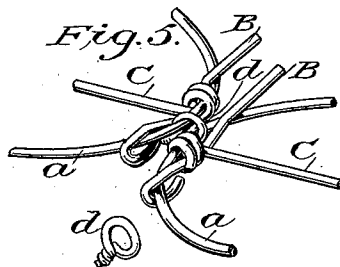
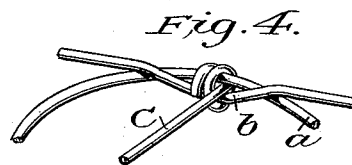
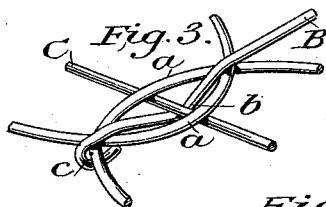
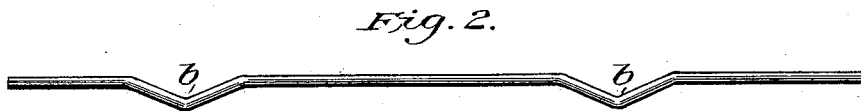
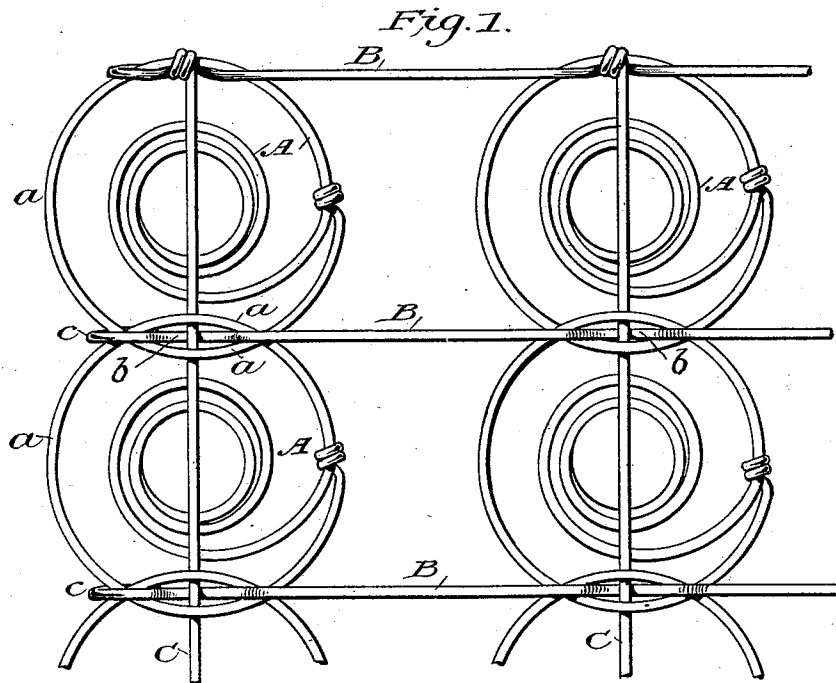


T. A. STOLL.
SPRING BED BOTTOM.

No. 530,248.

Patented Dec. 4, 1894.



Witnesses.
J. A. Goldsborough
A. M. Parkins.

Inventor;
Thomas A. Stoll
by F. C. Lowthorp,
his atty.

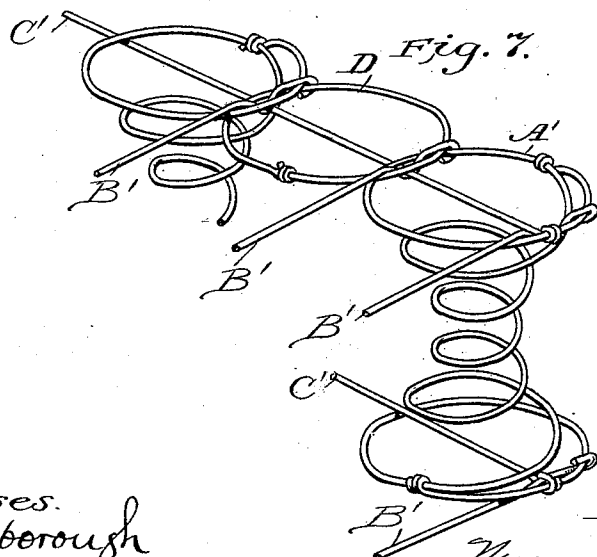
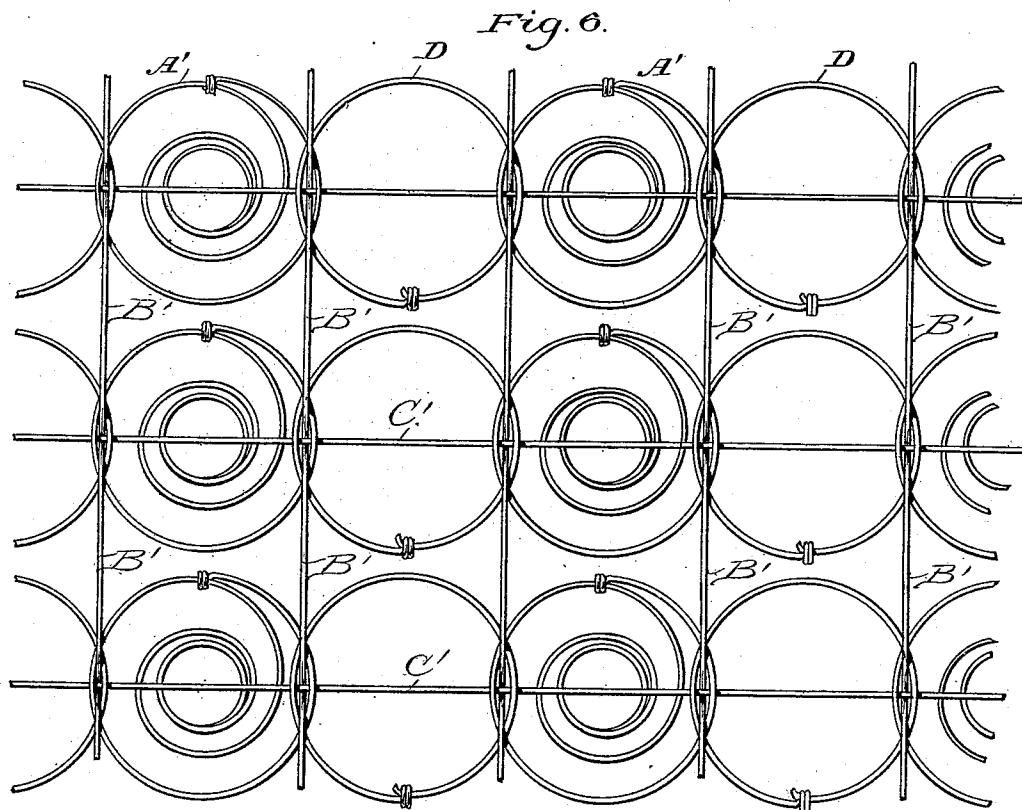
(No Model.)

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UNITED STATES PATENT OFFICE.

THOMAS A. STOLL, OF TRENTON, NEW JERSEY.

SPRING BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 530,248, dated December 4, 1894.

Application filed September 4, 1894. Serial No. 522,077. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. STOLL, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Spring Bed-Bottoms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to that class of spring bottoms which are made independently of the articles of furniture with which they are to be used, and are fitted thereto at pleasure; and the object of my invention is to provide a light, strong and simple structure, built preferably of wire, in which I introduce a locking connection between the top whirls of the springs of the structure (or frames intermediate of said top whirls) and their supporting connections, and other improvements more particularly hereinafter described. It will be understood that spring bottoms may be variously constructed, and used for different purposes, and yet embody my invention, as will be more particularly referred to hereinafter. I have, however, in one form of the invention illustrated the same in this specification by a spring bed bottom constructed of ordinary double conical wire springs connected with each other by means of longitudinal and lateral wires which together form a bed bottom alike on both sides. In a modification I have shown a like locking connection in a bed bottom wherein the spaces between the rows of springs are partially filled in by frames or the like disposed in the same plane with the tops or bottoms of the springs or both.

In the drawings forming a part of this specification Figure 1 is a plan view of a portion of a spring bed bottom embodying one form of my invention, the side of the bottom not shown being precisely like that illustrated. Fig. 2 is a side view of one of the longitudinal connecting wires, showing the forms of the bends made therein at the spring junctions. Fig. 3 is an enlarged detail view of a locking junction. Fig. 4 is an enlarged detail view of a portion of one of the outer springs and border connections, and illustrates the manner of connecting an end of one of the lateral connect-

ing wires at the outer side of the spring bed bottom. Fig. 5 shows a hinged connection of two adjacent springs of two folding sections of a spring bottom. Fig. 6 is a plan view of the upper surface of a modified form of spring bottom embodying my invention. Fig. 7 is a perspective view of a portion of that structure showing a corner and a part of one side thereof, and illustrating the connection formed between the outer springs and frames of the structure and the longitudinal and lateral supporting members thereof.

In Figs. 1 to 5 of the drawings A, A are the springs of the bottom, which in this instance are of the usual double conical spiral form. B, B are longitudinal connecting wires, and C, C are lateral connecting wires thereof. In assembling such a bed bottom I lap the outer coils *a, a* of adjacent springs in the manner shown in the drawings, making a sufficient number of transverse rows of the springs in the bed bottom to afford the desired sustaining power. I then place the longitudinal connecting wires B, B so that the bends *b* therein shall lie between the lapped portions of the coils *a, a* of the springs as shown in Figs. 1 and 3. The transverse connecting wires C, C are then carried lengthwise of these cross rows of springs and are thrust under the lapped portions of the coils *a, a* and between such lapped portions and the bends *b* of the connecting wires B, as is clearly illustrated in Figs. 1 and 3. The transverse wires C being thus seated in the bends *b* of the connecting wires B, are firmly locked in their positions as are also the coils *a, a* of the springs A, and the wires B. The ends of the wires B are bent or hooked over the lapped coils *a, a* of each pair of end springs A in the manner shown at *c* in Figs. 1 and 3; while the transverse connecting wires C have their ends passed between the outer coils *a* of each outside spring A, and the bend *b* of the wire B, and are then given a turn around both the outside coil *a* and the said bend *b* of the wire B, as shown in Figs. 1 and 4. By this construction I obtain an exceedingly strong, light, durable and elastic spring bottom, it being apparent that the springs are firmly braced at their locked junctions by the connecting wires B and C in a very simple manner, the said connecting wires easily sustain-

ing all ordinary compressive as well as tensile strains.

As it is common to construct spring bed bottoms in two or more sections which are arranged to fold upon each other, for convenience in transportation, storage, &c., I have shown in Fig. 5 of the drawings a simple means of forming a hinged connection between two sections of a bed bottom constructed as above described. By joining the outer coils of each two adjacent springs of two sections of a bed bottom by means of small wire loops *d* in the manner shown in said Fig. 5, a hinge is formed between two sections of the bed bottom which permits of their folding upon each other in the usual manner. Of course, it will be obvious that these loops will be formed on only one face of the bed bottom.

In constructing the locking junctions illustrated in Fig. 3 I can, of course, pass the wire B under instead of over the lapped portions of the coils *a*, *a* and turning the bend *b* upward, pass the cross wires C over said coils *a*, *a* and under the bends *b* of the wires B. I may also bend both of the wires B and C slightly at their points of junction and cross them either above or below the plane of the coils *a*, *a*; but I prefer the construction illustrated in the drawings, as I am thereby enabled to produce a more even surface of the spring bottom than I otherwise could, and by forming the bends *b* in only one set of connecting wires I am enabled more readily to manipulate the other set of connecting wires in assembling the bottom.

I can also construct a spring bottom, embodying my said invention, of springs connected in the manner described on only one side of the bottom, and support the springs at their under side upon wooden or metallic slats or frames, and I can also join the springs composing the structure in pairs rather than in rows as shown, while the springs themselves may be differently formed; but the method of assembling the spring bottom by treating both sides thereof alike and assembling spiral springs in rows is, in my judgment, preferable to any other.

In the modified form shown in Figs. 6 and 7 of the drawings A' are the springs. B' are the longitudinal connecting members. C' are the lateral connecting members, and D are the frames or braces intervening between the top whirls of the springs.

In the construction shown in Figs. 1 to 5 I have illustrated connections between the springs of the bottom and the longitudinal and lateral connecting members thereof formed by lapping the outer coils of the springs and forming locking junctions at said laps between the connecting members and the springs. In Figs. 6 and 7, however, in order to accomplish my object of separating the rows of springs in the bottom and maintaining them in their proper positions, and at the same time filling the spaces between said

rows of springs, I use the frames D, which are preferably formed of wire of about the same gage of the wire used in the springs, and make them preferably of a circular form and of a diameter about equal to the diameter of the outer coils of the springs. These frames D may be readily made of such wire knotted together at the ends as shown in the drawings. The springs are placed in rows as shown in Fig. 6, and the frames D are placed intermediate each two rows of springs and are lapped slightly over the outer coils of the adjacent springs. The longitudinal wires B' are preferably crimped or bent at designated points, and are placed over the lapped portions of the springs A' and frames D with their crimped portions between the lapped portions of the frames and springs. The lateral connecting members C' are then carried under the outer coils of the springs A' and the frames D, and are thrust between the crimped portions of the members B' and the frames D and outer coils of the springs A'. I thus obtain a locking junction of the parts generally similar to that shown between the top whirls of the springs in the modification shown in Figs. 1 to 5. The connecting members B' and C' of the bottom are secured at their ends in the manner shown in Fig. 7. The lateral members C' are securely bent or wrapped around the longitudinal members B' at the sides of the bed bottom and the outer coils of the springs which they touch, while the longitudinal members B' may be hooked or bent at their ends and drawn firmly against the adjacent springs and frames as shown.

It will, of course, be understood that the forms of the springs and of the intervening frames or braces D may be modified in various ways, and that the frames D may be alternated with the springs A' so that the rows of springs shall extend diagonally across the bottom instead of laterally or longitudinally, that one side of the bottom may be formed upon slats, that both sets of connecting members may be crimped, and that the construction may be modified in other ways.

Having thus described my invention, what I claim is—

1. A locking device, consisting of two overlapping coils, and two connecting members crossing each other in a plane within the lapped portion of said coils; substantially as shown and described.

2. In a spring bottom, a number of supporting springs, said springs lapping each other, in combination with connecting members crossing each other at said laps of said springs and forming locking junctions thereat; substantially as shown and described.

3. In a spring bottom, a number of supporting springs, each pair of said springs lapping each other, in combination with connecting members crossing each other at said laps of said springs, and forming locking joints with said springs at said laps, and having their

ends attached to the spring bottom at or near its ends and sides respectively; substantially as shown and described.

4. In a spring bottom, the combination of
5 a spring and a frame, portions of which spring and frame lap each other with two connecting members crossing each other in a plane within the lapped portions of said spring and frame and forming a locking junction at said
10 point: substantially as shown and described.

5. In a spring bottom, the combination of a spring and a frame, portions of which spring and frame lap each other, with two connecting members crossing each other in a plane
15 within the lapped portions of said spring and frame, one of said connecting members being bent to receive and retain the other of said connecting members between said bend and the lapped portions of said spring and frame,
20 and forming a locking junction thereat; substantially as shown and described.

6. In a spring bottom, a number of supporting springs, and frames intermediate said

springs, said springs and frames lapping each other, in combination with connecting mem- 25
bers crossing each other at said laps of said springs and frames and forming locking junctions thereat; substantially as shown and described.

7. In a spring bottom, a number of support- 30
ing springs, a number of frames placed intermediate said springs, said springs and said frames lapping each other, in combination with connecting members crossing each other at said laps of said springs and frames at said
35 laps, and having their ends attached to the spring bottom at or near its ends or sides respectively; substantially as shown and described.

In testimony whereof I affix my signature in 40
presence of two witnesses.

THOMAS A. STOLL.

Witnesses:

SAML. D. OLIPHANT, Jr.,
AUBREY LOVE.