

F. C. MITCHELL.
Spring Bed-Bottom.

No. 214,685.

Patented April 22, 1879.

Fig. 1

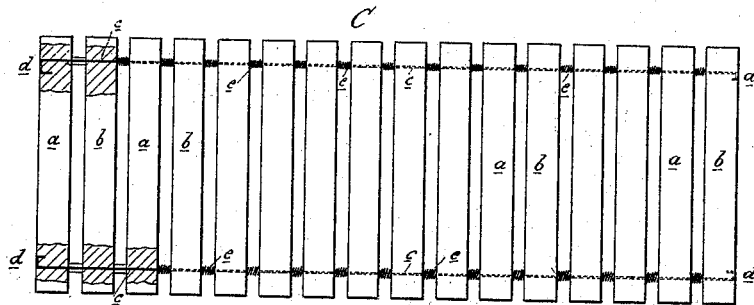


Fig. 2

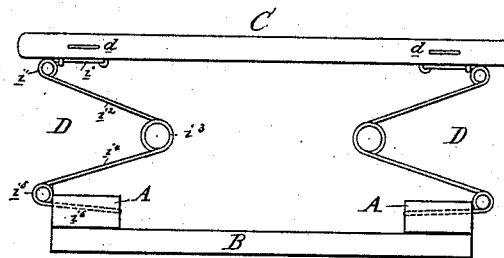


Fig. 3

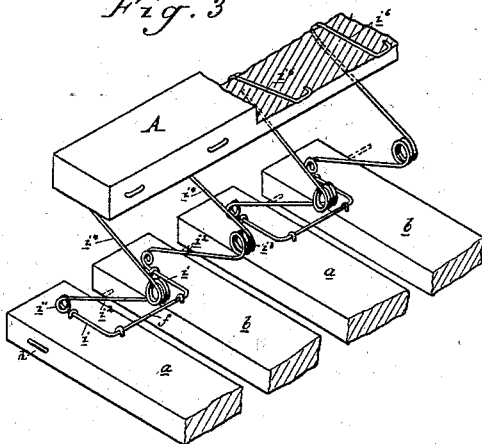
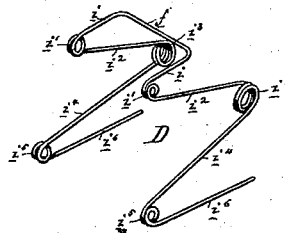


Fig. 4



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FRANCIS C. MITCHELL, OF BENTON HARBOR, MICHIGAN.

IMPROVEMENT IN SPRING BED-BOTTOMS.

Specification forming part of Letters Patent No. **214,685**, dated April 22, 1879; application filed November 9, 1878.

To all whom it may concern:

Be it known that I, FRANCIS C. MITCHELL, of Benton Harbor, in the county of Berrien and State of Michigan, have invented an Improvement in Spring Bed-Bottoms, of which the following is a specification.

The nature of my invention relates to certain new and useful improvements in the construction of devices designed to support superimposed bodies upon springs, which will resume their original position upon being relieved of the superimposed weight, such devices being bed-bottoms, lounges, sofas, chairs, wagon-seats, and other devices of a similar character; and the invention consists in the peculiar construction of the spring, and the manner of securing it to the pairs of slats and to the foundation-rail, and, further, in the combination, construction, and arrangement of the principal parts of my spring-structure, as fully hereinafter explained.

In the accompanying drawings, Figure 1 is a plan view, looking at the top, with certain portions of the parts of the platform broken away to show how the parts are secured together. Fig. 2 is an end elevation. Fig. 3 is a section, in perspective, looking from the bottom, with a portion of the foundation broken away to show the manner of securing the lower ends of the springs. Fig. 4 is a perspective of one of my improved springs detached.

In the accompanying drawings, which form a part of this specification, A A represent two longitudinal rails, secured together by the girts or ties B B, the whole forming a foundation for the superstructure.

C is a platform, made of an even number of slats transverse to the longitudinal rails of the foundation. These slats are designated by the letters *a b*, and are of an even number, so to be divided into pairs, as hereinafter described. These slats are secured together side by side at equal distances apart by the spring-steel straps or wires *c c* passing through each slat near each end, and bent at each end back upon themselves, and secured to the outer edges of the outer slats at *d d*, as shown. The intervals between the slats are preserved by sleeving upon the wires at those points the coil or other springs *e*. This construction

gives a very flexible platform for the purpose designed.

D is a compound spring, formed of two triple helical springs, connected together by a bail, *f*, by means of which the springs are secured to the platform at top, and provided with free ends *i*⁶, by means of which the bottoms of the springs are secured to the foundation-rails. This spring is made of one continuous piece of wire. The bail *f* is the starting-point, and terminates at each end in the arms *i*, at right angles rearward to the bail. Then the two helical springs *i*¹ are formed each on the same plane. The arms *i*² are then led forward, and the two larger helical springs *i*³ are formed, each, also, on the same plane. The arms *i*⁴ are then led rearward, and the two helical springs *i*⁵ are formed, each, also, on the same plane. The free arms *i*⁶ are then led forward on a line parallel to the plane of the arms *i*. By this method of construction a spring of great elasticity is obtained with durability and cheapness of construction.

In the device shown in the drawings, the bails *f* of a series of springs constructed as described are secured to the under face of two of the slats *a b*, so that the arms *i* rest against and are coincident with the center of the width of the slats, to which they are secured, as shown, by loops or staples. In this manner the slats *a b* are secured in pairs near each end to the bail and arms of its compound spring, each pair of slats resting upon the bale and one of the arms. The free arms *i*⁶ are passed from the outside through the rails A A until the helical springs *i*⁵ rest against the upper outer corner of said rails. The free ends of said arms are then clinched upon the inner edge of said rails, as shown at *o*.

A bed-bottom, sofa, lounge, chair, or other seat, or other articles for a similar purpose, constructed as above described, will be found very elastic, readily giving to the various configurations of the body, and, when the weight is removed, quickly resuming its condition as before the weight was imposed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a pair of slats, *a b*, and the foundation-rail A, of the two-part spring D, each part of which is constructed

with three helical springs and four arms, the said spring being secured to the under side of the slats by staples and to the said rail by passing the two ends of the spring through said rail, and bending such ends upon the rail, substantially as described and shown.

2. A spring-bottom consisting of the longitudinal rails A, cross-bars B, the slats *a b*, arranged in pairs and connected by wires *c* and

separated by springs *e*, and the two-part spring D, secured to the pairs of slats and to the longitudinal rails, all constructed and arranged substantially as described and shown.

FRANCIS C. MITCHELL.

Witnesses:

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CHAS. J. HUNT.