated, or otherwise finished, as may be desired, as may also the frames A.

The border rail D, which is arranged about the outer edge of the bed, is formed in two parts, jointed together at E, so that the bed can be folded, as indicated in Fig. 2. Said border rail is preferably made of a wire or

metal rod, (or of metal tubing,) of, say, five-sixteenth-inch diameter, more or less, and the top coil of each of the outer row of springs is connected to said border rail in the peculiar manner indicated in Figs. 3, 4, 5, and 6, the side of the rod D being grooved out or longitudinally recessed by means of a suitable cutter, the wire of the spring let into such groove, and the metal of the rod upset, clinched, or riveted down upon and about the wire of the spring, as at *d*, so that the springs B are rigidly or securely held to the border rail, and a neat, durable, and smooth connection is produced, while the rod and springs mutually support each other in proper relation and position, and offer no objectionable projections that would be liable to catch or wear the bedding. This peculiar method of attaching the border rail to the springs is a feature of my invention, although I do not claim, broadly, the use of a border rail in connection with the springs of a bed.

The tops of the several springs are connected with each other by links or chains C, in the manner indicated in Fig. 1.

The two parts of the border rail are connected together at F by a link-hinge, so as to permit the bed to fold together, as in Figs. 2 and 6. Said hinge is formed by a link, F, inserted in slots formed in the ends of the bar D and retained by pins *m*, as shown in Figs. 5 and 6; or, if preferred, by a short chain of several links, as shown at F', Fig. 8. A slide or tubular sleeve, I, is arranged upon the rod, to be slipped over the joint for holding it straight, stiff, and firm when the bed is open or spread for use. A slot, J, is in the present instance formed in one end of the sleeve I, to permit it to pass beyond the point of attachment of the spring B. (See Fig. 6.)

By providing means for retaining the folding hinge or joint in a stiff and rigid condition when the bed is spread out for use, the several springs at the opposite sides thereof are uniformly sustained, and the bed is caused to retain its proper shape in the same manner as it would if the border rod were unjointed, thus attaining the advantages of both the folding and rigid construction. The hinged border with means for holding the joint rigid, in combination with the bed-springs, is a feature of my invention.

It will be understood that I do not herein make claim, broadly, to a bed capable of folding together, as I am aware that beds having such capacity have heretofore been in use. Neither do I claim, broadly, a hinge-joint provided with a sliding sleeve, except in the combination and for the purpose herein specified.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. A spring-bed constructed, as hereinbefore specified, with its bottom frame formed in two independent sections of different widths, each composed of a rectangular border and a series of diagonally-disposed cross-bars supporting springs, the spring-supporting bars being arranged in opposite diagonal order in the two sections, as and for the purpose herein shown and described.

2. In a spring-bed, the combination of the border rail D, provided with longitudinal grooves or recesses, and the spring B, secured thereto in the manner set forth—viz., with the wire of the spring let into the rail and the metal thereof upset or riveted down about the spring, as at *d*—substantially as hereinbefore described.

Witness my hand this 12th day of September, A. D. 1885.

LUCIUS A. WOOD.

Witnesses:
CHAS. H. BURLEIGH,
JUDSON W. HALL.