

J. L. BRANSON & A. JUERGENS.

Spring-Bottoms for Beds, &c.

No. 156,272.

Patented Oct. 27, 1874.

Fig 1.

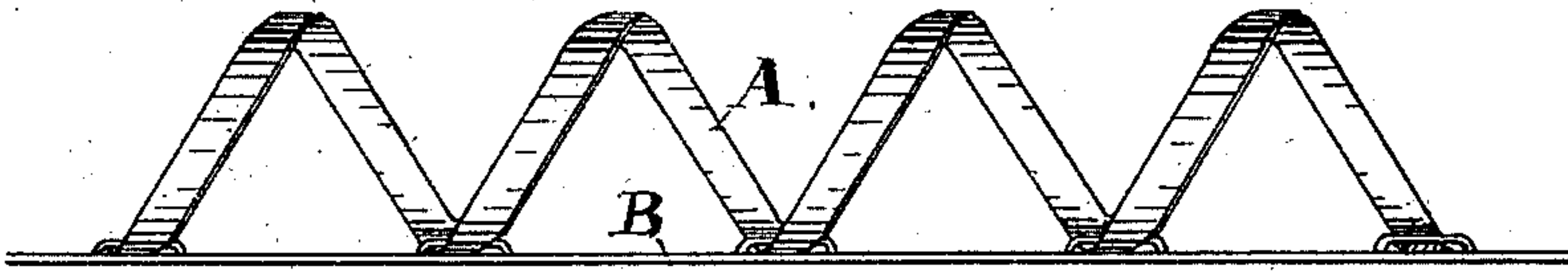


Fig. 2.

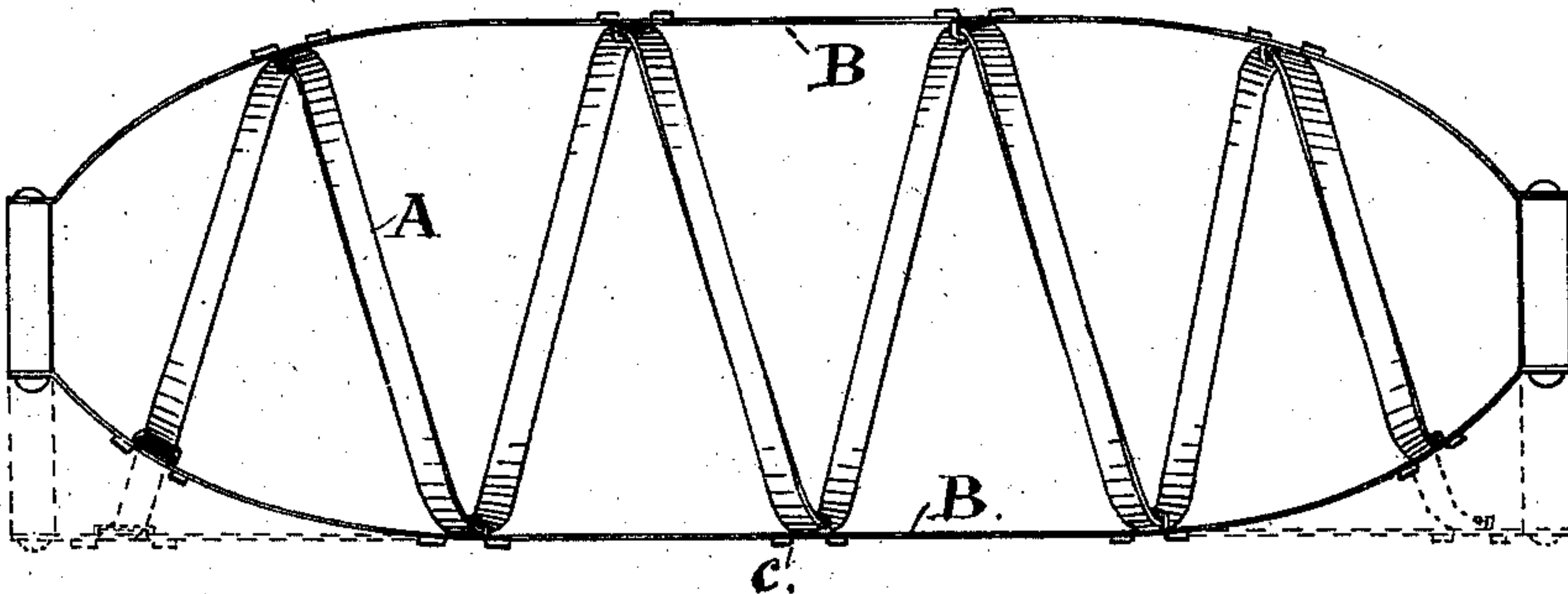
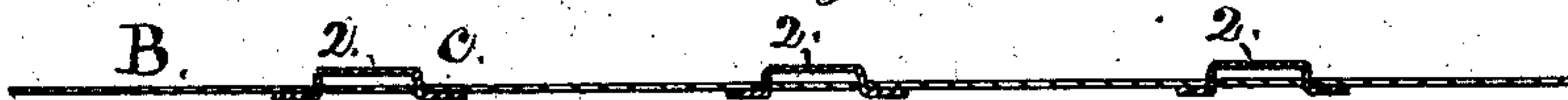


Fig. 3.



Fig. 4.



Witnesses

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Fig. 5.

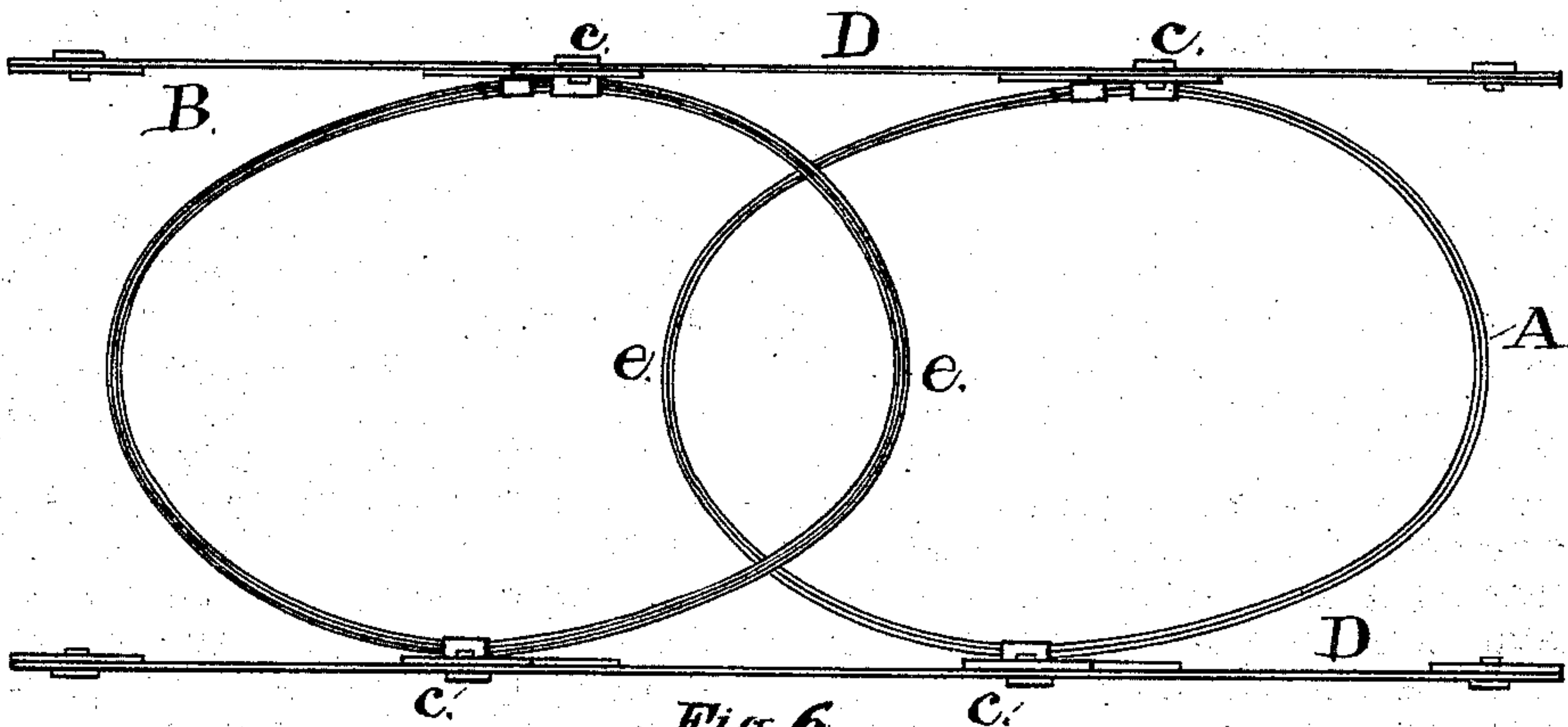
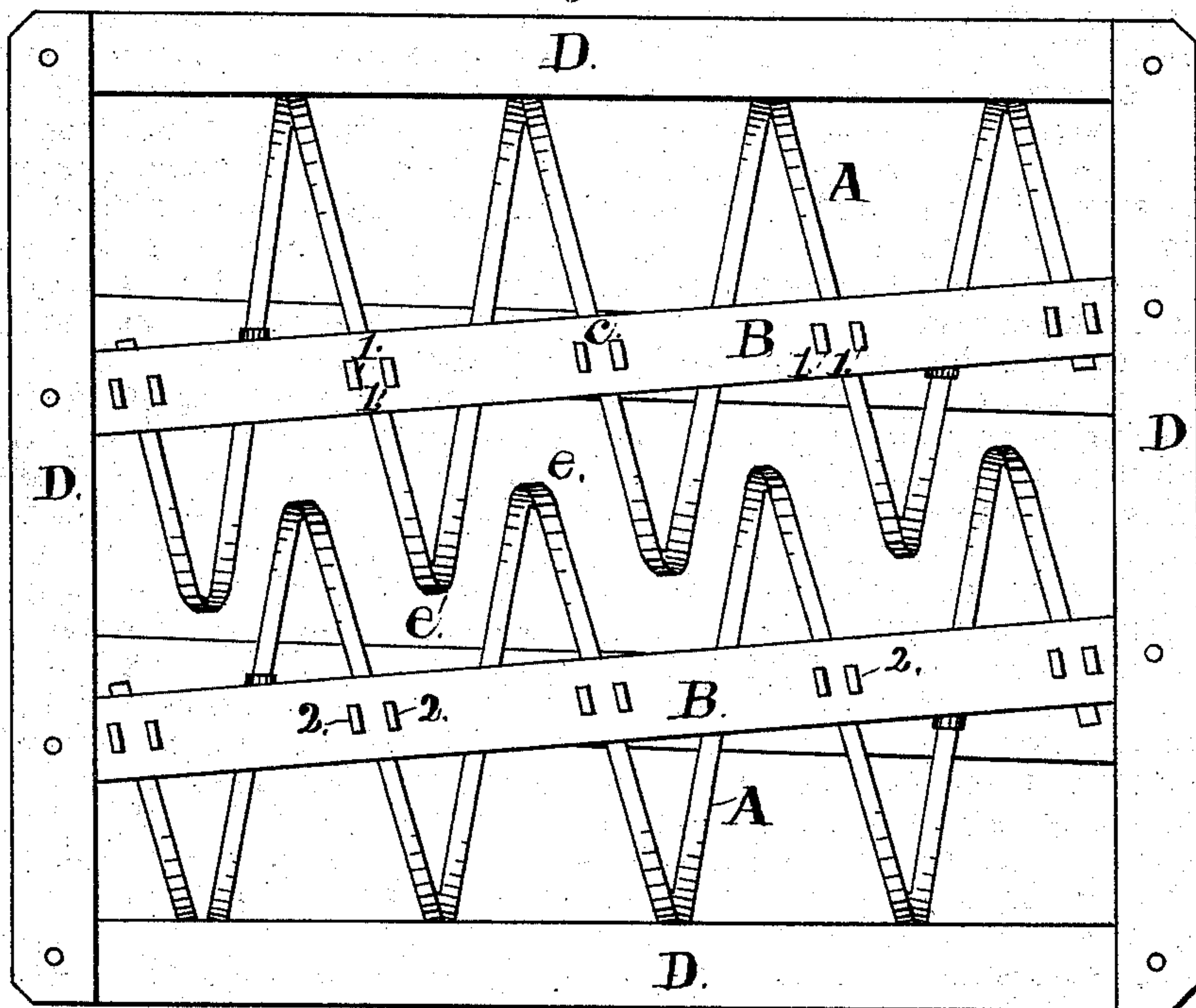


Fig. 6



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UNITED STATES PATENT OFFICE.

JESSE L. BRANSON AND AUGUST JUERGENS, OF CINCINNATI, OHIO.

IMPROVEMENT IN SPRING-BOTTOMS FOR BEDS, &c.

Specification forming part of Letters Patent No. **156,272**, dated October 27, 1874; application filed February 12, 1874.

To all whom it may concern:

Be it known that we, JESSE L. BRANSON and AUGUST JUERGENS, both of Cincinnati, Ohio, have invented an Improved Metallic Spring-Bottom for Beds, Chairs, and Seats, of which the following is a specification:

Our invention relates to metallic spring-bottoms for beds, chairs, and seats of all kinds; and it consists in the combination of spirally-bent metal strips with metal straps, as more particularly hereinafter described.

In the drawings, Figure 1 represents a spiral spring, secured to a straight one, having loops formed therein; Fig. 2, a spiral secured by eyes to two opposite strips, whose ends are fastened to a section of a chair, lounge, or seat; Figs. 3 and 4, longitudinal sectional views of the straight strips and their loops or eyes; Figs. 5 and 6, an end view and a plan view of a metal frame, having the coiled springs of three thicknesses.

A is a flat strip or ribbon of metal, bent or wound into a continuous spiral, as seen, the coils of the spring being preferably quite wide apart, though the distance apart will of course vary, according to circumstances. This strip we connect to a longitudinal metallic strip, B, at as many points of connection as may be necessary. Short parallel slits 1 1 are cut in the strip B, and transversely of its length. In these slits are inserted short flat metal pieces or staples 2, bent so as at their ends to lie flat on the strip B, and at the center so as to form a flat loop to receive and secure a coil of the wire spring A, as seen. This construction allows the spring to be fastened in the act of coiling it, so that each coil may be secured as it in succession is bent from its straight form; or, if the loop be first inserted in the strap B, the strip, which is to form the spiral, may have its end successively threaded through one loop after the other in the act of coiling it; but this can be more easily and uniformly done by coiling the wire around a cylinder of suitable size and length, to admit of the proper spacing of the spiral coils. As each coil is formed at its proper place around the cylinder loops are placed across and underneath the wire in a straight line along the cylinder, with their ends outward, the coil resting between the points. The longitudinal

strips B are then placed over the loops, and their points made to pass through the slits cut for the purpose, and their ends fastened down on the strip, thus thoroughly inclosing the coil in the staple, and fastening it to the strips. The entire spring is then slipped off the end of the cylinder, and is ready to be applied.

Another and simpler method of connecting the spring coil to the straight or connecting strap is, by having two short parallel slits cut in this strap, but in the line of its length, as seen at 3 in Fig. 3, then bending outward the part embraced between the slits, thus forming a fixed loop, and passing one end of the flat spring A through these loops successively, thus forming and securing the spring in the desired spiral shape and position.

Instead of connecting the continuous coil spring to a single strap, it may for some purposes be connected to two such straps placed opposite each other, as shown in Fig. 2, thus affording greater strength and power of resistance; and, also, the better adapting it for uses where the spring may be used either side up, as in cushions, beds, reversible seats, the foot-piece of a folding chair, &c.

It will be seen that the straps B serve the double purpose, both of holding the coils to their places and also as a bed or rest for the spring, thus dispensing with any other cross-piece or webbing which otherwise would be required for the latter purpose.

When both sides of the spring are to be used for reversible seats, folding beds, lounges, &c., the part of the frame to which the ends of the straps B are to be fastened should be made narrow to allow the ends of the straps to be brought quite close together, and the straps left equally loose on both sides, thus forming an ellipse, between which the spring is held. It will be seen that this allows either side to become the bottom or support for the spring, while the opposite side may become the top or spring side, with the strip sufficiently long to allow the spring to be depressed as much as is needed; and it also avoids any rigid or unyielding ridge at the edge of the seat to incommode the sitter, or to cut the outer cover which may be applied to it.

The coil in any and all cases may be made

of one or more thicknesses of flat metal, as circumstances may require, to give strength with sufficient resilience.

The same construction, when made of larger dimensions, and with more spirals, makes an excellent spring bed-bottom.

For a bed-bottom, the lower series of straps to which the spirals are secured may be fastened to a rectangular frame or frames, D, as shown in Figs. 5 and 6; and, if desired, such frame may be placed, as seen, on both sides of the spirals, or on one side only.

When our spring is to be used for a non-reversible seat or back-piece, the straps on the lower side may be drawn tight and straight when fastened to the frame, thus forming a hard and level rest for the spring, as shown in dotted lines in Fig. 2, while the upper strap being left purposely longer and looser serves the purpose of giving greater strength and resistance to the spring, and at the same time takes the place of the twine or cord which would otherwise be required for tying the springs down to the proper height, and for holding them in place, thus making a much

more durable fastening, and at the same time leaving the surface much smoother and even for upholstering upon.

When two or more spirals are used, we prefer that the coils of next adjacent ones shall interspace each with the other, as seen at *e* in Figs. 5 and 6.

What we claim, and desire to secure by Letters Patent, is—

1. In combination, the metal straps and the flat strip or strips spirally bent, and connected to each other by the loops formed in the metal straps, substantially as shown and described.

2. The combination, with a spirally-bent flat strip or strips, of two metal steadying bars or straps, the bars or straps being placed at opposite sides of the coiled strip, and fastened at each coil to said strip, substantially as shown and described.

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