

G. C. LOCKLIN.
SPRING BOTTOM.

APPLICATION FILED MAR. 18, 1904.

2 SHEETS—SHEET 1.

Fig. 1

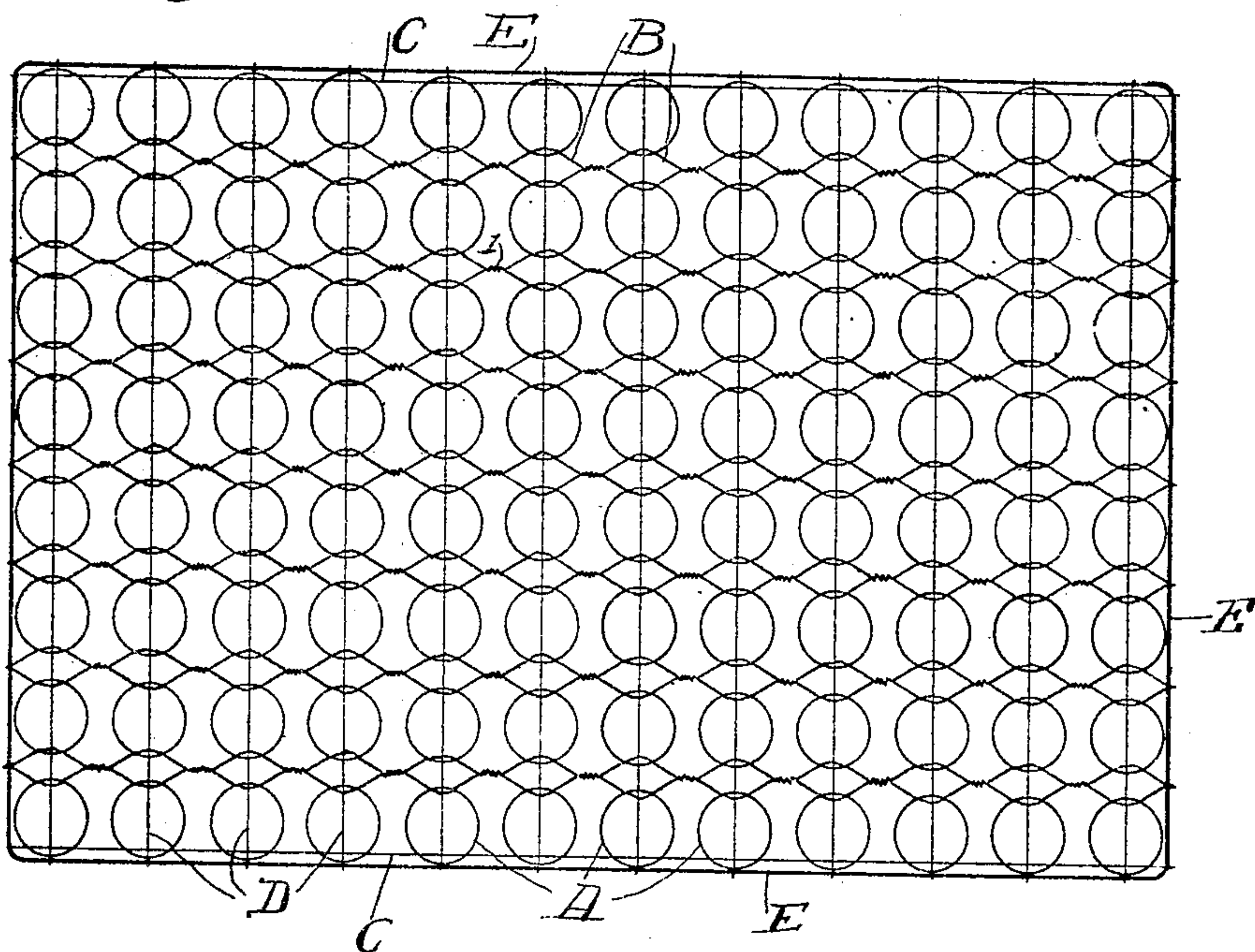


Fig. 2

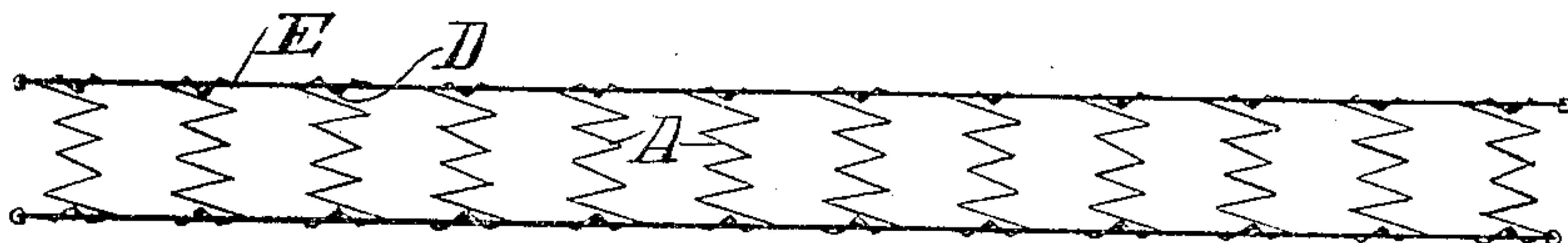
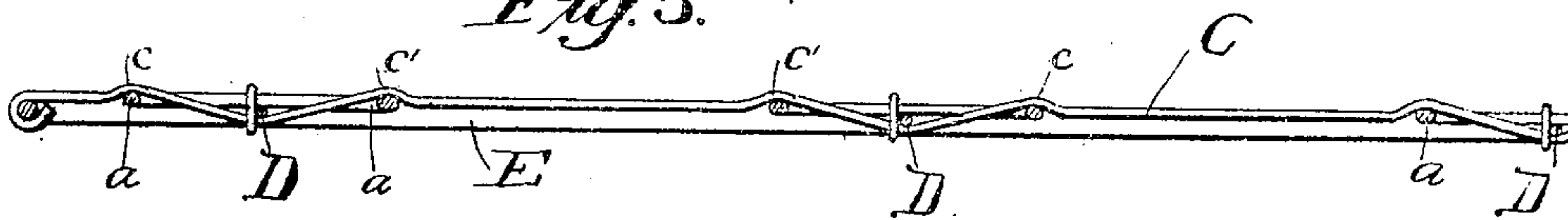


Fig. 3



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No. 805,569.

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2 SHEETS—SHEET 2.

Fig. 4.

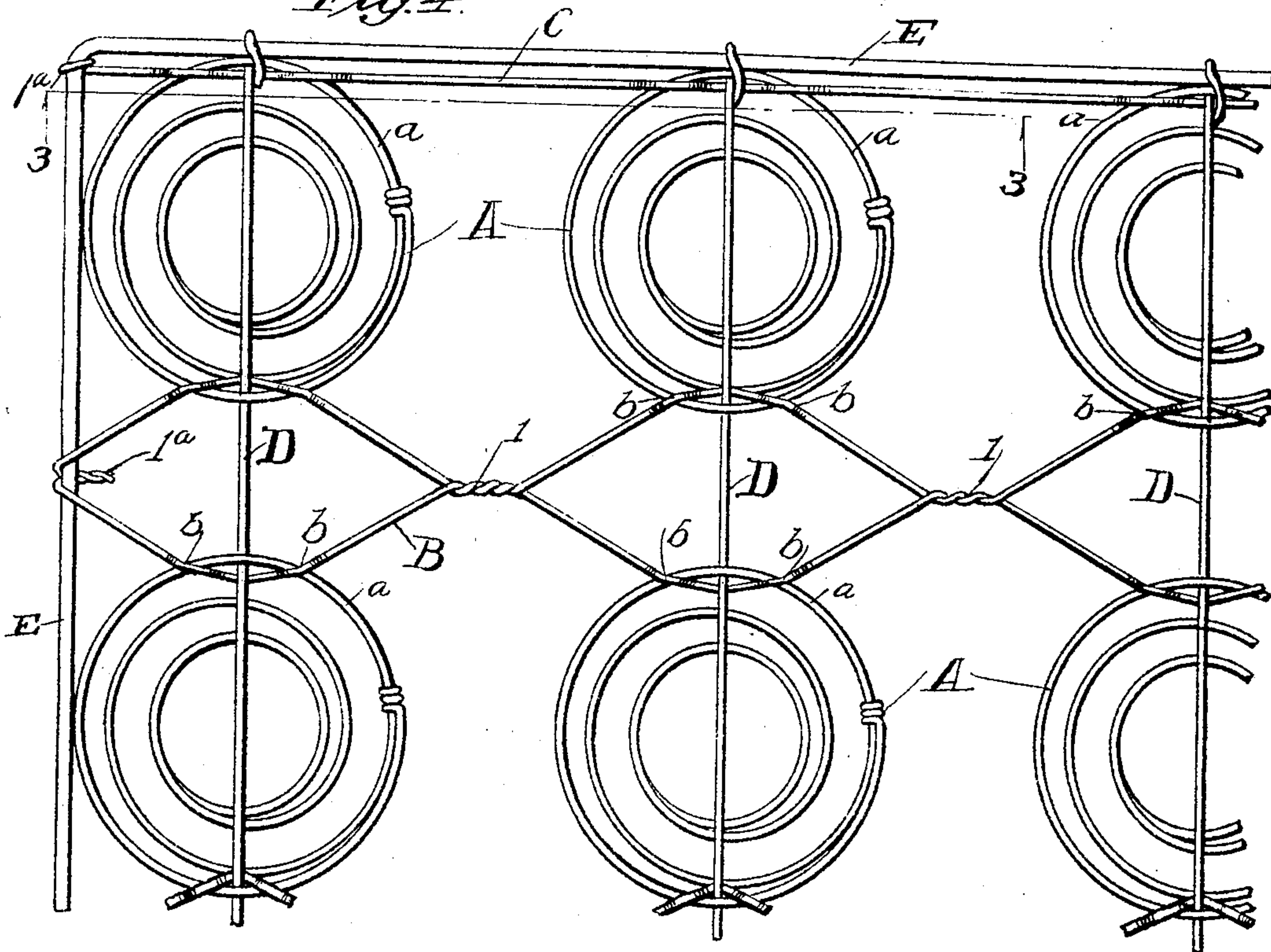


Fig. 5.

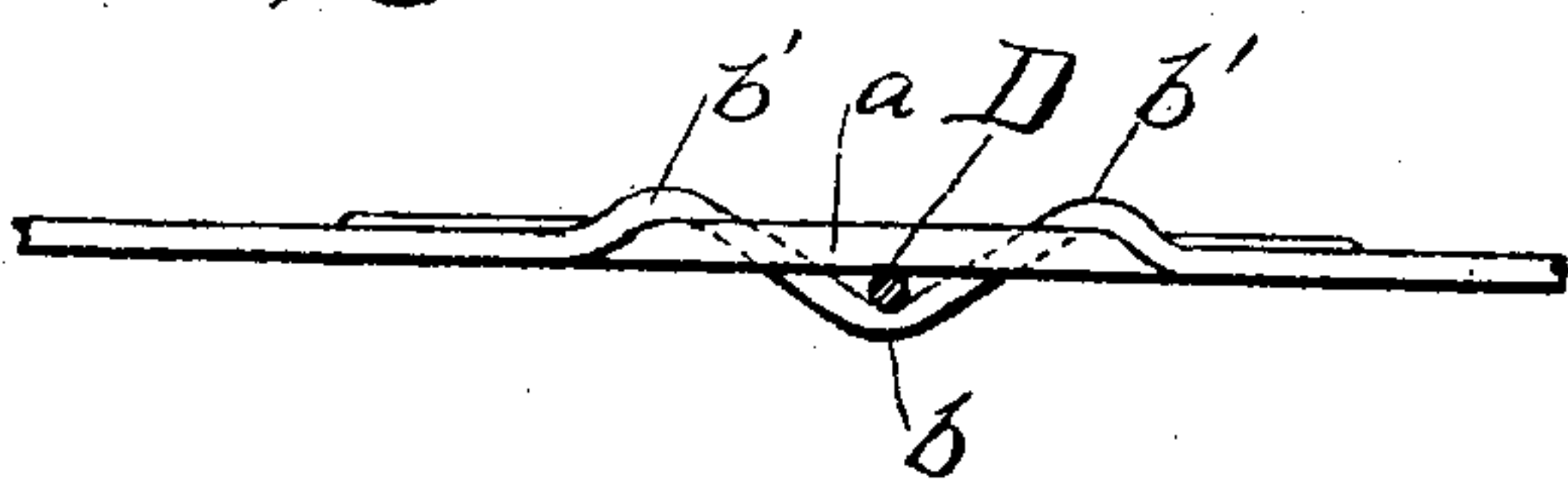
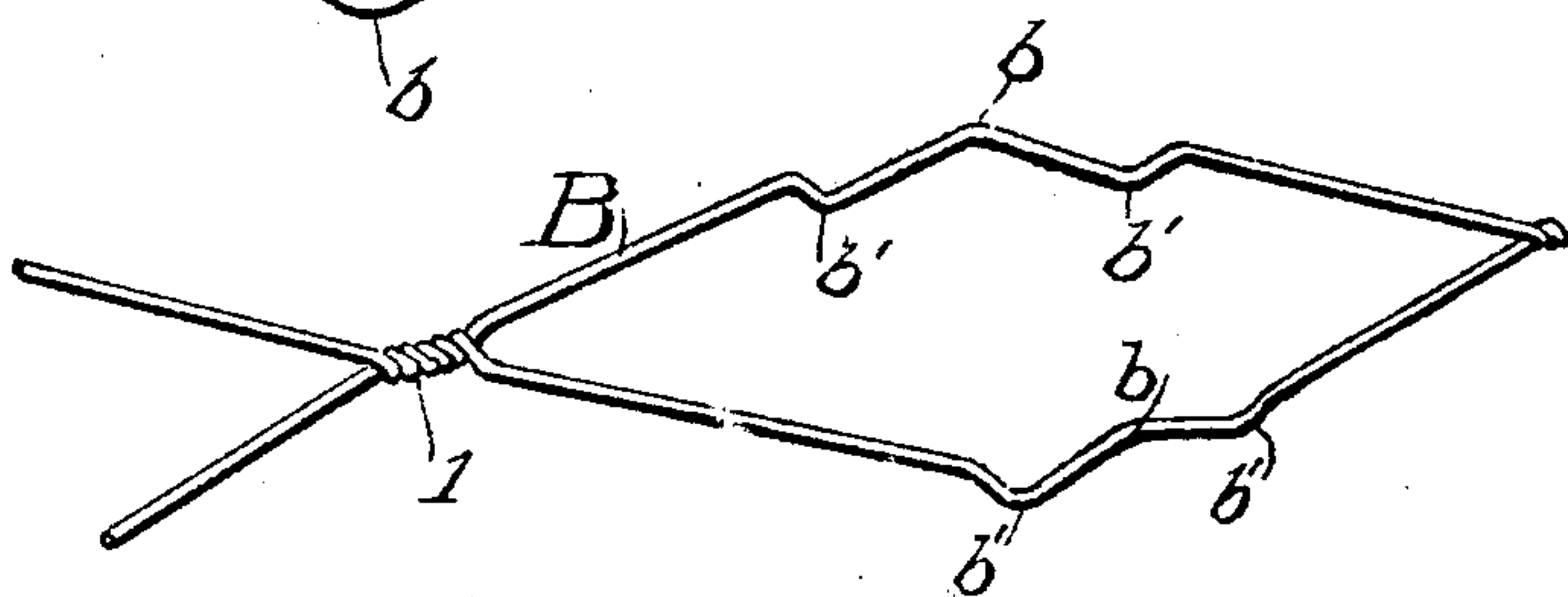


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE C. LOCKLIN, OF CHICAGO, ILLINOIS.

SPRING-BOTTOM.

No. 805,569.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed March 18, 1904. Serial No. 198,812.

To all whom it may concern:

Be it known that I, GEORGE C. LOCKLIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Spring-Bottoms, of which the following is a specification.

My invention relates to improvements in spring-bottoms primarily suitable for spring-beds, sofas, chairs, &c.

The object of my invention is to provide an inexpensive and easily constructed and assembled device for tying the springs together, while at the same time holding them apart and bracing them both laterally and longitudinally. These and such other objects as may hereinafter appear are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a spring-bottom embodying my invention in its preferred form. Fig. 2 is a side elevation of the same. Fig. 3 is an enlarged detail of a portion of one of the single tie-wires. Fig. 4 is an enlarged plan view. Fig. 5 is an enlarged detail of a section of a tie-wire, and Fig. 6 is an enlarged detail in perspective of a section of the double tie-wires.

Like characters of reference indicate the same parts in the several figures of the drawings.

Referring to the accompanying drawings, A indicates the coil-springs in the familiar form of a double cone. These springs are arranged in rows in the usual manner. Interposed between every two rows of springs, either lengthwise or crosswise of the bed, are the double tie-wire sections B, while at the extreme margins of the spring-bottom on two sides are the single tie-wires C. Extending transversely of the tie-wires are the locking-wires D.

The distinctive feature of my invention is found in the tie-wires B and C, and particularly in the double tie-wire sections B. Each of these sections, it will be observed, is formed of two wires, which are twisted together at intervals, (marked 1 on the drawings,) between which intervals, the wires are spread apart, substantially in diamond shape. At the sides of these diamond-shaped sections the wires are crimped to fit the top and bottom coils of the springs A. The points corresponding to the side points of the diamond are bent vertically into a V shape, and the side wires are also bent in oppositely-ex-

tending V shapes on each side of this central V-shape bend. It will thus be seen that the tie-wires at the sides of the diamond-shaped forms are bent or crimped so as to form a more or less crude M. The bends or crimps in the side wires are so arranged that when the tie-wires are fitted over the top coils of the springs A the central bend or crimp *b* will extend within the spring and beyond the end coils thereof, while the side crimps *b'* will substantially fit over the end coil *a*, as shown in Fig. 5. These double tie-wire sections may be conveniently and cheaply constructed by machinery in continuous lengths and cut into sections to fit the requirement of any spring-bottom which is being assembled. The coil-springs are then set up by being properly-spaced apart, whereupon the double tie-wire sections B are fitted over the top coils of the springs so arranged in the manner previously described. At the same time the marginal tie-wires C are fitted over the outer rows of springs on two sides, the tie-wire C differing from the tie-wires B in that they are single and extend in a straight line; but they are crimped at *c c'* to fit the top coils of the springs in the manner shown in Fig. 3. The springs and tie-wires being thus loosely assembled, they are securely locked to each other simply by the insertion of the lock-wires D, said lock-wires D being straight wires which are pushed into place under the top coil *a* of one of the marginal springs A, thence over the V-shaped bend *c* of one of the marginal tie-wires C, thence across the spring, over the middle crimp *b* of a tie-wire section B, and under the top coil *a* of the spring A, thence across the center of one of the diamond-shaped sections of the double tie-wire B, under the top coil *a*, over the center crimp *b* of the double tie-wire section B, and so on across the row of springs. It will thus be seen that the tie-wires are thereby securely locked to the top coils of the springs A and as soon as the lock-wires D have been inserted in position across each row of springs the springs are locked to the tie-wires by the locking-wires D, are held together in a homogeneous structure by the tie-wires, and are spaced apart in both directions by the tie-wire sections B. Furthermore, each spring is braced laterally at two sides by the tie-wire sections B and is tied or braced against diagonal displacement by the tie-wire sections B, which in this respect support each spring in four directions.

To complete the structure, the ends 1^a of the tie-wire sections B and C are bent over the frame-wires E on two sides of the spring-bottom and the ends d are bent over the frame-wires E on the other two sides of the spring-bottom, thereby securely anchoring the lock-wires D and the tie-wires B and C and providing a suitably-supported edge to the structure. The springs are completed by in like manner assembling the springs, tie-wires, lock-wires, and frame-wires upon the opposite face of the spring-bottom.

It will thus be seen that I not only obtain a structure which is firmly tied, which is braced laterally and diagonally in all directions, and which may be readily and rapidly assembled even by unskilled labor, but the tie-wire sections form a material part of the upper face of the spring-bottom for carrying any weight which is imposed thereon and for suitably transmitting the same to the spring structure as a whole. The tie-wire sections are also so secured to the springs as to prevent any noise arising from friction between the springs and the tie-wires, which noise is a very annoying feature of many similar structures, and the springs are so secured to and supported by each other that a suitably strong structure as a whole may be obtained without unduly crowding the springs together, thus not only saving in the number of springs used, but also avoiding the annoyance and noise which frequently arises where springs are crowded together because of individual springs becoming interlocked, rubbing together, and snapping apart. It will furthermore be noted that with my arrangement no solder is necessary in assembling the bed, and there need be no intermediate manipulation or bending of the wire during the assembling of the spring-bottom; but

all of the parts can be quickly and cheaply turned out by machinery, and in the assembling thereof it is only necessary to bend the free ends of the tie-wires and the lock-wires around the frame-wires.

With this understanding of my invention it is obvious that there may be variations in detail from the exact embodiment thereof shown in the drawings without departing from the spirit of my invention, and I contemplate such departures.

I claim—

A spring-bottom comprising frame-wires, a plurality of coil-springs arranged in rows in side of said frame-wires, tie-wire sections extending in one direction between the rows of springs, said tie-wire sections comprising two wires secured to each other at intervals and spread apart between such intervals to form loops of a substantially diamond shape, said wires being bent substantially into an M form transversely of their length, and at opposite sides of said loops, the central depression or bend in said wires extending inside of the top coils of the springs and the bends on each side thereof engaging said top coil, and lock-wires extending transversely of said tie-wires, said lock-wires extending across the rows of springs and passing alternately over the tie-wires and under the top coils of the springs, said lock-wires being secured at their extreme ends to the frame-wires on two sides of the structure, and said tie-wire sections being secured to the frame-wires on two other sides of the structure, substantially as described.

GEORGE C. LOCKLIN.

Witnesses:

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