

W. D. SPENCER & E. PARKER.

Spring Bed-Bottoms.

No. 137,498.

Patented April 1, 1873.

Fig. 1

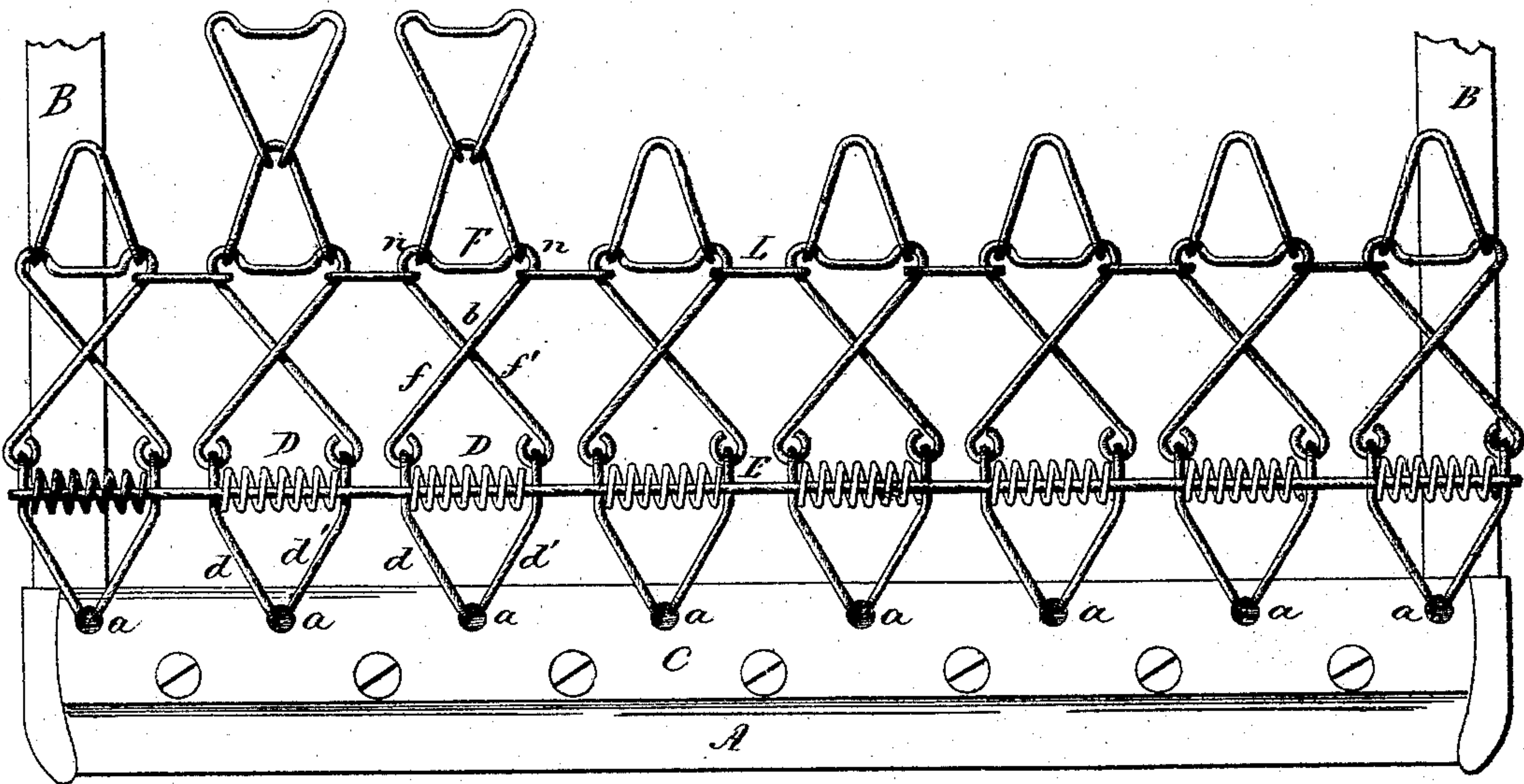


Fig. 2

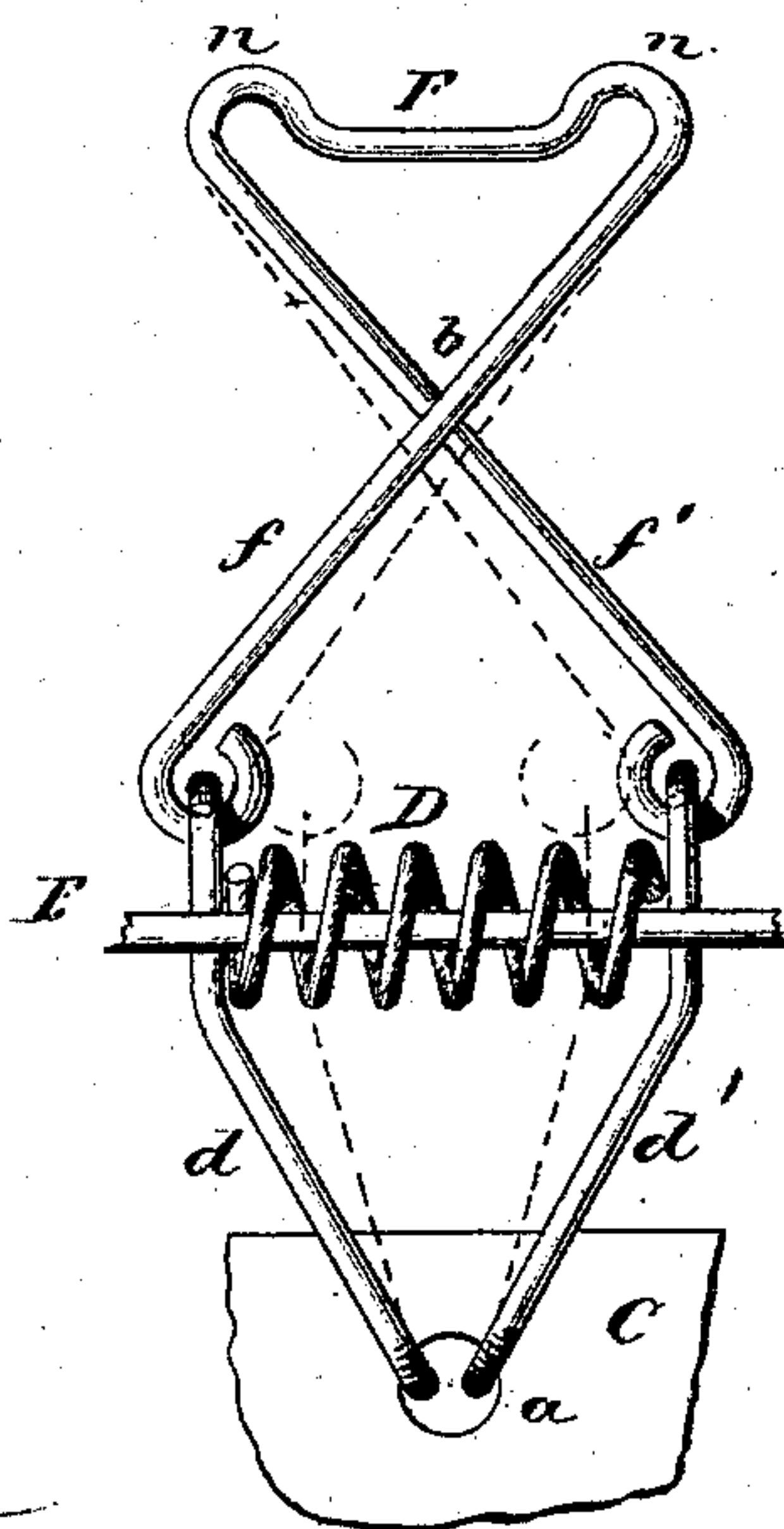
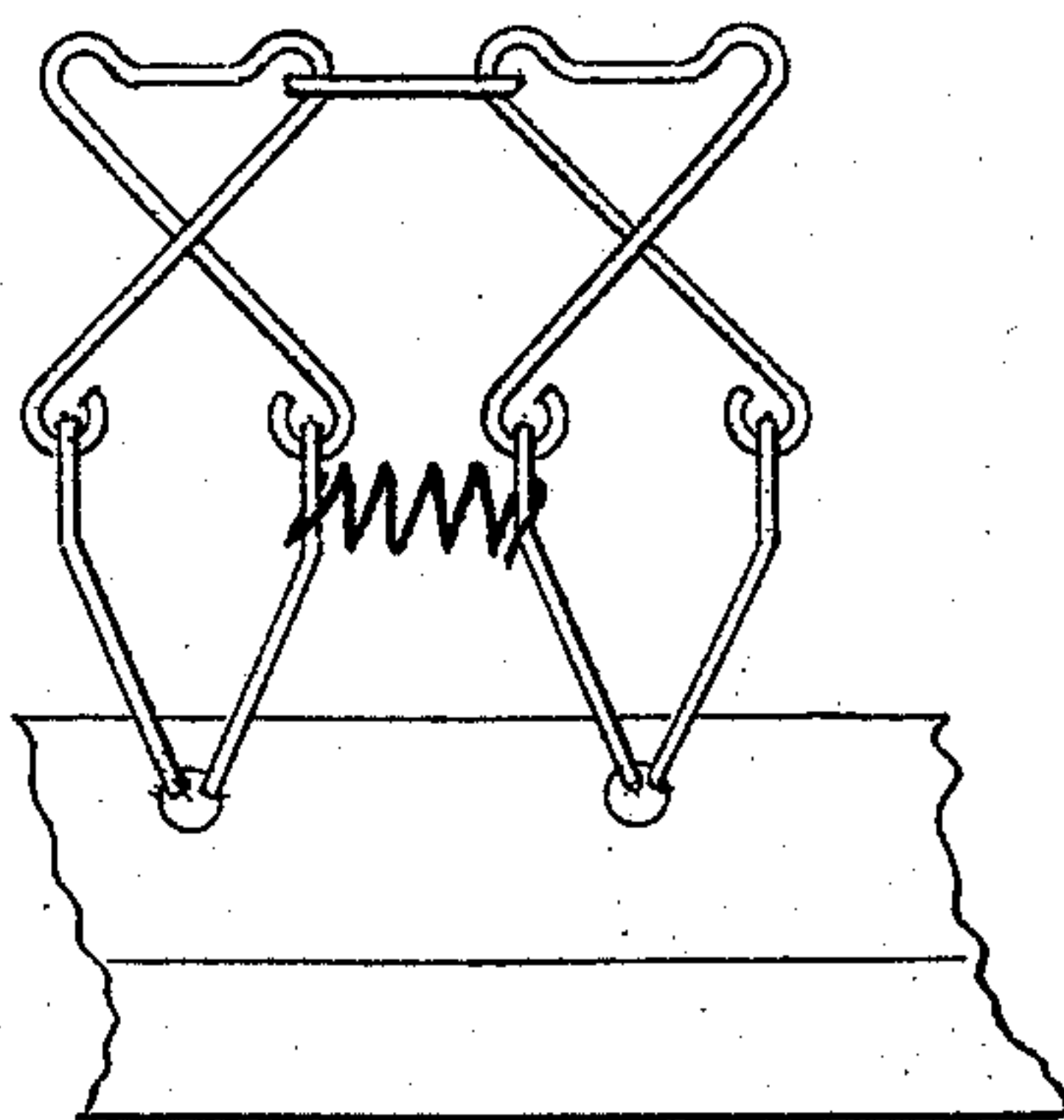


Fig. 3



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN SPRING BED-BOTTOMS.

Specification forming part of Letters Patent No. **137,498**, dated April 1, 1873; application filed March 7, 1873.

*To all whom it may concern:*

Be it known that we, WILLIAM D. SPENCER and EMERY PARKER, of New Britain, in the county of Hartford and State of Connecticut, have invented a new Improvement in Spring Bed-Bottoms; and we do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents, in—

Figure 1 a portion of the bed-bottom, the springs and the bar at one end; Fig. 2, a detached view of the spring and its immediate connections enlarged; and in Fig. 3, a modification of the arrangement of springs.

This invention relates to an improvement in spring bed-bottoms which are formed from a net-work of wire, and made elastic by springs arranged at one or both ends, the object being the arrangement of the springs in such a manner that the strain upon the spring shall be transverse to the line of strain upon the bed-bottom; and the invention consists in the arrangement of a spiral or other similar spring between two ends of a pair of diagonal links, the other end of the said links attached to the frame combined with a link or pair of diagonal links, the two ends of which are attached one to each of the first-named links, so that the strain upon the last-mentioned links will cause the said ends to approach each other and act upon the spring in a line transverse to the said strain, as more fully herein-after described.

A is the cross-bar at one end of the bedstead; B B, the side rails. For convenience of attaching the springs a bar, C, of metal is secured to the cross-bar A, and this perforated, as at *a*, or otherwise constructed at the points where the bed-bottom is to be attached so as to receive one end of each pair of diagonal links *d d'*. This pair of links may be formed from separate wires or from one and the same piece doubled at the point of attachment to the bar C, their inner ends expanding. Between these expanded ends a spiral or other spring, D, is arranged, and for the purpose

of retaining the several springs in proper position a horizontal bar, E, runs through the several springs, as seen in Fig. 1. In connection with the inner ends of the links *d d'* two other links, *f f'*, are arranged, and these cross each other, as at *b*. Preferably we make these two links from a single piece connected at their other ends, as at F, and bent at the angles *n*, as seen in Fig. 2, the web or net-work being attached to *f f'* at the angles *n n*; but these links may be formed with an eye or hook at the point *n*, and without the connection F, and accomplish the same result.

From this construction it follows that when a weight, as of a person, bears upon the net-work, which is attached at the point *n*, the strain will come upon these links *f f'* with a tendency to draw them into parallelism with each other, and this tendency is also imparted to the links *d d'*, and causes the connecting ends of the said links to approach each other, as denoted in Fig. 2, compressing the spring D; but when the pressure is removed the spring reacts, causing the expansion or opening of the said links and their return to their original position; hence the strain upon the bed-bottom causes a compression of the springs D transversely to the line of strain, and that so slight as in no way to affect the durability or action of the springs.

While we prefer to arrange the springs as shown, they may, with substantially the same result, be arranged as seen in Fig. 3, in which case the active strain will be to extend the spring; or both arrangements of springs may be combined.

By crossing the links *f f'* a greater range is attained than would be otherwise; but the same action upon the springs and substantially the same result will be attained by bringing the two ends of the links together, substantially as described for the links *d d'*, the web or bottom being attached to the links *f f'* at their united or meeting ends.

Preferably we make a connection between each series of pairs of links by means of a transverse link, L. From this point it is immaterial of what the bed-bottom is composed; but we employ a net-work of wire. It may,

however, be of other material firmly secured to the links.

We claim as our invention—

In a spring bed-bottom, the diagonal links  $d d'$  and  $f f'$ , combined with the transverse springs D, arranged between the connected ends of the said links, so that the action of the springs is transverse to the line of strain

upon the bed-bottom, substantially as herein set forth.

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Witnesses:

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