No. 823,427. PATENTED JUNE 12, 1906.

G. A. MELLON.

SPRING BED BOTTOM.

APPLICATION FILED DEC. 12, 1905.

2 SHEETS—SHEET 1.

Fig. I.

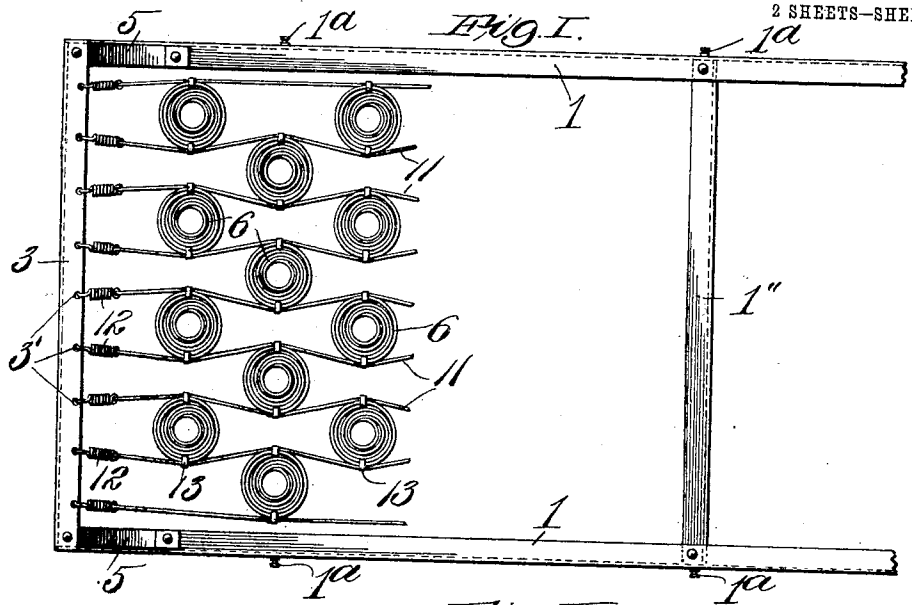


Fig. II.

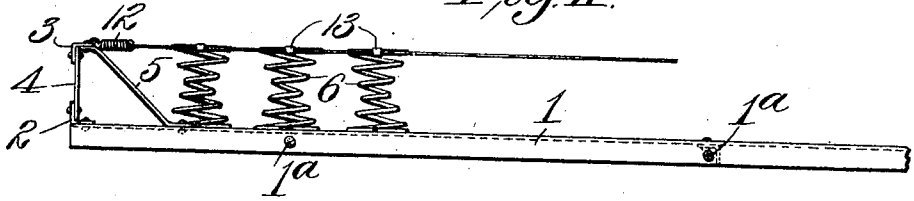
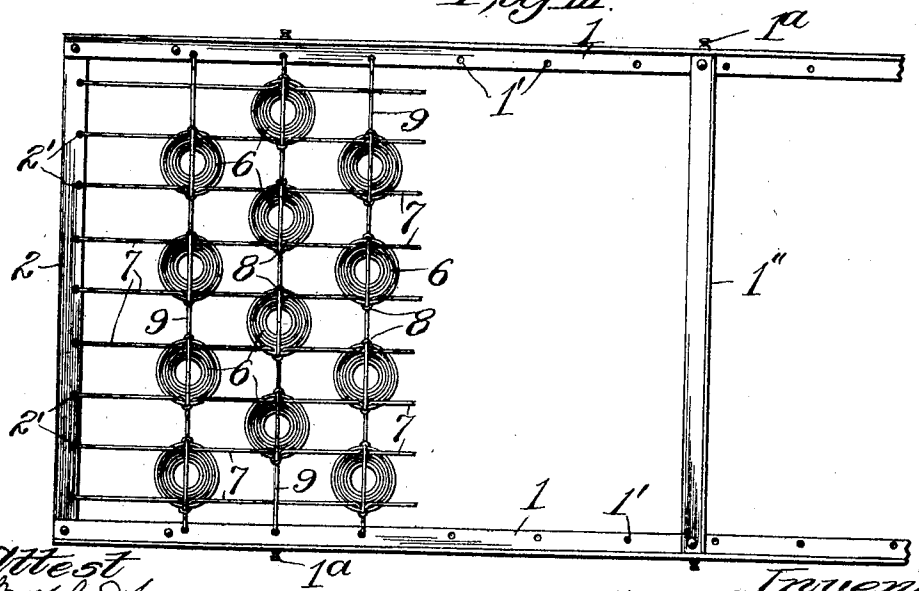


Fig. III.



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2 SHEETS—SHEET 2.

Fig. IV.

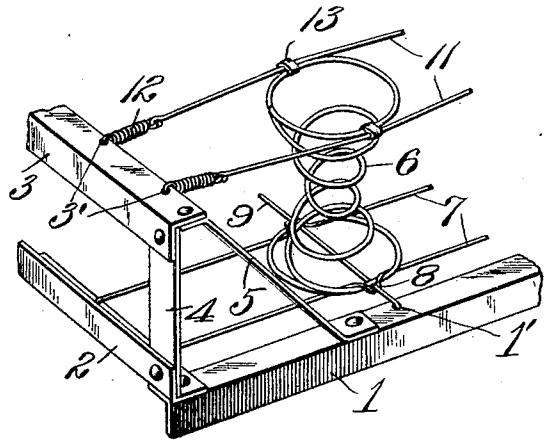


Fig. V.

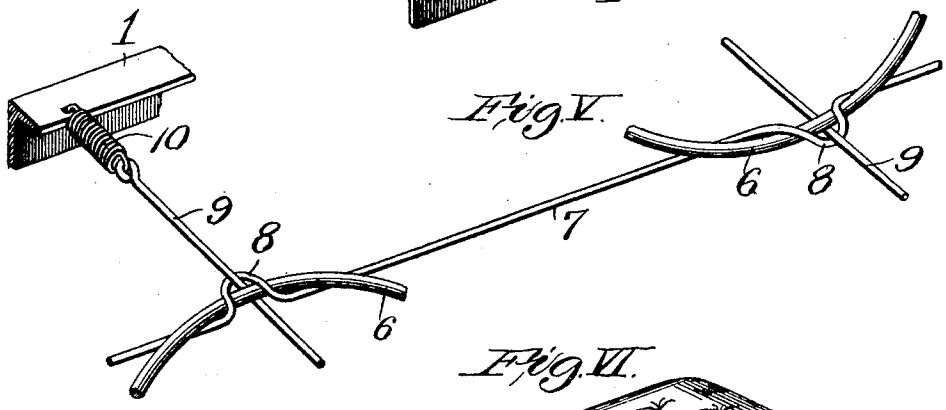
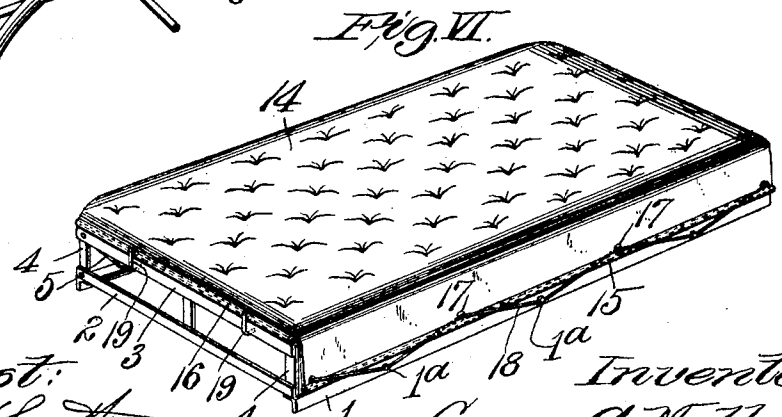


Fig. VI.



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UNITED STATES PATENT OFFICE.

GEORGE A. MELLON, OF ST. LOUIS, MISSOURI.

SPRING BED-BOTTOM.

No. 823,427. Specification of Letters Patent. Patented June 12, 1906.

Application filed December 12, 1905. Serial No. 291,402.

To all whom it may concern:

Be it known that I, GEORGE A. MELLON, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Spring Bed-Bottoms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of spring bed-bottoms in which spiral springs are used; and it has for its object to furnish a construction of bed-bottom that is of more rigid construction by the use of elevated subend rails and strain-wires connected to said subend rails to relieve the main bed-bottom springs of strain, thereby increasing the life of said springs and making it possible to use a less number of such springs.

The invention also has for its object to provide, in connection with the strain-wires mentioned, tension-springs that permit play of the wires.

It also has for its object to provide connection between the strain-wires and the mainsprings at opposite points at the ends of the springs, whereby the springs are permitted to partake of lateral movement while yieldingly held by the strain-wires, thus allowing the main springs to act with freedom, although restrained.

The invention also has for its object to provide a construction whereby the mainsprings are rigidly held at their lower ends while yieldingly held at their upper ends.

The invention also has for its object to provide a construction that permits of the application of a mattress or pad to the bed-bottom for the purpose of rendering it of box-like form and a specially-constructed mattress for use in producing the box-like shape of the bed-bottom.

Figure I is a top or plan view of a part of my bed-bottom. Fig. II is a side elevation of the parts illustrated in Fig. I. Fig. III is an inverted plan view of the parts illustrated in Figs. I and II. Fig. IV is an enlarged perspective view of one corner of the bed-bottom in upright position. Fig. V is an enlarged perspective view of fragments of one of the lower side rails, mainsprings, and longitudinal and transverse spring-supporting wires. Fig. VI is a perspective view of my bed-bottom with the mattress shown applied thereto.

1 designates the side rails of my bed-bottom and 2 designates the main or lower end rails, said rails being firmly united to each other by rivets or other suitable means of fastening.

3 designates sub or upper end rails surmounting the main end rails and supported at an elevation above them by uprights or posts 4, secured to the end rails, and also by braces 5, having their ends secured to the side rails and the subend rails. The side rails and end rails are all preferably constructed of angle-bars, and when made of bars of this kind each rail has a horizontal wing that extends inwardly from the outer side of the rail.

6 designates the mainsprings of the bed-bottom, which are preferably of the usual spiral or double-cone form.

7 designates longitudinal bottom-wires that extend from end to end of the bed-bottom and the ends of which are secured to the lower end rails 2 by passing them through perforations 2′ in said end rails, as seen in Fig. III. Each of these longitudinal bottom wires serves as a mainspring-supporting member, and each wire is provided at the location of the various mainsprings resting thereon with a kink 8, that provides for the wire being looped over the lower coil of each mainspring resting thereon.

9 designates transverse bottom-wires that extend from side to side of the bed-bottom at right angles to the longitudinal wires. The transverse bottom-wires extend through the kinks 8 of the longitudinal bottom-wires at each point at which said kinks are encountered and pass beneath the lower coils of the mainsprings engaged by said kinks, whereby the mainsprings are firmly held from movement due to interlocking engagement of the crossing bottom-wires with each other and the confinement of the lower coils of the mainsprings. The transverse bottom-wires are preferably secured to the side rails of the bed-bottom by passing their ends through perforations 1′ in the side rails. (See Figs. III and IV.) These transverse wires may, however, be permitted to act yieldingly by the introduction of coiled or other springs 10. (see Fig. V,) connecting them to the side rails. The mainsprings of the bed-bottom,

which are seated upon the longitudinal and transverse bottom-wires for their support, are arranged in rows on said bottom-wires and disposed in alternating positions, whereby the mainsprings of each alternate row are out of line with the mainsprings of the next adjacent rows throughout the bed-bottom.

11 designates longitudinal top strain-wires that are attached to the elevated subend rails 3 by coiled tension-springs 12, each having one end attached to a corresponding strain-wire and its other end inserted through an aperture 3′ in the subrail. Each of the strain-wires 11 is connected to the mainspring 6 of the bed-bottom that are disposed in line with the strain-wires, and this connection is made with respect to two rows of the mainsprings, whereby those of one row are united to the springs of the next adjacent row through the medium of each independent-strain wire. The various strain-wires are attached to the upper ends of the mainsprings at diametrically opposite points from each other in order that the strain-wires will act in common with each other to resist lateral movement of the springs in either direction transversely of the bed-bottom. The means I prefer to employ for the connection of the strain-wires to the mainsprings is metal clasps or tie-straps 13, which are bent around the strain-wires and the upper coils of the mainsprings; but any other suitable means of attachment may be used.

1″ is a brace-bar, preferably of angle-iron, that extends transversely between the side rails 1 to connect said rails and brace them against spreading action.

I would point out as advantageous features of my bed-bottom that by its construction, including the frame, consisting of the main side and end rails and elevated subend rails for maintaining a fixed elevated point for the support of the mainsprings in upright position and by combination therewith of the tension-springs and longitudinal strain-wires, much of the strain otherwise received by the mainsprings is relieved, thereby increasing the life of such mainsprings. This construction also permits of a less number of mainsprings being used, as will be obvious. Another feature of advantage is that gained by supporting the mainsprings at two opposite points by the top longitudinal strain-wires and alternating the positions of the mainsprings in the various rows, so that the longitudinal strain-wires, in conjunction with the mainsprings, will serve to maintain all of the mainsprings in upright positions due to the alternating arrangement. Another advantage to which I would call attention is that secured by the provision of the tension-springs uniting the top longitudinal strain-wires to the subend rails and the connection of said strain-wires to the mainsprings by the binding members 13. This construction permits freedom of movement of the mainsprings longitudinally of the bed-bottom due to the existence of the tension-springs and freedom of movement of said mainsprings transversely of the bed bottom due to the hinge-like connection between the strain-wires and the mainspring.

I wish also to call attention to the advantage of the bottom construction of my bed-bottom, which provides a rigid support for the mainsprings due to the connection of the longitudinal and transverse bottom strain-wires which are interlaced with each other and with the lower coils of the mainsprings.

In Fig. VI, I have shown my bed-bottom with my mattress 14 applied thereto, thereby rendering the bed-bottom of box shape. This mattress has introduced into its side edges side rods 15 and into its end edges end rods 16. In the sides of the mattress, which are adapted to extend downwardly at the sides of the bed-bottom, are eyelets 17, that are located above the side rods 15. The side rods serve to hold the depending sides of the mattress in a straight condition throughout the lengths of the sides. The depending sides of the mattress are secured to the bed-bottom frame by lacing-strings 18, that are threaded through the eyelets 17 and extend from said eyelets to studs 1ª, projecting from the side rails of the bed-bottom, thereby furnishing a simple and efficient means for attaching the mattress at its sides and one that can be readily detached when the mattress is to be removed. The end rods 16 serve to hold the ends of the mattress in a straight condition, and these ends are attached to the bed-bottom frame by hooks 19, which are loosely connected to the end rods and are adapted to be moved into engagement with the subend rails.

I claim—

1. In a spring bed-bottom, the combination of a frame having elevated ends, mainsprings, means connected to said frame for supporting said mainsprings, and strain-wires connected directly to the elevated portions of said frame and having loose connection with terminal coils of said mainsprings, substantially as set forth.

2. In a spring bed-bottom, the combination of a frame having elevated ends, mainsprings, means connected to said frame for supporting said mainsprings, and strain-wires connected directly to the elevated portions of said frame and having connection with terminal coils of said mainsprings; said springs being arranged in rows in which the springs of each alternate row are out of line with the springs of the adjacent rows, substantially as set forth.

3. In a spring bed-bottom, the combination of coiled compression-springs having enlarged ends or heads, longitudinal wires, clasps connecting said longitudinal wires to

terminal coils of said spring-heads at intervals along said longitudinal wires; said springs in each alternating row being out of line with the springs of the adjacent rows, substantially as set forth.

4. In a spring bed-bottom, the combination of a frame having elevated ends, mainsprings, means connected to said frame for supporting said mainsprings, strain-wires connected to the elevated portions of said frame, and metal clasps connecting terminal coils of said mainsprings to said strain-wires for the purpose of retaining the springs in definitely-spaced longitudinal rows determined by the diameter of the terminal coils of the springs, substantially as set forth.

5. In a spring bed-bottom, the combination of a frame having elevated ends, mainsprings, means connected to said frame for supporting said mainsprings, tension-springs connected to the elevated portions of said frame, and strain-wires connected to said tension-springs and having connection with said mainsprings, substantially as set forth.

6. In a spring bed-bottom, the combination of a frame, longitudinal and transverse wires connected to said frame, springs arranged in rows in which the springs of each alternating row are out of line with the springs of the adjacent rows; said wires serving as supports for said springs and one set of said wires being crimped to engage the coils of said springs and the other set of said wires being straight and passing through the crimps of the first set of wires, substantially as set forth.

7. In a spring bed-bottom, the combination of longitudinal and transverse wires, springs arranged in rows in which the springs of each alternating row are out of line with the springs of the adjacent rows; said wires serving to connect said springs and one set of said wires being crimped to engage the coils of said springs and the other set of said wires being straight and passing through the crimps of the first set of wires, substantially as set forth.

GEO. A. MELLON.

In presence of —
E. S. KNIGHT,
NELLIE V. ALEXANDER.