

T. W. Johnston,

Bed Bottom.

No. 100,635.

Patented Mar. 8. 1870.

Fig. 1.

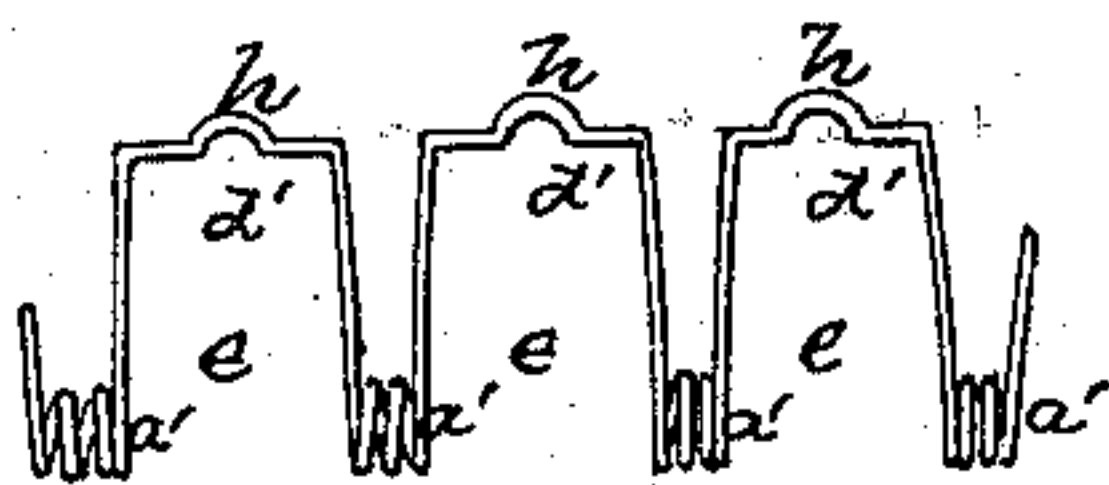
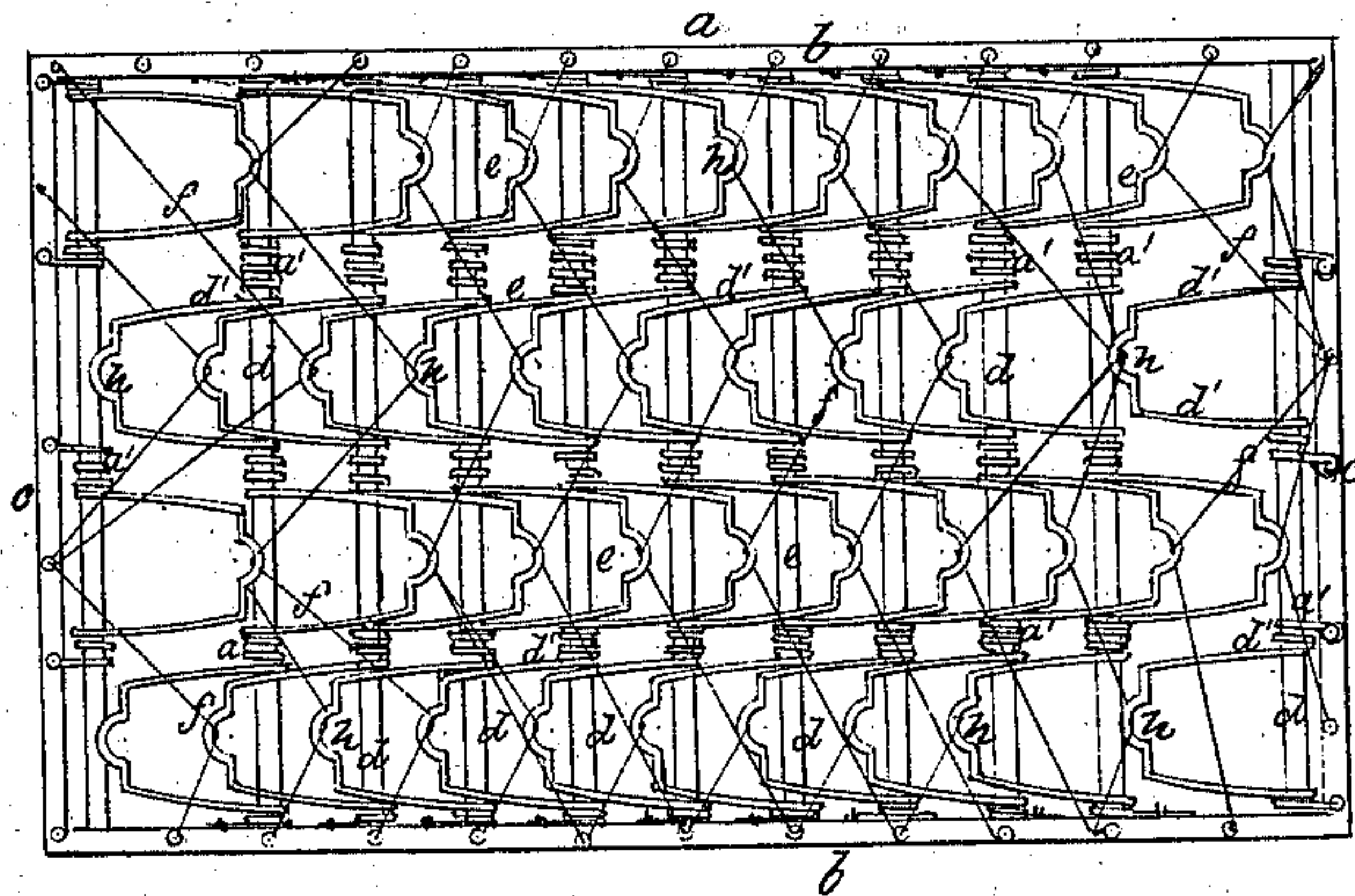
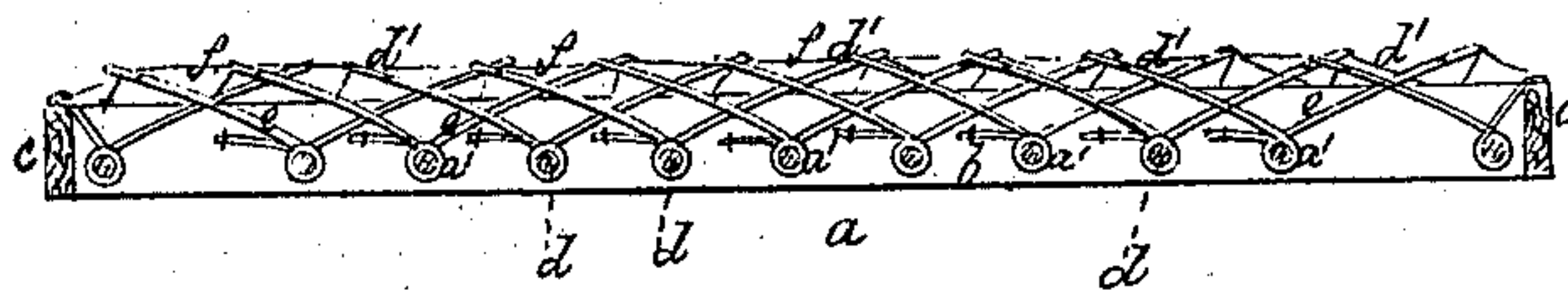


Fig. 2.



Witnesses,

Geo A Loring.
Edw. Griffith

Thomas W. Johnston.

by his Attorney.
Frederick Curtis.

United States Patent Office.

THOMAS W. JOHNSTON, OF RICHMOND, MAINE.

Letters Patent No. 100,635, dated March 8, 1870.

IMPROVED SPRING-BED BOTTOM.

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

To all to whom these presents shall come:

Be it known that I, THOMAS W. JOHNSTON, of Richmond, in the county of Sagadahoc, and State of Maine, have made an invention of a new and useful Spring-Bed Bottom; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings making part of this specification, and in which—

Figure 1 is a plan, and

Figure 2, a vertical and longitudinal section of my invention.

This invention is an improvement in spring-bed bottoms, so called, its object being to obtain, at reasonable expense, a uniformly even and elastic foundation for a bed, and one possessing great comfort and durability.

The invention consists in the employment of a series of sloping springs, rising at an angle from opposite sides of a plurality of bars which extend across the circumscribing frame of the bed-bottom, the upper and free extremities of the said springs being joined by a number of wires or cords extending from one to the other, in a zigzag direction, across the said frame, the whole being as hereinafter explained.

In the drawings accompanying this specification, and which illustrate my invention—

a denotes a rectangular frame, composed of two side rails, *b b*, and two end rails, *c c*, this frame being of such construction and size as to fit within a bedstead after the manner of many other bed-bottoms in use.

Extending transversely across the frame *a*, from side to side thereof, and with their ends let into the side rails for support, are disposed a range of bars or rods, *d d*, &c., such bars or rods being of such diameter or bulk as to serve, in aggregate, as a firm support for the bed and its occupants.

These rods *d* uphold a series of sloping springs, *e e*, &c., inclining upward from them in alternately opposite directions, the upper and free extremities of such springs being joined by a series of wires or cords, *f f*, which run through or are twisted about them, the extremities of these wires being secured to the rails of the frame *a*.

Under the arrangement shown in the accompanying drawings, a wire starts from one side rail through the extremity or bend of the nearest spring, thence crossing to the diagonally opposite spring of the next adjacent series, thence back to the second spring in the same series as at first, and so on until the opposite side rail is reached and the remaining or unconfined end of the wire secured to such rail.

In this manner the combined series of springs are joined together with such effect that a depression of one necessarily effects a slight corresponding movement among its companions, thus distributing over

an extended surface what would otherwise result in an injurious depression in one spot.

The joining of alternate springs of the different ranges prevents a depression of one spring from causing a lifting of its fellow, which would ensue but for this union or some equivalent means of protection.

The springs *e e*, &c., before mentioned, are produced as follows:

A piece of spring wire is first formed or bent at one extremity into an eye or coil, *a'*, to embrace the end of one of the rods *d*, thence bent into the form of a yoke or arm, *d'*, as shown in the drawings, and a second eye or coil produced from it, while from this last coil or eye the wire is extended or bent into a yoke of similar size and shape, but departing from the rod in a direction directly opposite that taken by the first yoke, the wire being thus formed into alternating yokes until a sufficient number have been acquired to extend across the frame *a*, the extremities of the wires in excess of each end coil being securely fastened to the inner face of the side rails of the frame *a* in order to prevent the entire series from turning about upon the rod, although, as before stated, the wires *c c* to a certain extent effect this purpose.

The center of the bend of each yoke or spring *e* is formed with an offset or partial eye, *h*, for reception and security of the connecting cords *f f*, &c.

The yokes or springs *e e*, &c., extend in alternate opposite directions from their supporting rods, at an inclination of about thirty degrees, thus leaving sufficient space between them and the rods to permit of the necessary play.

The system of connecting the springs by the wires *f f*, as shown in the annexed drawings, may be departed from without avoiding the main features of my invention.

A bed-bottom made as above described has proved in practice to possess all the requisites of ease durability, and economy, the small interstices intervening between its springs producing a peculiarly even and soft foundation.

The form or nature of the spring herein shown may be adapted to many other articles than bed-bottoms, as seats, cushions, &c., and I do not intend to limit my application of such spring to one particular purpose.

Claim.

I claim a bed-bottom composed of a series of lifter-springs, formed substantially as explained, applied to a range of transverse rods or bars, and united by wires woven through the yokes of said springs, the whole being arranged and operating as described.

THOMAS W. JOHNSTON.

Witnesses:

E. H. HEWINS,
FRED. CURTIS.