

No. 639,795.

Patented Dec. 26, 1899.

P. H. TREADWAY & R. V. PARKER.

BED SPRING.

(Application filed May 20, 1899.)

(No Model.)

Fig. 1.

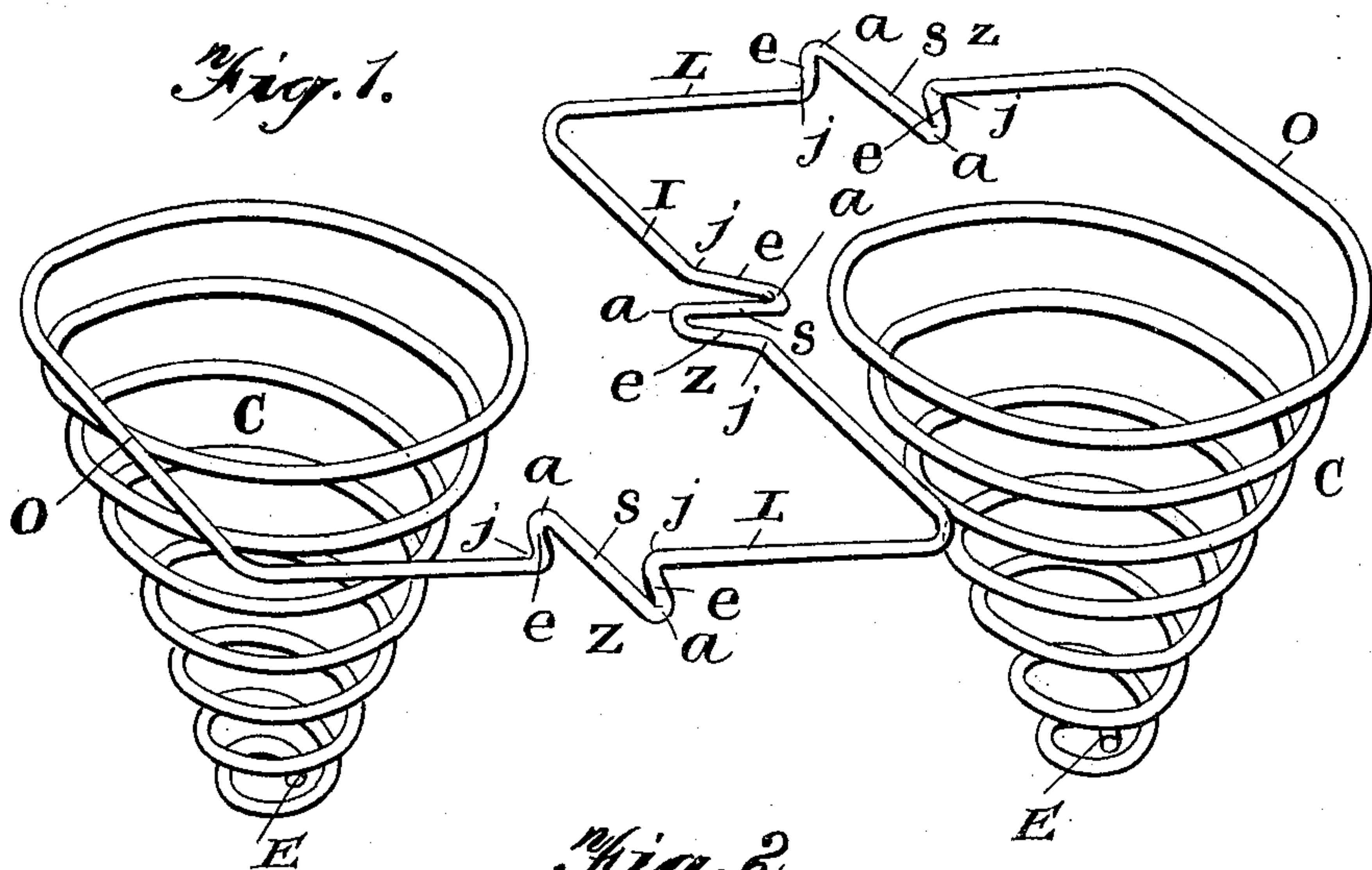


Fig. 2.

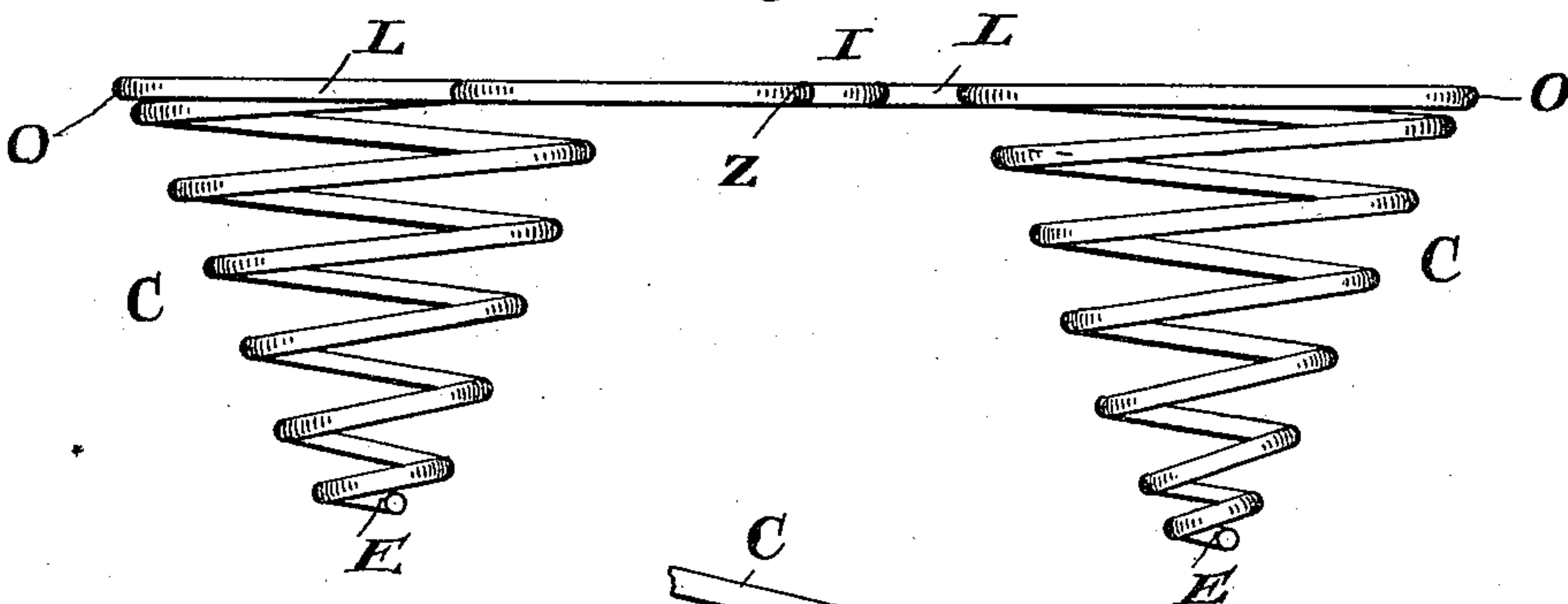


Fig. 3.

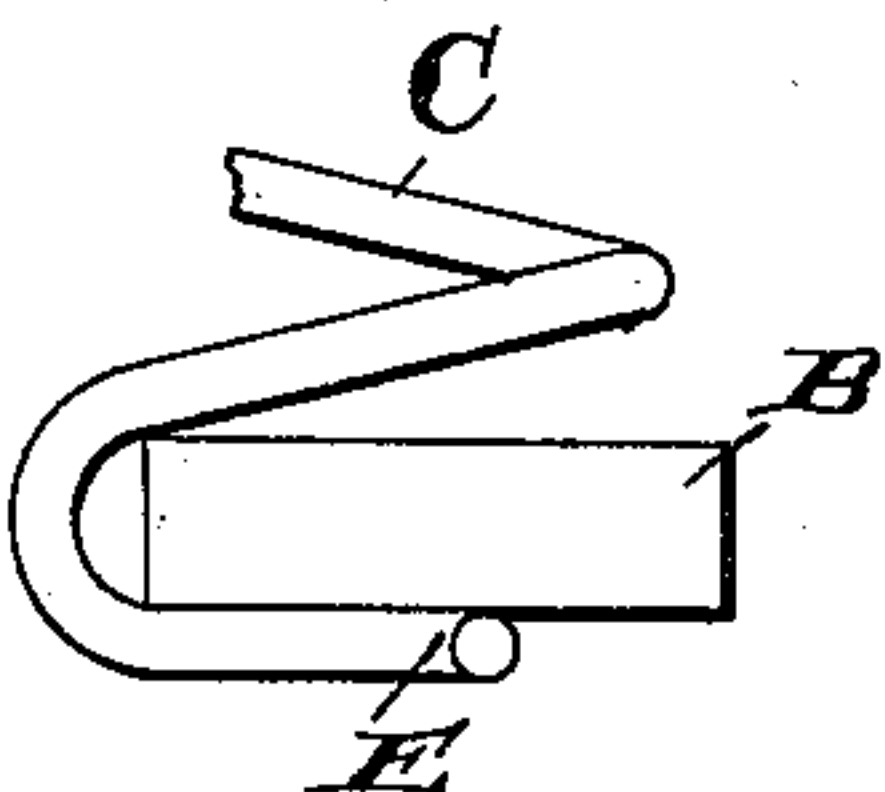


Fig. 4.

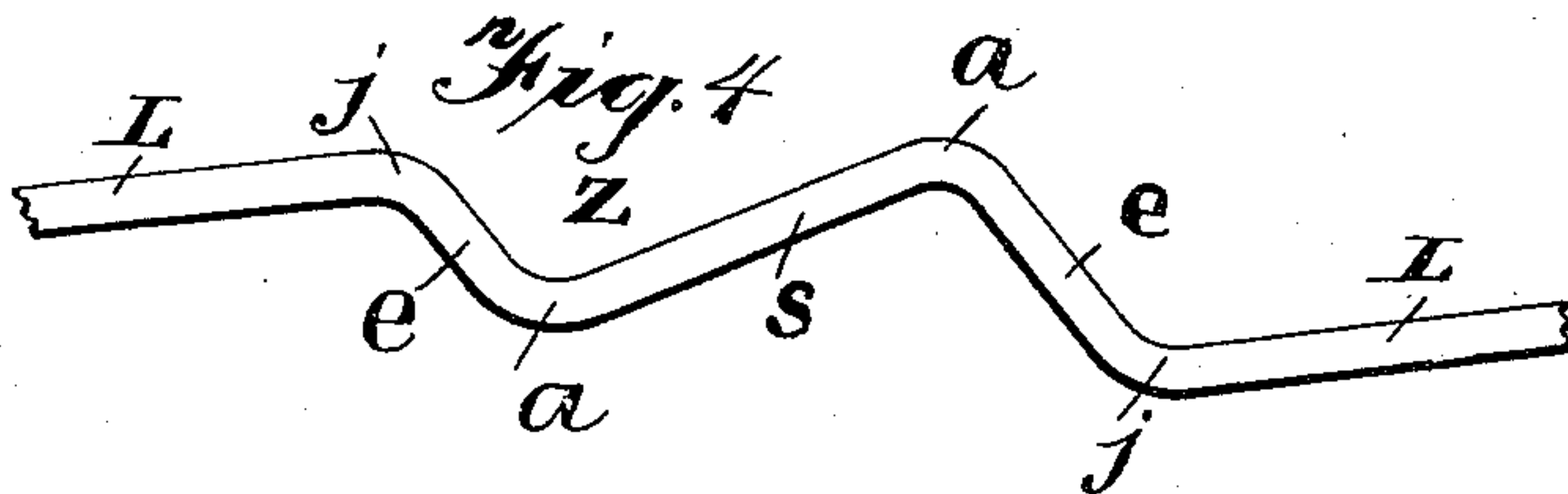
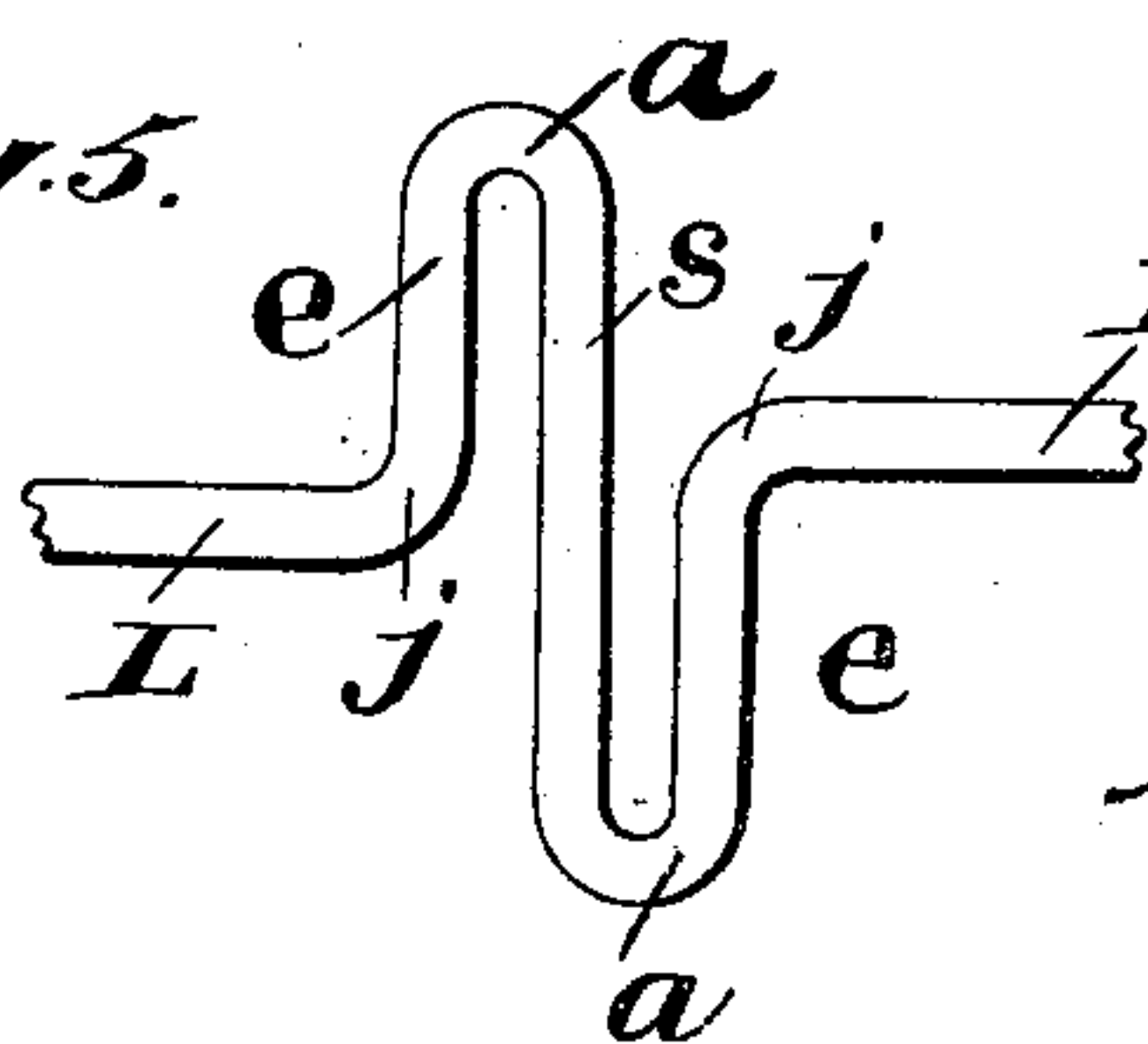


Fig. 5.



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UNITED STATES PATENT OFFICE.

PACA H. TREADWAY AND ROBERT V. PARKER, OF REYNO, ARKANSAS.

BED-SPRING.

SPECIFICATION forming part of Letters Patent No. 639,795, dated December 26, 1899.

Application filed May 20, 1899. Serial No. 717,606. (No model.)

To all whom it may concern:

Be it known that we, PACA H. TREADWAY and ROBERT V. PARKER, citizens of the United States, residing at Reyno, in the county of Randolph and State of Arkansas, have invented certain new and useful Improvements in Bed-Springs, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to beds, and more especially to that class of devices used therein which are known as "springs," the type herein being of the coiled character rather than woven; and the object of the same is to produce an improved spring capable of considerable contraction and expansion both laterally and vertically and so constructed that no transverse devices are necessary for tying together the upper ends of the springs.

20 To this end the invention consists in a bed-spring made in pairs of tempered conical coils whose upper convolutions are connected by integral wires of peculiar configuration, each wire having bends of Z shape, as more particularly set forth below, and all connecting-wires being less highly tempered.

In the accompanying drawings, Figure 1 is a perspective view of a pair of these springs and their intervening connecting-wire. Fig. 2 is a side elevation of the same. Fig. 3 is an enlarged detail in side elevation, showing how the lower end of each coil is preferably connected with the bed-slat; and Figs. 4 and 5 are enlarged diagrammatic plan views of the Z-shaped bends respectively expanded and contracted.

In the said drawings, C C designate two coils, preferably of inverted conical shape and with seven convolutions instead of six, as usual. These convolutions grow gradually less in diameter toward the lower ends, and the decrease is to such an extent that when weight is placed on the upper ends of the coils and they are depressed or contracted vertically each larger upper convolution passes entirely and freely over the convolution next below, even though the weight may not be applied in a direction directly downward.

50 In Fig. 3 is shown our preferred manner of attaching the lower end of each coil to the bed-slat which supports it. B designates the

slat on which the lowermost convolution of the coil rests, and below its point of contact the wire of the coil bends around the edge of the slat with the end E thereof passing under the slat and bent normally in such close relation to the lowermost convolution that it shall have to be spread open slightly to pass over the edge of the slat. Hence the latter is gripped by the wire and no other fastening need be necessary. As stated above, these coils are preferably made in pairs, which may or may not be duplicates of each other; but the upper convolutions of the coils of each pair extend outward, as at O in Fig. 1, thence in longitudinal wires L on respectively opposite sides of the coils, and are then connected by an intermediate transverse wire I, standing normally midway between the adjacent sides of the upper convolutions. This arrangement alone is sufficient to permit the upper and larger ends of the coils to have considerable longitudinal and transverse freedom of movement with respect to each other, and yet the fact that they are integrally connected renders it unnecessary to tie their upper ends by transverse cords or burlap stitched thereto, as usual in upholstery-work.

In each longitudinal wire, and preferably in the intermediate wire, and all in the single horizontal plane of the upper convolutions of the two coils, we form Z-shaped bends Z, each consisting of a stem s, standing normally at right angles to the length of the wire in which the bend occurs, two acute angles α at the ends of the stem, two ends e next outside said angles and which are parallel with each other, but oblique to both the stem and the wire, and finally two obtuse angles j where the ends e merge into or join the wire itself. These Z-bends are so proportioned with respect to the size of the coils and the length of the longitudinal and transverse wires as to permit the latter to have a considerable degree of expansion, as seen in Fig. 4, or contraction, as seen in Fig. 5. The former action occurs by the four angles $\alpha a j j$ pulling open, each slightly, but in the aggregate considerable, and the latter action conversely occurs by the same angles closing up to a degree which may be individually trivial, but is collectively considerable. The preferred disposition of these bends, it will be noticed, is

such that two occur within the longitudinal side wires L of the coils of any pair, whereby said coils have twice the capability of distention away from each other which each Z-bend provides, whereas only one such bend occurs within the intermediate or transverse wire I, whereby the coils are not permitted so much of a movement with respect to their transverse alinement. This also we find of advantage in building the coils in pairs which depend for their upright positions on the stability of each other rather than on cords or other devices for fastening their upper ends together.

We find that when the spring is to be made and sold as an article of manufacture where the buyer may be called upon to place the sets of springs upon beds of varying sizes, it is of great advantage to temper the coils, but not to temper the connection so highly. This permits the upholsterer in attaching the springs to the slats to distend or separate them by pulling open the Z-bends in the wires L, as shown in Fig. 4, if it is found necessary to space the coils farther apart, or to contract these bends, as shown in Fig. 5, if said coils must stand closer together in order that the entire set will fit longitudinally within the bedstead. Also in order to adjust the size of the set to the width of the bedstead we are able to similarly contract or expand the Z-bend in the intermediate wire I, thus bringing the two longitudinal wires L of any pair nearer together or farther apart and permitting any given pair to stand closer to its neighbors or farther away from them, as desired.

What is claimed as new is—

1. The herein-described bed-spring, the same consisting of two upright coils having conical bodies of tempered wire; and a less-highly-tempered connection consisting of integral wires leading tangentially from their upper convolutions straight outward in opposite directions, thence longitudinally in parallel straight lines, and thence transversely across between said coils; and in each longitudinal wire and in the transverse wire a Z-

shaped bend comprising a stem s substantially at right angles to the wire and two ends e connected by acute angles to the stem and by obtuse angles to the wire and standing normally parallel with each other and oblique to both stem and wire, all as and for the purpose set forth.

2. As a new article of manufacture, the herein-described bed-spring comprising a pair of upright coils of tempered wire; and a less-highly-tempered connection consisting of an intermediate wire I standing between the coils and at right angles to a plane through their axes, longitudinal wires L extending from the ends of this intermediate wire in opposite directions parallel with said plane, and outside wires O extending from the outer ends of the longitudinal wires parallel with the intermediate wire and leading into the upper convolutions of the coils; and bends in each of the longitudinal wires for permitting the extension or contraction of its length, all said parts being integral and adapted for use as set forth.

3. As a new article of manufacture, the herein-described bed-spring comprising a pair of upright coils of tempered wire having parallel axes; and a less-highly-tempered connection consisting of an intermediate wire standing between the coils and at right angles to a plane through their axes, longitudinal wires extending from the ends of this transverse wire in opposite directions parallel with said plane and leading into the upper convolutions of the coils, and a Z-shaped bend in each of said three wires for permitting the extension or contraction of its length; all said parts being integral and adapted for use as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

PACA H. TREADWAY.
ROBERT V. PARKER.

Witnesses:

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