G. A. MELLON.

SPRING BED BOTTOM.

APPLICATION FILED DEC. 29, 1913.

1,103,526. Patented July 14, 1914.

Fig. I.

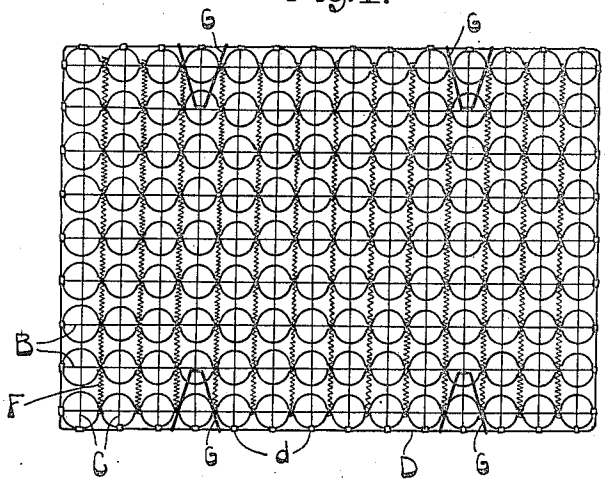


Fig. IV.

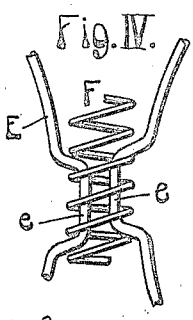


Fig. II.

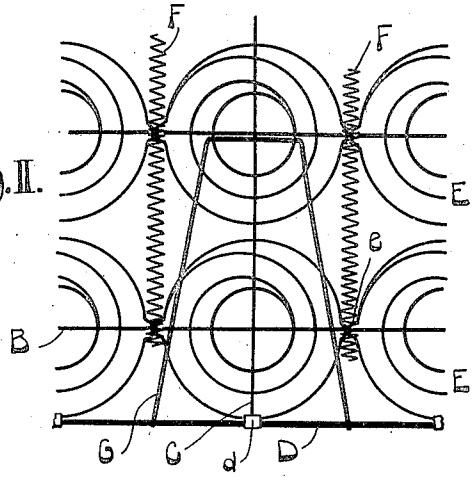


Fig. V.

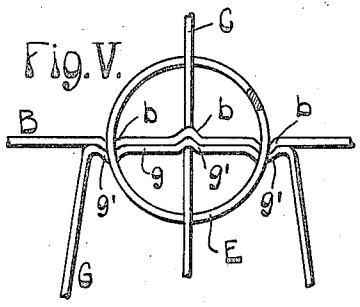
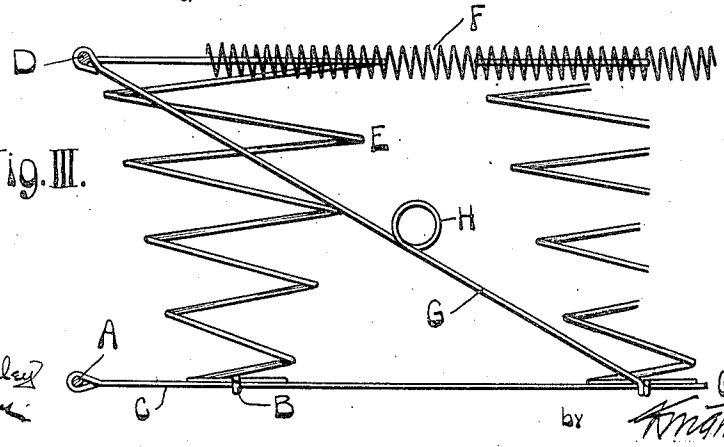


Fig. III.



Attest

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UNITED STATES PATENT OFFICE.

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SPRING BED-BOTTOM.

1,103,526. Specification of Letters Patent. Patented July 14, 1914.

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To all whom it may concern:

Be it known that I, GEORGE A. MELLON, a citizen of the United States of America, and resident of the city of St. Louis and 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 a part of this specification.

My invention relates to that character of bed bottoms comprising a base framework and upright coiled springs mounted on said framework, and the invention has for its object to afford means in a spring bed bottom of this kind permitting compression of the upright springs, brought into service, according to the stress placed thereon by the weight of a person's body, without imparting lateral movement to the adjacent springs not subjected to such weight. A bed bottom so made is highly desirable, for the reason that the springs supporting the body are permitted to be depressed according to the weight imposed thereon by each part of a person's body, without lateral displacement of the adjoining springs, which, when displaced, as in the ordinary bed bottom structures, render the surface beneath the body uneven and afford much less comfort to the body than is afforded by a spring structure made in accordance with my improvement.

Figure I is a top or plan view of my spring bed bottom. Fig. II is an enlarged top or plan view of a portion of the bed bottom. Fig. III is an enlarged vertical section of a portion of my bed bottom adjacent to one of its sides. Fig. IV is an enlarged top or plan view of the top coils of two adjoining coiled springs, and a fragment of the connection by which said coils are joined. Fig. V is an enlarged top or plan view of the framework wires at the base of one of the springs and fragments of the volute spring supported by the wires and one of the stays interposed between the base framework wires and the top border wire.

In the drawings: A designates the border wire of the base or supporting frame of my bed bottom, and B and C are, respectively, the longitudinal and transverse wires of said framework, which intersect each other, as seen most clearly in Fig. V.

D designates a top border wire located, preferably, directly over the base border wire A.

E designates coiled main springs supported by the wires of the bottom framework at the intersection of such wires. Of these springs, those adjacent to the margin of the bed bottom are secured in any suitable manner, *e. g.*, by clips *d* to the top border wire D. The springs adjacent to the margin of the bed bottom, and the remainder of the springs are joined to each other by connections about to be described. The top coils of the volute springs E are formed at diametrically opposite points with crimps or loops *e*. These crimps, or loops, shown most clearly in Figs. II and IV, adjoin each other in lines extending transversely of the latter.

F designates connections by which the springs E are joined to each other in pairs of rows. These connections are in the form of helical or elastic strands, each connection preferably extending from two adjoining marginal springs at one side of the bed bottom to two adjoining marginal springs directly opposite at the other side of the bed bottom. The helical connections F are, in the preferred application, applied to the top coils of the springs E by threading them into the crimps or loops *e* of said top coils, so that the coils of the connections encircle said top coils at the locations of said crimps, each connecting spring being utilized to connect two rows of main springs as appears most clearly in Fig. IV.

By the described arrangement and application of the elastic connections F to the springs E, said springs in the various rows thereof extending transversely of the bed bottom are so joined to each other as to maintain them normally in vertical positions, and any of the springs subjected to the weight of a person's body are depressed without lateral displacement of the adjacent springs. The crimps or loops *e* in the coils of the springs provide for the elastic connections being so applied to the coils as to prevent their slippage thereon, and also prevent lateral displacement of the adjoining springs joined in pairs by the connections.

It is quite essential in a spring bed bottom made according to my improvement to furnish means for preventing lateral sway of the structure superposed above the base framework. I, therefore, incorporate stays or braces G in my bed bottom, which are secured to the top border wire D, and rest against the longitudinal wires B of the base framework, near the sides of the bed bottom.

These braces are of loop form, preferably U-shape, each brace including two arms, attached at their outer ends to the top border wire D, and a cross portion g, which fits against the base framework wire, to which the brace is applied. The cross pieces of the braces are formed with crimps g', which enter into or receive crimps b, formed in the base framework wires that receive the braces. The engagement of the crimps in the braces with the crimps in the base framework wires prevents lateral displacement of the braces relative to said wires, and the braces are further held positively by disposing them beneath certain of the springs supported by the bottom framework wires, with the cross pieces of the braces occupying positions beneath the bottom coils of said springs, and extending over the transverse wires of the bottom framework, as seen in Fig. V. It is important that the braces G yield to a certain degree to avoid stiffness in the bed bottom structure, and I therefore provide spring coils in the arms of such braces, (see Fig. III), which permit the brace arms to yield and return to normal conditions, according to strain imposed upon the braces and the relief of such strain.

I claim:—

1. A spring structure of the character described comprising a base framework, coil springs supported by said framework, a top border wire to which the marginal springs are connected, and braces between said top border wire and said base framework; said braces and the members of the base framework engaged thereby being crimped for interlocking engagement with each other, and being held by said springs.

2. A spring structure of the character described comprising a base framework, coil springs supported by said base framework, a top border wire to which the marginal springs are connected, and braces between said top border wire and said base framework, each of said braces being provided with a crimped portion which interlocks with said base framework.

3. A spring structure of the character described comprising a base framework, coil springs supported by said base framework, a top border wire to which the marginal springs are connected, and braces between said top border wire and said base framework, each of said braces being provided with a crimped portion which interlocks with the lower portion of one of said coil springs.

4. A spring structure of the character described comprising straight rows of main springs, the springs in each row being separated from and located directly opposite to the springs in the adjacent rows, and helical springs arranged parallel with said rows of main springs and interposed directly between said separated springs, each of said main springs being provided with a hinge member whereby it is hinged to one of said helical springs.

5. A spring structure of the character described comprising straight rows of main springs, the springs in each row being separated from and located directly opposite to the springs in the adjacent rows, and helical springs arranged parallel with said rows of main springs and interposed directly between said separated springs, each of said main springs being crimped to provide a straight wire member which is surrounded by one of the helical springs so as to produce hinge-like connections between said main springs and said helical springs.

6. A spring structure of the character described comprising straight rows of main springs, the springs in each row being separated from and located directly opposite to the springs in the adjacent rows, and helical springs arranged parallel with said rows of main springs and interposed directly between said separated springs, each of said main springs being provided with a crimp having a straight portion forming a hinge member whereby the main spring is hinged to one of said helical springs, the straight hinge member of each main spring being surrounded by one of said helical springs and located directly opposite to the straight hinge member of the next adjacent main spring so as to provide double hinges between the separated rows of main springs.

GEORGE A. MELLON.

In the presence of—
E. B. LINN,
E. CLARK.