# T. Howe,

## Bed Bottom.

No. 100,408. Patented Mar. 1. 1870.

Fig. 1.

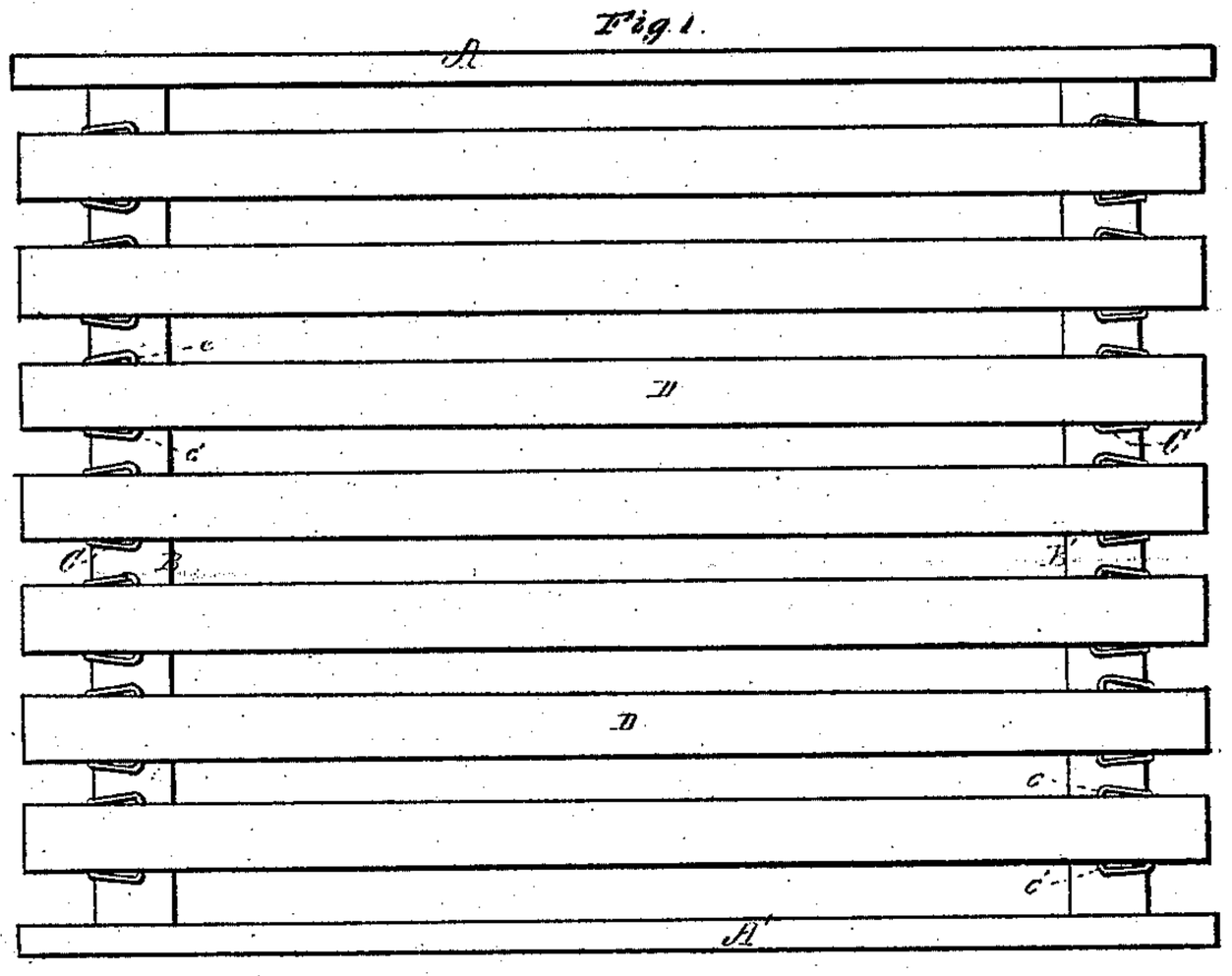



Fig. 2.

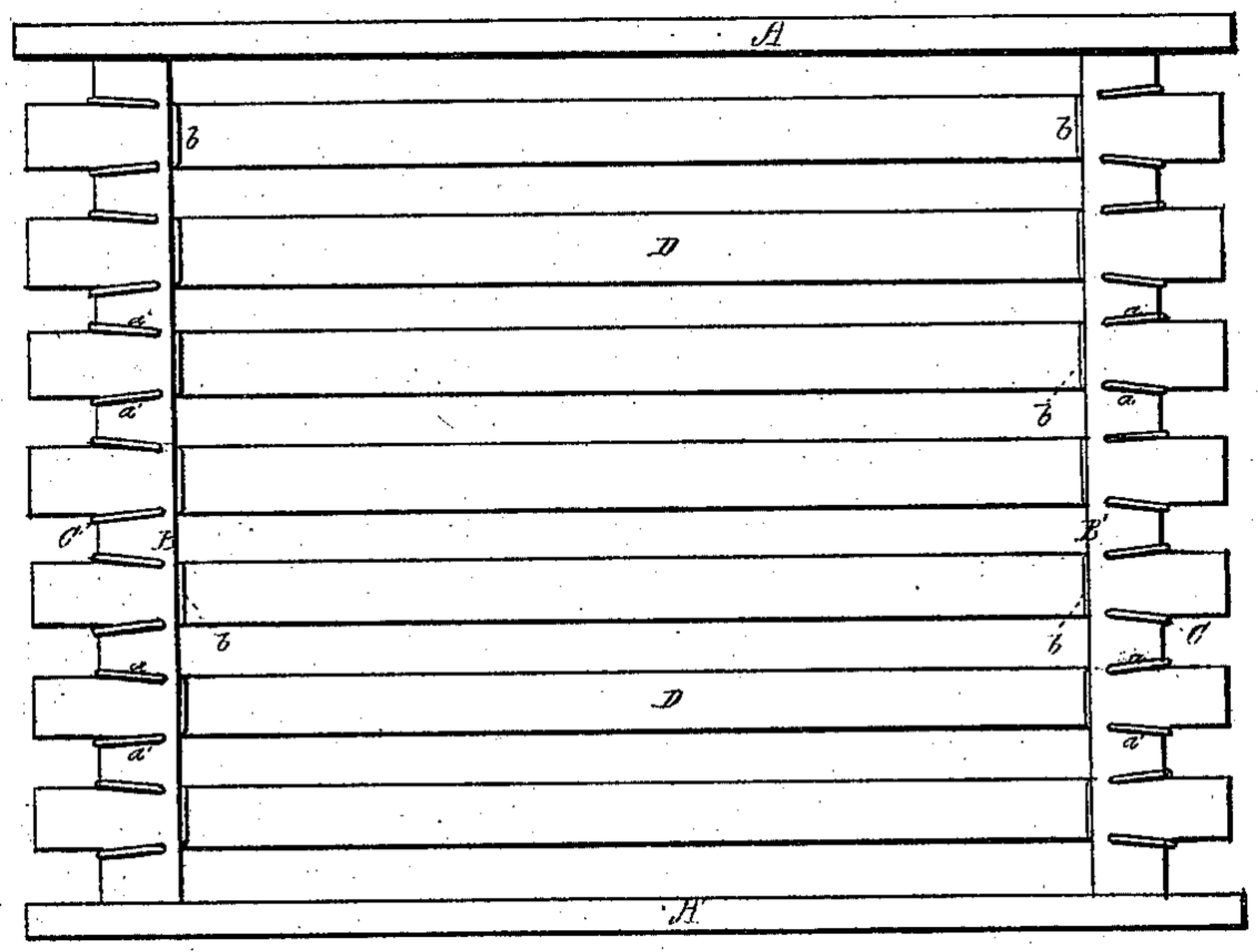



Fig. 4.

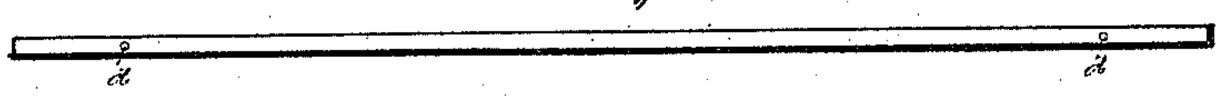
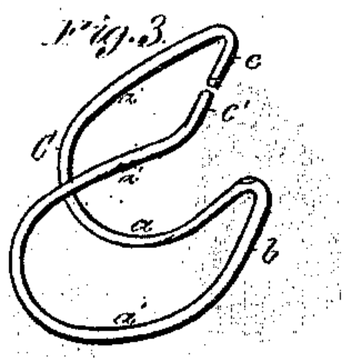



Fig. 3.




Witnesses.

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# United States Patent Office.

TYLER HOWE, OF CAMBRIDGEPORT, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND OTIS HOWE, OF SAME PLACE.

*Letters Patent No.* 100,408, *dated March* 1, 1870.

## IMPROVED SPRING-BED BOTTOM.

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

*To all persons to whom these presents may come:*

Be it known that I, TYLER HOWE, of Cambridgeport, in the county of Middlesex, and State of Massachusetts, have invented a new and useful Improvement in Spring-Bed Foundations; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings.

Of the said drawings—

Figure 1 is a top view of a bed-bottom provided with my invention;

Figure 2 is an under-side view thereof;

Figure 3 is a perspective view of one of the wire springs; and

Figure 4 is a side view of one of the slats.

My invention has reference to that class of bed-foundations in which each of the slats is supported upon springs arranged near its two ends, and consists in so forming and applying the springs to their supporting-bars and the slats as not only to form a strong and durable connection, but produce an easy, elastic, and yielding foundation for a mattress, and at the same time afford a ready means of either connecting the slats with their springs or disconnecting them therefrom, as may be desirable.

In the said drawings A A′ denote the side rails of the bed-bottom, which are connected by means of two cross-bars B B′.

Through each of the said cross-bars I make a series of holes, (two in number for each slat,) and at a distance apart equal to or a little greater than the width of the slat, each pair of holes being to receive the two arms *a a′* of a spring, C.

The said holes I bore on the inner side of each of the cross-bars, and extend them downward at an angle of forty-five degrees or thereabouts, so as to cause them to terminate on the under side of the said bars.

I next take pieces of spring wire of the proper diameter and length and bend the same into a rectangular shape, the base or connected end *b* of each having a length corresponding to the width of a slat or the distance between each two of a pair of holes in the cross-bars.

I next pass the arms of the wires so bent through the holes until the connected part *b* comes into close contact with the inner edge of its cross-bar or supporting-rail, as shown in fig. 2.

This mode of attaching the spring to its bar prevents any accidental detachment of it therefrom.

The ends or arms *a a′* of the wire are next turned upward and curved over, and partially around the cross-bars, the back and top edges of which are rounded.

The projecting end of each of the wires is next bent inward toward each other, and at right angles to the remaining portion, so as to form a journal or support, *c c′*, for the slats, the same being as shown in fig. 3, or the said ends may be so bent as to form an acute angle with the remaining portion, if desirable, in which case the holes made in the slats to receive them should have a corresponding pitch or inclination.

The arms of the said springs do not rest in contact with the curved surface of the cross-bars with which they are connected, but are curved to the arc of a circle of much larger radius, so as to allow of their springing inward and have a sufficient degree of elasticity to prevent them from becoming "set" under any ordinary amount of pressure brought to bear upon the slats with which they are attached.

D D, &c., denote the slats of the bed-bottom, they being made of wood, and extending nearly the entire length of the bed foundation.

Each of the said slats has two holes *d d* formed in each side of it, and near the ends thereof, the same being to receive the bent ends or extremities *c c′* of the springs, which, when connected therewith, as shown in the drawings, maintain the slat suspended at both its opposite edges.

I would remark that I do not limit myself to arranging the holes in the cross-bars in the slanting direction, as described, as the said holes may be bored vertically through the said bars; but I consider the first-mentioned method to be the better one, as the springs are not so liable to be broken or injured by a lateral strain at their points of egress on the under side of the cross-bars.

In applying the slats to the springs, we have simply to press apart the arms of the latter and insert the journals or parts *c c′* in the sockets of the slats, and then press or restore the arms to their normal position. The elastic force of the wire will then maintain them in firm connection.

To release the slats, we have only to withdraw the journals or parts *c c′* from their sockets.

By my peculiar construction of the springs, and their application to the cross-bars and the slats, I gain several important advantages over many of the bed-bottoms in the market:

In the first place, the springs are so constructed and arranged as not to come in contact with a mattress or bed when placed upon the slats.

Second. The mattress is supported throughout its entire length, and does not sag at either of its ends.

Third. The springs are so applied to the cross-bars as to prevent accidental detachment; and

Fourth. The slats can be readily detached from the bed-bottom or applied thereto whenever it may be desirable.

I do not claim, broadly, supporting the slats of a bed foundation upon springs arranged near the ends of such slats and attached to the cross-bars thereof, nor do I claim any of the devices shown in either of the patents numbered 57,720, 69,198, or 78,825, as my invention differs therefrom.

I claim my improved spring-bed bottom as composed of the frame or rails A A, the two cross-bars B B', the two series of springs C C, formed as described, and the series of slats C', arranged and applied together substantially as hereinbefore specified.

TYLER HOWE.

Witnesses:
F. P. HALE,
ISAAC S. PEAR.