(No Model.)

H. S. JOHNSON.

BED SPRING CONNECTION FOR BED SPRINGS AND SPRING BEDS.

No. 333,756. Patented Jan. 5, 1886.

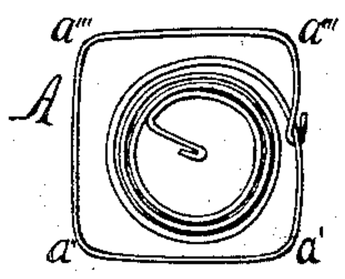

Fig. 1.

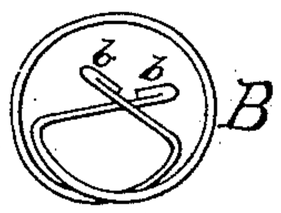

Fig. 2.

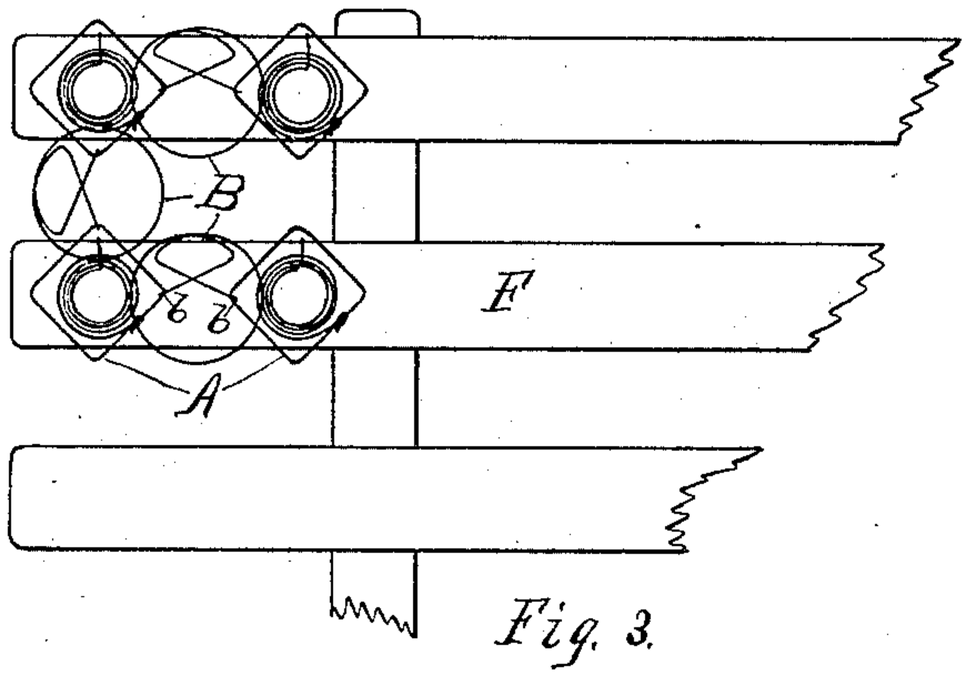

Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

HIRAM S. JOHNSON, OF PORTLAND, MAINE.

SPRING-CONNECTION FOR BED-SPRINGS AND SPRING-BEDS.

SPECIFICATION forming part of Letters Patent No. 333,756, dated January 5, 1886.

Application filed October 5, 1885. Serial No. 178,965. (No model.)

To all whom it may concern:

Be it known that I, HIRAM S. JOHNSON, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented a new and useful Spring-Connection for Bed-Springs and Spring-Beds; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention consists of an improved spring-connection for bed-springs and an improved spring-bed, and is illustrated in the accompanying drawings, in which—

Figure 1 is a top view of a spiral spring having a flat, square, or rectangular top. Fig. 2 is a top view of my connection-spring. Fig. 3 is a partial top view of my spring-bed.

Similar letters refer to corresponding parts throughout the several figures.

I use an ordinary spiral spring, A, formed with a sufficient number of convolutions, and enlarging gradually from the bottom to the top. The lower end of the spiral is so formed as to be attached to the bed-slat. The end of the wire forming the uppermost convolution of the spring is prolonged in a tangent to the circle of said upper convolution. The spiral form is abandoned at that point, and by four successive inward horizontal bends at a' a'' a''' a'''' a square or rectangle is formed, preferably slightly larger than the upper convolution of the spiral, and the end of the wire forming the square or rectangle is bent over and hooked upon itself preferably at the point where the spiral was abandoned and the square or rectangle begun. A square or rectangular top is thus presented by the spring and an even bearing upon the spring made possible. The whole spring, including the flat rectangular top and the fastening at the bottom, is formed of one piece of wire.

I provide a spring-connection, B, for uniting the tops of the springs A, keeping them in a substantially perpendicular position, and effecting a united and mutual action when the bed is occupied.

My spring consists of a single wire bent in the form of a circle, with the ends of the wire overlapping for a suitable distance, preferably about ninety degrees upon the circumference of the circle. Both ends are then bent inward toward the center of the circle, at which point, substantially, they cross each other, and, being slightly prolonged toward the circumference of the circle, terminate in hooks *b b*, formed by bending the ends of the wire downward and backward. The heads of these hooks *b b* thus point outward toward the circumference of the circle and the points inward toward the center, and it is apparent that when the hooks are engaged and force applied outward the circle must expand, and that when the force is discontinued the circle or ring contracts to its normal shape.

My device is applied as follows: I provide a frame of spring-slats, F, adapted to be fitted to the bedstead. Upon each of the slats are secured, as before described, a sufficient number of springs, A, so placed that the sides of their rectangular tops shall make angles of about forty-five degrees with the sides and ends of the slats, and thus bring the opposite angles of the square tops of the springs toward each other and substantially in straight lines running with and across the slats. The spaces between the centers of the slats and the centers of the springs secured to the slats are made uniform, and of such length that when the springs are adjusted upon the slats the hooks *b b* upon any spring-connection may be sprung into the opposite adjacent angle of the rectangular tops of the springs. Each angle of each spring is thus yieldingly secured to the opposite adjacent angle of the next spring, and all the springs and spring-connections form an interwoven symmetrical whole, each spring and spring-connection to a greater or less extent being affected and acting when the bed is in use.

In this application the use of connection-springs which expand under pressure affords more elasticity to the whole bed than any other connection-springs, while at the same time these springs are less liable to bend. They equalize and distribute evenly, as in the nature of the case is possible, the weight of the occupant of the bed irrespective of the amount of the weight, and they prevent the bedding from catching between the springs.

I do not claim a rigid connection-brace, nor

do I claim such a spring as is shown in the patent to Parker, dated May 20, 1873, No. 139.077; but,

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The connection-spring B, formed of a single wire bent in the form of a circle, the end of said wire overlapping upon a part of the circumference of said circle, then turning inward toward the center of the circle, crossing each other substantially at the center of the circle, passing the center of the circle, and terminating in hooks *b b*, substantially as described.

2. The combination of the bed slat frame F, spiral springs A, having rectangular flat tops, and circular connection-springs B, having the hooks *b b*, substantially as described.

HIRAM S. JOHNSON.

Witnesses:
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