W. R. CUNNINGHAM.

SPRING BED BOTTOM.

No. 180,555. Patented Aug. 1, 1876.

Fig 1

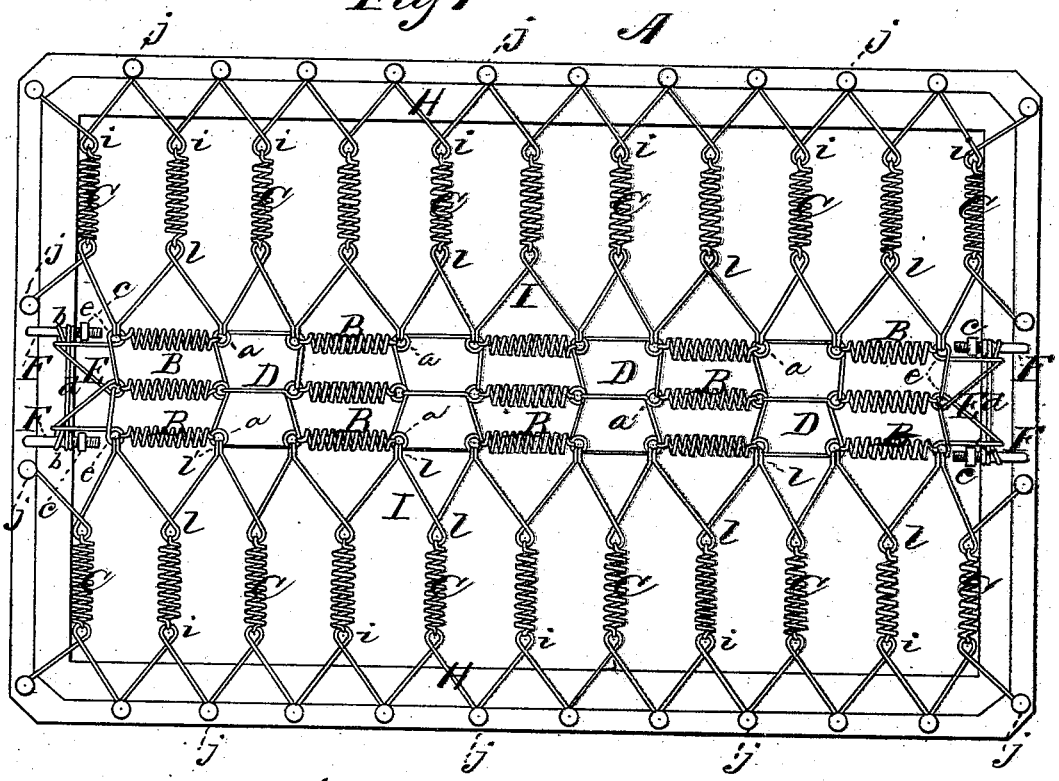


Fig 2

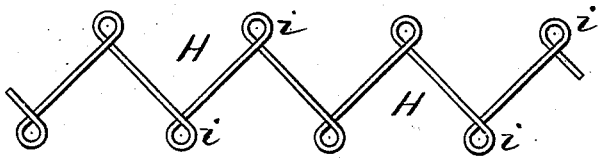


Fig 3

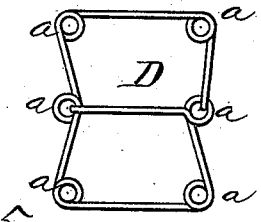


Fig 4

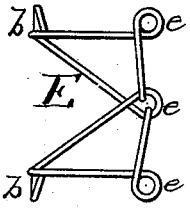
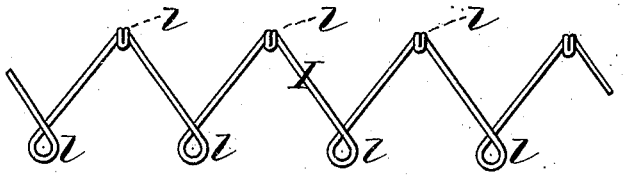


Fig 5



WITNESSES

Mary A. Utley

Emory H. Bates

INVENTOR

Wm. R. Cunningham.

Chipman Foscue & C.

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM R. CUNNINGHAM, OF CLYDE, OHIO.

IMPROVEMENT IN SPRING BED-BOTTOMS.

Specification forming part of Letters Patent No. **180,555**, dated August 1, 1876; application filed December 18, 1875.

To all whom it may concern:

Be it known that I, WILLIAM R. CUNNINGHAM, of Clyde, in the county of Sandusky and State of Ohio, have invented a new and valuable Improvement in Spring Bed-Bottoms; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of my bed-bottom; and Figs. 2, 3, 4, and 5 are detail views thereof.

This invention has relation to improvements in spring bed-bottoms; and it consists in the arrangement and novel construction, in connection with a rectangular frame adapted to be seated in a bedstead, of a number of longitudinal linked springs centrally arranged, and of a number of transverse springs linked to each other and to the said central springs, the whole being secured to the said frame, whereby a very complete, serviceable, and elastic bottom is obtained.

In the annexed drawings, the letter A designates an oblong, preferably wooden, frame, which may be a component part of the bedstead, or separate and detached therefrom, as I may elect. B represents the longitudinally-arranged central springs, arranged in sets of three, and at a suitable distance apart, and C are the transverse springs. As shown in Fig. 1, these springs are of the form called "helical," and they are arranged at right angles to each other, and in the same horizontal plane, being linked each set to the other, and those of each set to each other, in the following manner, to wit: Springs B, as aforesaid, are arranged in sets of three, four, or more, as I may elect, and their hooked ends are engaged with loops *a*, formed at the angles and in the sides of an open rectangular wire loop, D. A suitable number of these springs having been joined together, the free ends of the end springs are engaged in loops *e* on one side of a coupler, E, other loops, *b*, on the other end or side of said coupler being passed over the ends of the spaced tension-rods F, which are hooked over or otherwise suitably secured to the ends of the frame. A tension-bar, *d*, is then passed over the rods F, and a nut, *c*, applied upon their screw-threaded ends, by setting up which nut the bar *d* will draw the coupler nearer the ends of the frame, thereby taking up the slack of the central system of springs and increasing their tension. Springs C are arranged at a suitable distance apart, and are connected with the central springs and with the frame, as follows: A piece of wire of suitable size and length is bent in zigzag form, loops *i* being formed at its ends and at its angles. This coupling or connection (designated by the letter H) is secured to the sides of the frame by means of nails, screws, or other like devices *j*, which are passed through one set of loops and forced into the frame, the other set of loops serving to receive hooks upon the ends of springs B. The other ends of these springs are hooked into loops *l* of a zigzag connection, I, formed of wire, and differing from connection H only in that it has hooks *l'* formed at one set of angles, instead of loops. These hooks are engaged in the end loops *a* of loops D.

The advantage of this construction is, mainly, that the side ranges of springs are incapable of sagging, so as to be uncomfortable without some yield of the central springs, which requires a yielding of the lateral springs on the other side of the frame. The lines of yield of these springs being at right angles to each other, the said springs will mutually support and sustain each other.

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

1. In combination with the frame A, the longitudinally-arranged connected helical spring B and the transverse springs C, linked to each other and to the central springs, substantially as described.

2. In combination with the springs B C, arranged at right angles to each other, the zigzag connections H I, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM R. CUNNINGHAM.

Witnesses:
JOHN CHRISTY,
WILLIAM W. STILSON.