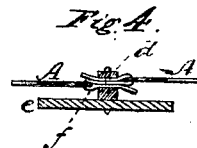
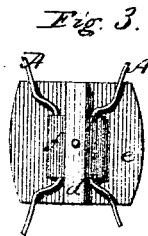
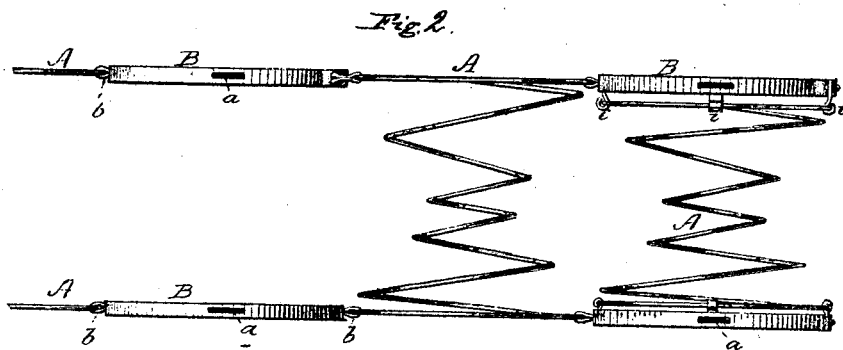
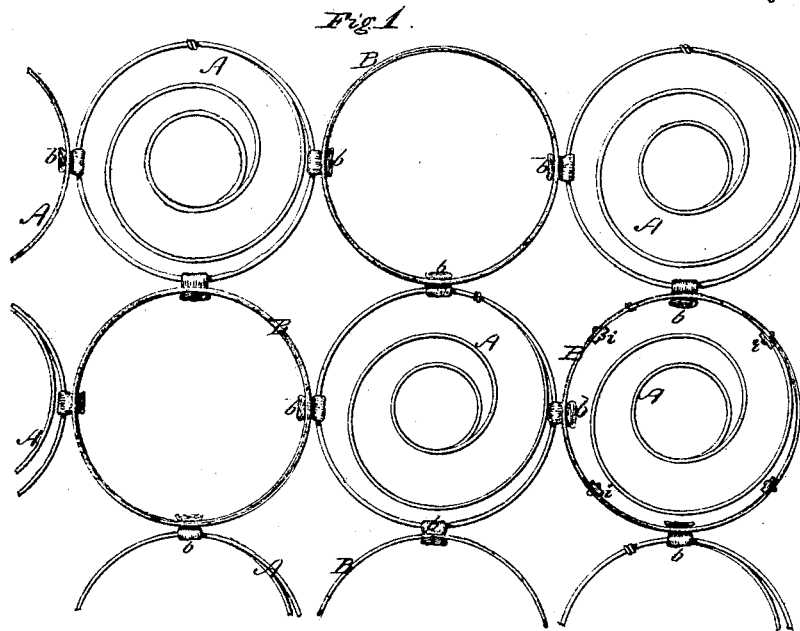


R. T. CORNELL.

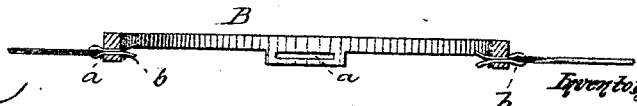
Improvement in Spring-Mattresses.

No. 114,648.

Patented May 9, 1871.



Witnesses.
Harry King.
Phil. T. Dodge



Inventor.
Richard S. Cornell
by Dodge & Munn
his attys.

United States Patent Office.

RICHARD T. CORNELL, OF POUGHKEEPSIE, NEW YORK, ASSIGNOR TO
EDWIN L. BUSHNELL AND ROBERT R. CORNELL, OF SAME PLACE.

Letters Patent No. 114,648, dated May 9, 1871.

IMPROVEMENT IN SPRING MATTRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, RICHARD T. CORNELL, of Poughkeepsie, in the county of Dutchess and State of New York, have invented certain Improvements in Spring Mattresses, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to that class of mattresses which is composed of a series of upright helical springs connected together side by side; and

The invention consists in a novel manner of arranging the springs, and in devices for connecting the springs to each other.

Figure 1 is a top-plan view of a mattress constructed on my method;

Figure 2 is a side elevation of the same;

Figures 3 and 4 are a plan and a cross-section, respectively, of a connection for the springs; and

Figure 5 is a cross-section of one of the rings or connections for maintaining the springs in position.

Heretofore the custom has been to make this class of mattresses by placing and connecting the springs closely together, so as to support one another and present a continuous supporting surface to the mattress.

In practice, it has been ascertained that one-half the usual number of springs is amply sufficient for a supporting medium; but the difficulty in using a smaller number has been that when they were placed apart from each other they could not be properly supported and held in position, and that the open spaces between them produced an uneven surface to the mattress.

The object of my invention is to provide means for securing the springs, when thus standing apart, firmly to each other in their proper relative positions, and to close the space between the springs so as to produce a continuous even surface to the mattress.

My mattress consists of the ordinary bed-springs A, in the form of an hour-glass, placed at some distance apart, and connected to each other by means of metallic rings B secured between them at the upper and lower ends, as shown in figs. 1 and 2.

The rings B are made of the same diameter as the springs A, and are each provided with four narrow slits or openings, *a*, on opposite sides, as shown in figs. 2 and 5.

The connection between the springs and rings is made by doubling a piece of leather or similar material, *b*, over the end coil of the spring, and then inserting the ends of the leather into one of the openings *a* of the ring, and compressing the latter upon the strap so as to hold it firmly, as shown in figs. 1, 2, and 4.

The rings, being thus secured to the springs at both top and bottom, hold the latter securely in their proper positions, but allow them to yield or play vertically with perfect freedom; and, at the same time, the rings serve to partially fill the open space between the upper ends of adjoining springs, and thus

to prevent the bedding from sinking down between the springs.

Instead of compressing the ring upon the leather straps *b*, a pin, or several of them, may be passed through the ring and the leather so as to hold the latter in place; or the inner ends of the leather may be doubled, and sewed or riveted together so as to be too thick to be withdrawn from the opening *a* of the ring.

When arranged as described, it will be seen that only one-half the usual number of springs is used, every alternate spring being dispensed with and its place occupied by two rings, one at the top and the other at the bottom.

No two springs are in contact with each other.

No two pieces of metal are anywhere in contact, and, consequently, there is no noise or rattle when the mattress is in use.

It may sometimes, in particular places—as, for instance, around the outer edge of the mattress—be necessary to have the springs stand close together. In such case the rings are dispensed with, and the form of connection shown in figs. 3 and 4 used.

This connection consists of a bar, *d*, of metal or other suitable material, having a narrow slit or opening through it, and having also a flat piece of leather or wood, *e*, secured to the under side, parallel with the opening.

The bar is placed between the springs, and a strap, *f*, doubled around the springs and passed through the bar, as shown, the bar being compressed upon the leather to hold it, or a rivet passed through the bar, as shown, for the same purpose.

The two springs are thus held securely together without being in contact, so that, while they are kept in position, they cannot rub or grind together to produce noise.

The leather *e*, by bearing against the under side of the upper coils, prevents the coupling from turning over, and thus allowing the springs to lap over each other.

It is obvious that the rings may be used in connection with springs having eyes or loops at their ends, as in various patents granted to E. L. Bushnell, in which case, however, the strap or loop *b* would be passed through or around the eye or loop on the spring.

Having thus described my invention,

What I claim is—

1. A mattress, composed of a series of springs, A, in combination with the series of intervening rings B, constructed and arranged to operate substantially as described.

2. The rings B, provided with the holes, and having the springs connected thereto by means of the straps *b* inserted therein, substantially as set forth.

RICHARD T. CORNELL.

Witnesses:

JAS. F. MARVIN,
JOHN BUCHAN.