E. Howe Jr,

Bed Bottom,

No. 15,609. Patented Aug. 26, 1856.

Fig. 2.

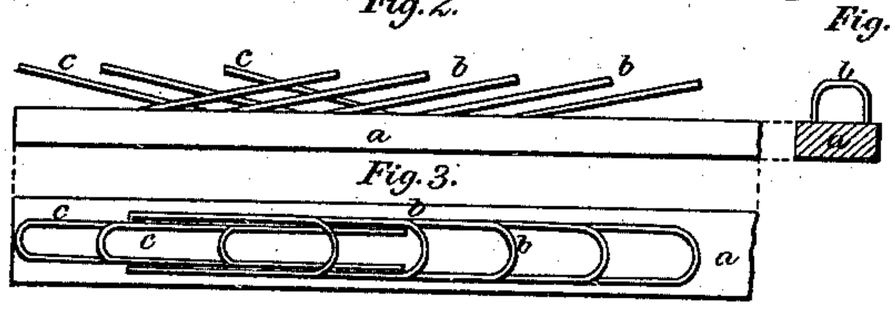

Fig. 4

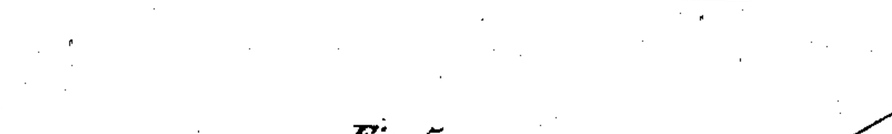

Fig. 3.

Fig. 5

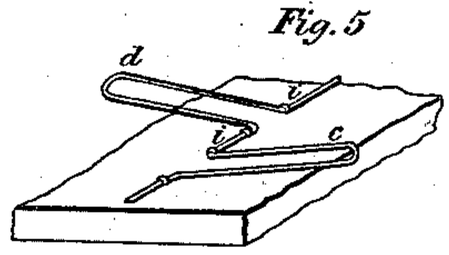

Fig. 1.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ELIAS HOWE, JR., OF BROOKLYN, NEW YORK.

IMPROVED BEDSTEAD.

Specification forming part of Letters Patent No. **15,609**, dated August 26, 1856.

To all whom it may concern:

Be it known that I, ELIAS HOWE, Jr., of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Spring-Beds; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the drawings which are hereunto annexed, and in which—

Figure 1 represents a view in perspective of a bedstead with my improvement applied thereto. Fig. 2 is a side elevation of a portion of one of the slats thereof. Fig. 3 is a plan of the same. Fig. 4 is a cross-section of the same, and Fig. 5 is a view in perspective of a modified form of spring.

The object of my invention is to produce an elastic support for the body by means of a series of springs, which, although separate and distinct and of considerable length, act in unison to form a series of bearing-points separated by very short intervals to sustain the mattress upon which the body lies.

The frame of the bedstead represented in the accompanying drawings is constructed in the usual manner and is composed of four posts A A A A, of the rails B B, and cross-bars C C, which connect the posts together, and of the head-board D and foot-board E. This frame supports a series of slats *a a*, which extend lengthwise from one end of the frame to the other, their extremities being supported by the cross-bars C C at the head and foot of the frame. Each of these slats is fitted with a series of inclined springs *b b*, which overlie each other, so that their upper extremities are separated by very short intervals, although the length of each spring is considerable. These springs are in this instance made of spring-wire of a strength proportioned to the weight to be sustained, and their lower extremities are made pointed and driven into holes formed in the slats, so that they cannot be displaced by the imposition of a weight upon their upper or free extremities.

In order to complete the series of bearing-points at that end of the bedstead from which the springs incline, a sufficient number of springs *c c*, inclined in the opposite direction to the others, are set into the slats, and these springs are made somewhat narrower than the others, so that their legs may enter between those of the others. If the greater number of the springs incline in the same direction, their movement in bending under a weight and in tending to assume their primary positions when the weight is relaxed may cause a movement in the mattress toward that end of the bedstead toward which the springs incline. This difficulty, if it occurs in practice, may be readily obviated by reversing the alternate slats, so that the springs which are laterally adjacent may incline in opposite directions, or the greater part of the springs upon each slat may be set to incline alternately in opposite directions, in which case the legs of those which incline toward one end of the bed may be inserted between the legs of those which incline in the opposite direction, or these two methods may be combined, so that the adjacent springs both crosswise and lengthwise will incline in opposite directions toward the head and foot of the bed. The springs may also be doubled upon themselves, so as to obtain a greater length of spring without extending over a larger surface. They may also be arranged in two or more layers, the upper extremities of one layer being nearer the slats than those of another layer, in which case a greater number of springs will be brought into operation when the weight upon the bed is increased beyond that which can be supported by the highest layer alone.

In place of inserting the extremities of the springs into the bottom of the bed, they may be attached to it in some other manner which will hold them securely thereto—as, for example, by screws or by staples. In the latter case two or more springs may be made of a single piece of wire, as shown at Fig. 5, where the springs *d e* incline in opposite directions and are connected by straight pieces *i*, which are twisted by the movement of the springs, so that the torsive strength of these connecting-pieces is brought into action to assist the operation of the other portions of the springs. In this case, also, the springs being inclined in opposite directions counterbalance each other, so that there is but a slight strain upon the staples which secure them to the bottom of the bed. In some cases it may be found advisable to flatten portions or even the whole of the spring-wire by passing it between rolls

or by the action of a hammer, so as to vary the elasticity of the springs at different portions of their length or to make them more elastic. These and other modifications of my invention may be made as circumstances require and to suit the views of different constructors.

I am aware that spring-beds of various descriptions have heretofore been made and do not claim the use of springs for such a purpose; but

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

A spring-bed constructed of a series of springs which overlie each other, are combined together, and arranged in inclined positions upon a bed-bottom, substantially as herein set forth.

In testimony whereof I have hereunto subscribed my name.

ELIAS HOWE, JR.

Witnesses:
WM. H. PLUMMER,
WATTS M. FRANKLIN.