

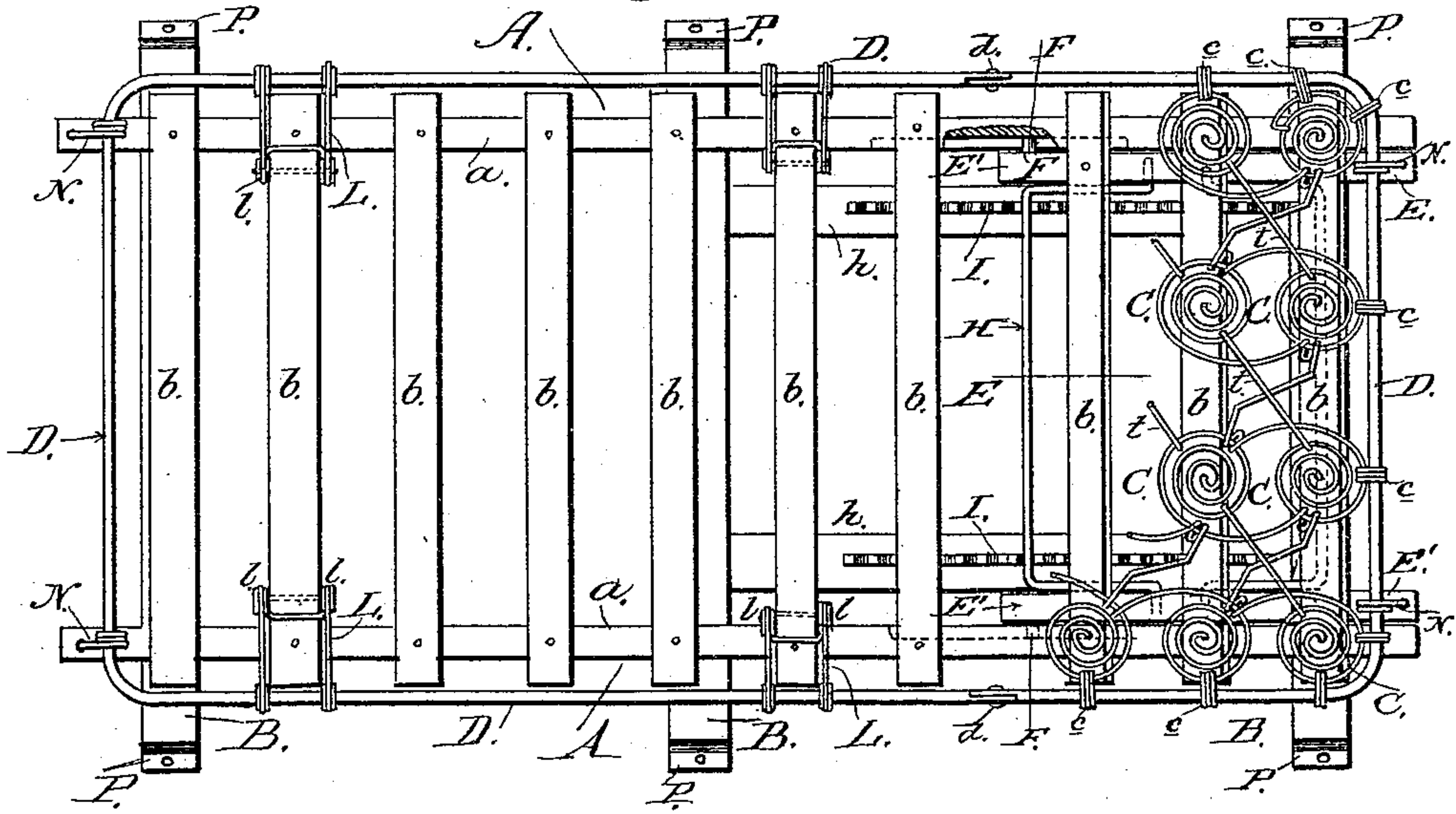
(No Model.)

L. B. HOUSTON.  
SPRING BED BOTTOM.

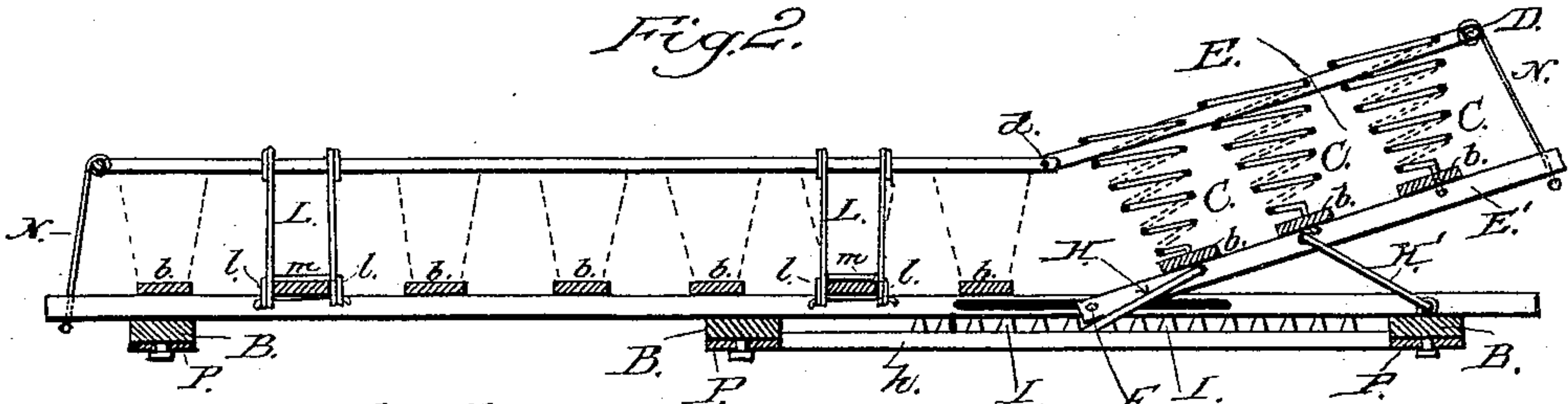
No. 444,610.

Patented Jan. 13, 1891.

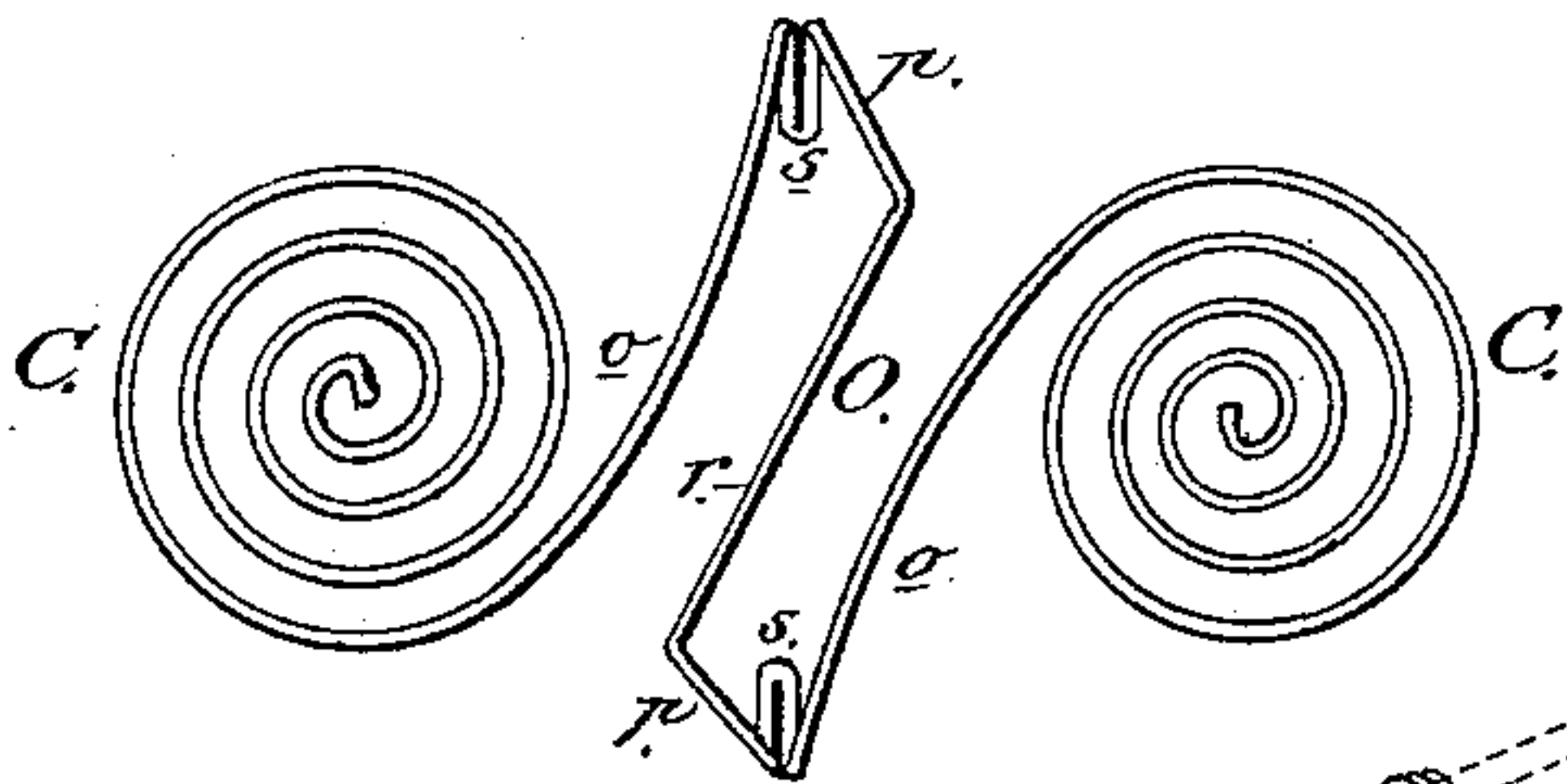
*Fig. 1.*



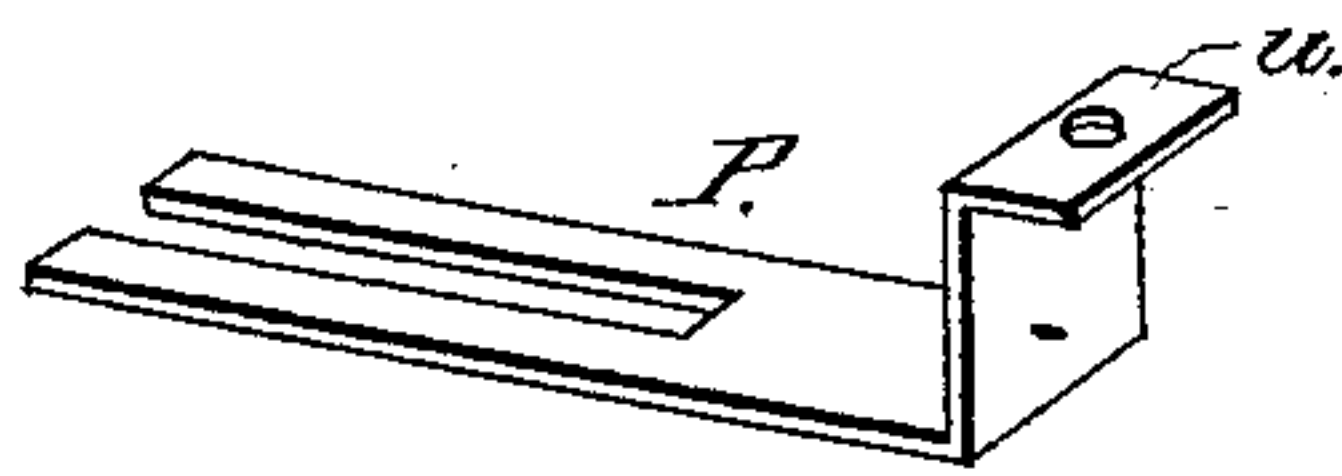
*Fig. 2.*



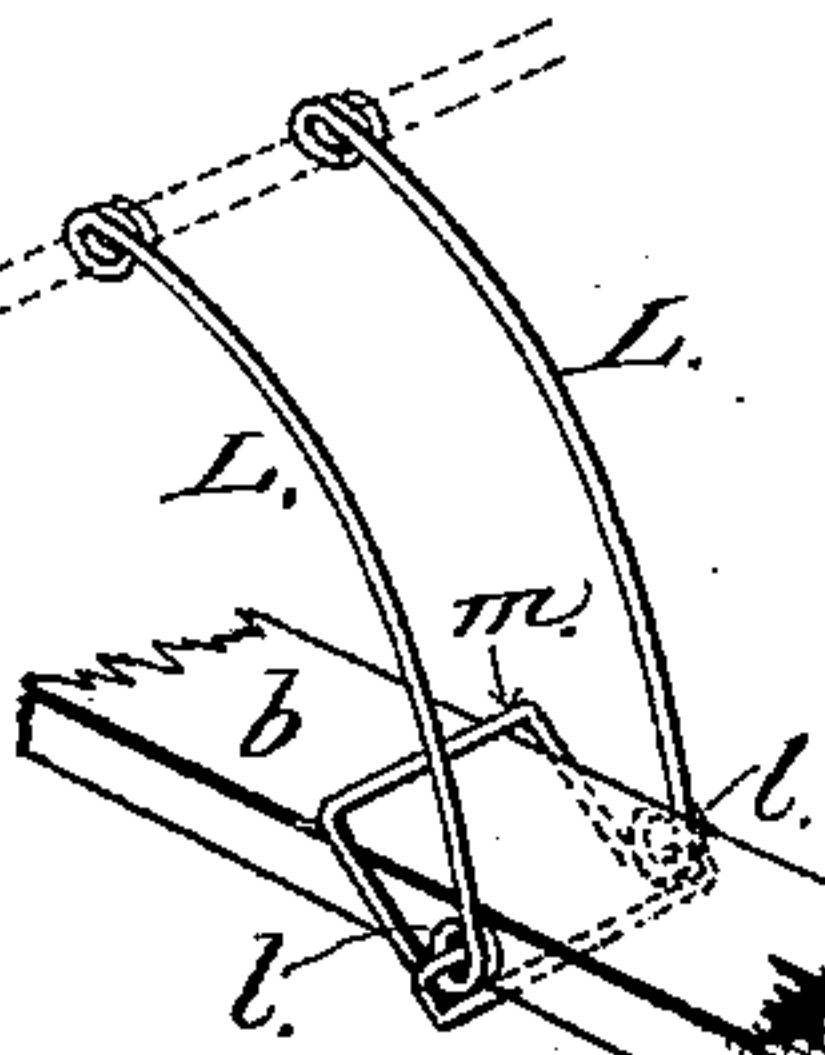
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



WITNESSES

*J. H. Fowler*  
*W. H. Patterson*

INVENTOR

*Leonard B. Houston,*  
*by A. H. Evans & Co*  
Attorneys



# UNITED STATES PATENT OFFICE.

LEONARD B. HOUSTON, OF SAN ANTONIO, TEXAS.

## SPRING BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 444,610, dated January 13, 1891.

Application filed February 13, 1890. Serial No. 340,246. (No model.)

*To all whom it may concern:*

Be it known that I, LEONARD B. HOUSTON, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Spring Bed - Bottoms, of which the following is a full and clear description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a plan view of a bed-bottom embodying my invention and showing several of my improved springs attached thereto. Fig. 2 is a longitudinal sectional view of the same, showing in dotted lines the adjustable head-section elevated. Fig. 3 is a detail of one of my improved springs. Fig. 4 is a detail of one of the adjustable plates secured to the lower surface of the transverse bar. Fig. 5 is a detail of one of the springs for supporting the rectangular frame which surrounds the springs composing the bottom.

My invention relates to certain improvements in bed-bottoms; and it consists in the peculiar constructions and combinations which I shall hereinafter fully describe and claim.

To enable others skilled in the art to make and use my invention, I will now describe its construction and indicate the manner in which the same is carried out.

In the said drawings, A represents a bed-frame composed of two or more longitudinally-arranged bars *a*, to the upper surfaces of which the slats *b* are securely fastened, said bars being securely bolted or otherwise fastened to suitable transverse bars B, which form the foundation-pieces of the frame. The springs C rest upon the slats, being fastened to their under sides, and have their upper ends inclosed by a rectangular jointed frame D, composed, preferably, of metal, such as a wire or rod, the said upper ends of the springs being fastened in a secure manner to said frame D by suitable tie-wires, as *c*.

Between the longitudinal bars *a* and journaled thereto in a manner I will hereinafter indicate is a supplemental short frame E, to the side bars E' of which the three or more slats forming part of the head of the main frame are secured, whereby said supplemental frame and the springs carried thereby may

be elevated to form a head-rest, the wire frame D, to which the top of the springs are secured, being hinged or jointed at *d* to readily permit the head-section to be raised without shortening the bed, thus overcoming a very objectionable feature common with many beds now in use employing adjustable head-rests.

The connection between the main frame and interposed supplemental frame is a peculiar one, and consists in grooving the inner sides of the longitudinal bars *a* and forming or securing pintles F on the outer sides of the side bars E', the said pintles being adapted to enter the grooves in the side bars *a*, whereby a guide is formed for the head-section. The pivot-connection between the main and supplemental frame is therefore a movable one, and permits the head-section and its adjuncts to be elevated to any desired height without affecting in any manner the dimensions of the bed-bottom, the proper adjustment after being once secured being maintained by a link H, pivoted to the inside of the side bars E' of the supplemental frame and engaging with their free ends suitable racks I on the longitudinal bars *h*, secured to the cross-bars B of the main frame and contiguous to the sides thereof. In addition to the link H, I employ another oppositely-extending U-shaped link H', which is journaled on the transverse beam at the head end of the main frame, and has its ends pivotally mounted in the side bars E' of the head-section.

The link H simply serves as a pawl, and, in conjunction with racks I, securely holds the head-section against displacement when elevated, and this link, when desired, may be readily thrown from engagement with racks to permit said section to be lowered, with its springs and other component parts, to the level of the main portion of the bed-bottom. The link H' serves as a brace for the elevated head-section.

The connection between the main and supplemental frames is such as will not only hold the head-section steady, but will also permit said section to be moved forward while being elevated, whereby the springs which constitute the upper surface of the bottom are held taut, preventing the upper springs from be-



ing forced over the edge of the head-section and causing the bed to maintain the same length and tension under all conditions.

Secured to any desired number of the cross-slats and to the metallic frame surrounding the springs *C* are curved springs *L*, constructed, preferably, as shown in Fig. 5, with their lower portions coiled at *l* upon each side of their respective slats and then passed upward and held over the top of the slat in the form of a loop *m*. These springs *L* serve as side braces to retain the frame *D* and springs *C* in the position against lateral displacement and to keep the springs from "bagging" in the center. In addition to these brace-springs, I employ rods *N*, and secure them to the metallic frame *D* and ends of the slats *a*, through which they loosely pass to more securely hold the bed-bottom proper in its position, and yet permit its vertical movement when depressed by the weight of the person upon it, and to prevent the metallic frame and side springs from "lifting up" when the said weight is upon the center springs of the bed. These latter springs are of peculiar construction, being conical in form and of a duplex nature. In other words, two springs are united together by a bridge-piece *O*, which is formed by the upper wires *o* of the coils being extended in opposite directions and then bent inward toward each other, as shown at *p*, the bent portions being in turn united by a straight piece *r*, placed between and parallel with the upper wires of the coil, as shown.

At the junction of the bent pieces with the upper wires of the coil are formed hooks *s*, integral with said wires and adapted to hook into and unite with the springs of an adjacent series or row of springs.

If desirable, the springs may be additionally strengthened by passing transversely over the bridge-pieces, other wires *t* having hooked ends engaging the tops of the springs, as shown. By reason of this construction I am

enabled to make strong substantial springs, which are united to make a complete and comfortable bed-bottom. At the same time the adjustable head-section and other features above described constitute a bed possessing advantages over many of those now in use.

On the bottom of the transverse foundation-bars *I* secure slotted angular plates *P*, which may be adjusted in and out to accommodate the bottom to any size of bed-frame, said plates having also bent upper end *u*, adapted to be secured by a pin or screw to the inside of the side rails of said bed-frame.

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

1. An improved bed-bottom comprising the transverse bars *B*, the longitudinal bars secured to said transverse bars, and the slats, said longitudinal bars having their inner sides grooved or slotted, a supplemental frame consisting of the longitudinal bars *E'*, having the slats at the head portions secured to them and provided with pins at their inner ends engaging the grooves in the main longitudinal bars, springs secured to the slats, a jointed frame *D*, surrounding the upper ends of the springs, and supplemental side springs securing said jointed frame to the slats, substantially as herein described.

2. A main frame having slats and springs and a metallic frame encircling said springs, in combination with the curved brace-springs *L*, having the coils *l* and loops *m* pressing on top of the slats, said springs being secured to the slats and metallic frame, and the rods *N*, secured to said frame and passing through the ends of the slats, substantially as and for the purpose specified.

LEONARD B. HOUSTON.

Witnesses:

A. W. WOOD,  
B. H. TRESTER, Jr.