

(No Model.)

2 Sheets—Sheet 1.

P. U. MILLER & M. T. ZUCK.  
SPRING BED BOTTOM.

No. 534,338.

Patented Feb. 19, 1895.

FIG. 1.

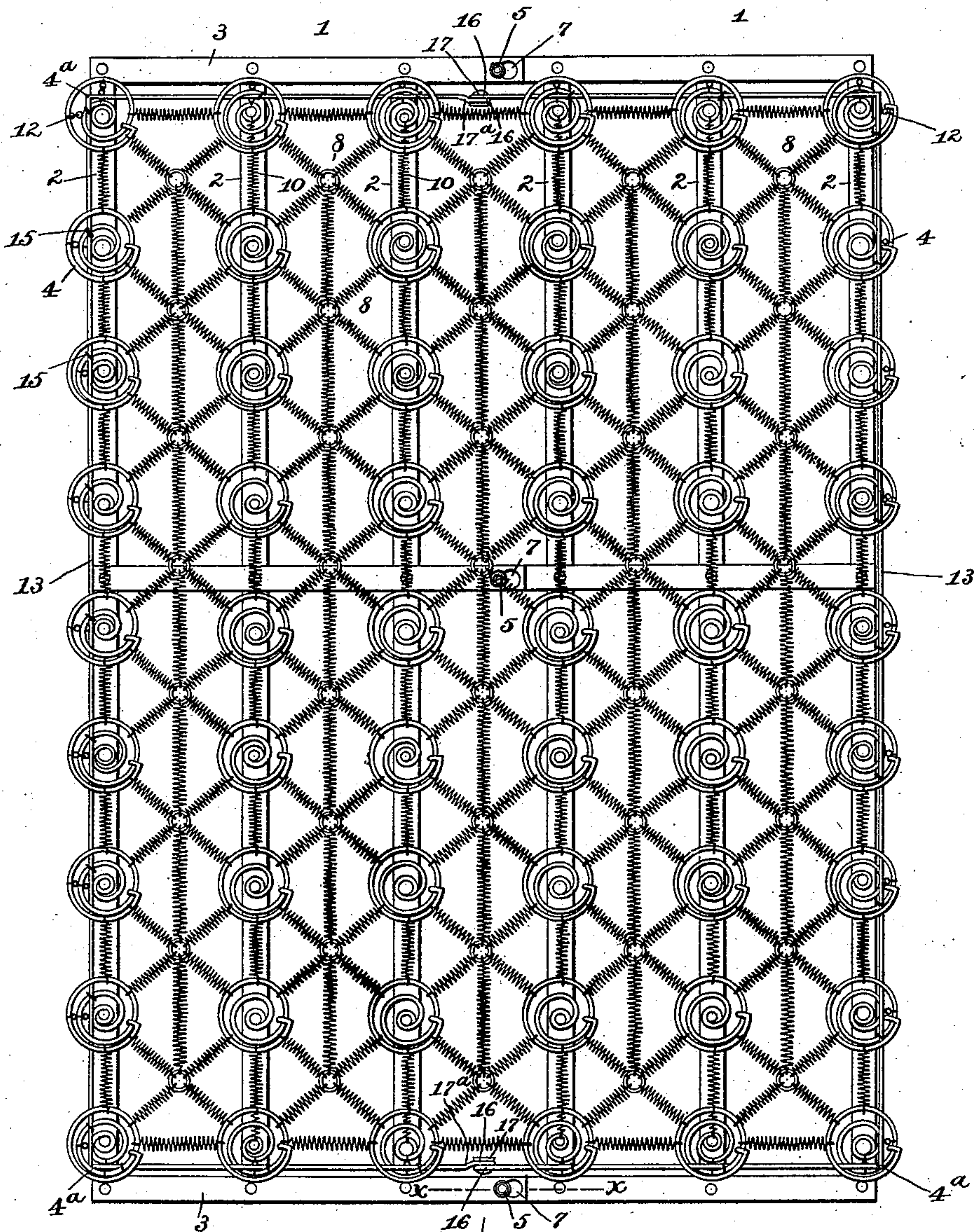


FIG. 2.



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Peter U. Miller and  
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Witnesses

Harold H. Simms. By their Attorneys,  
D. P. McLaughlin.

Cashow & Co.



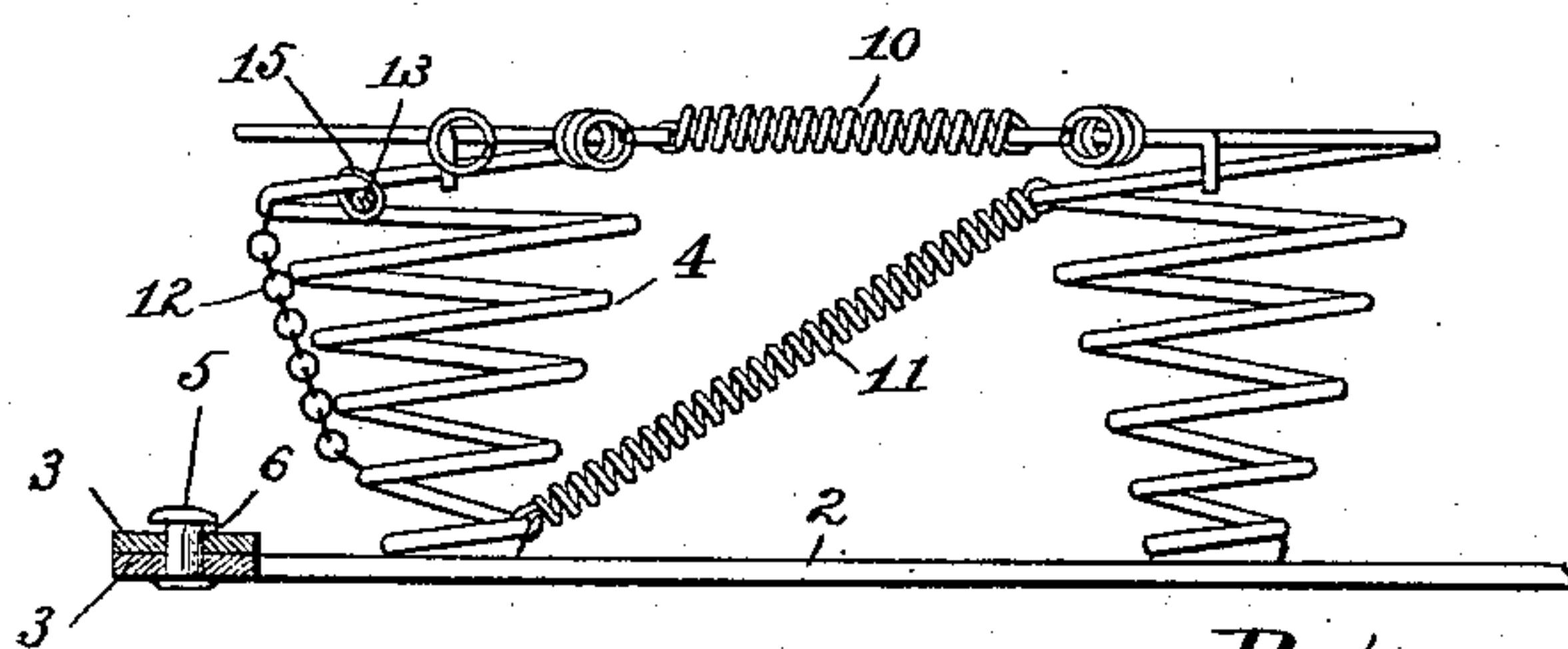
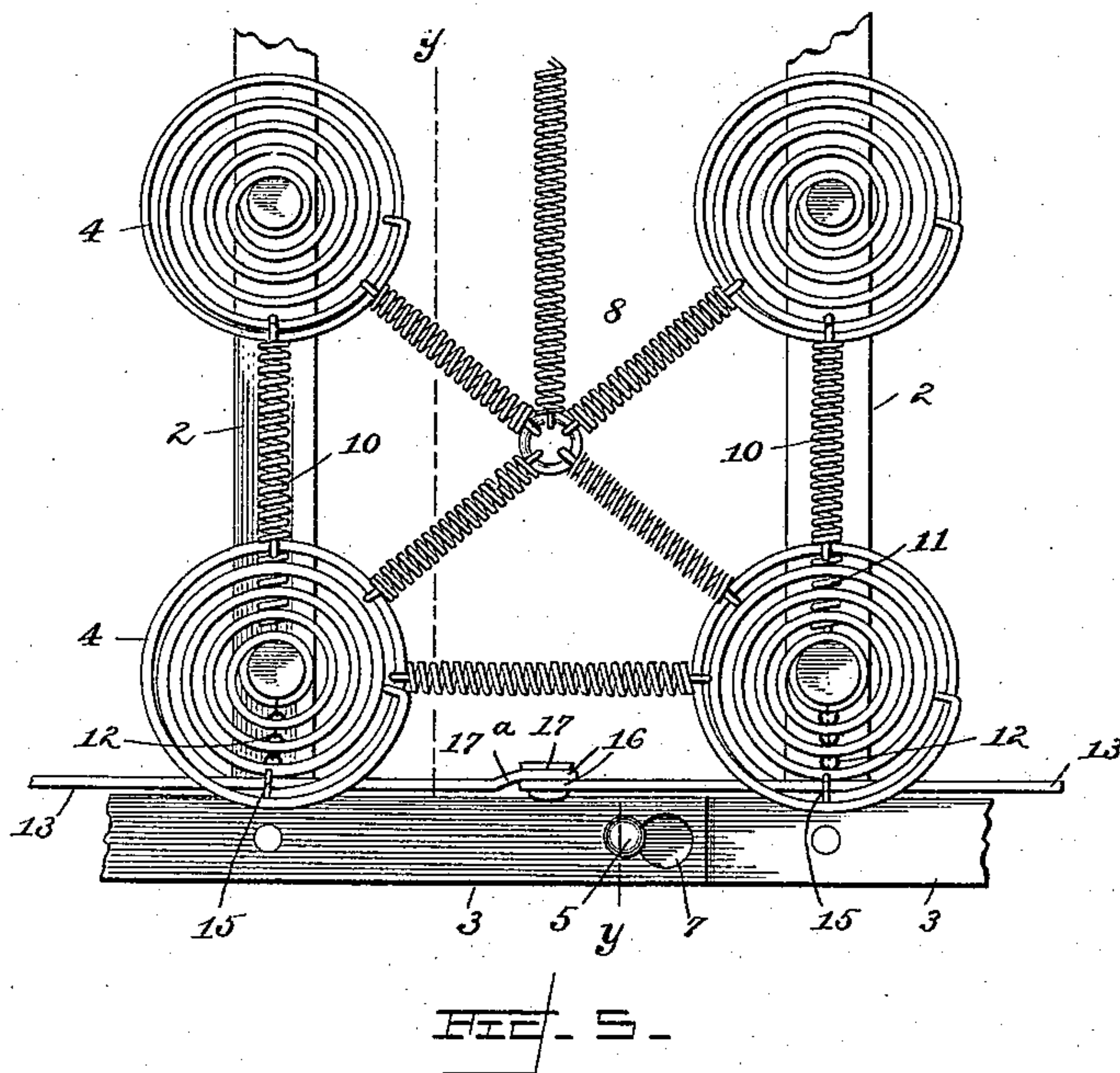
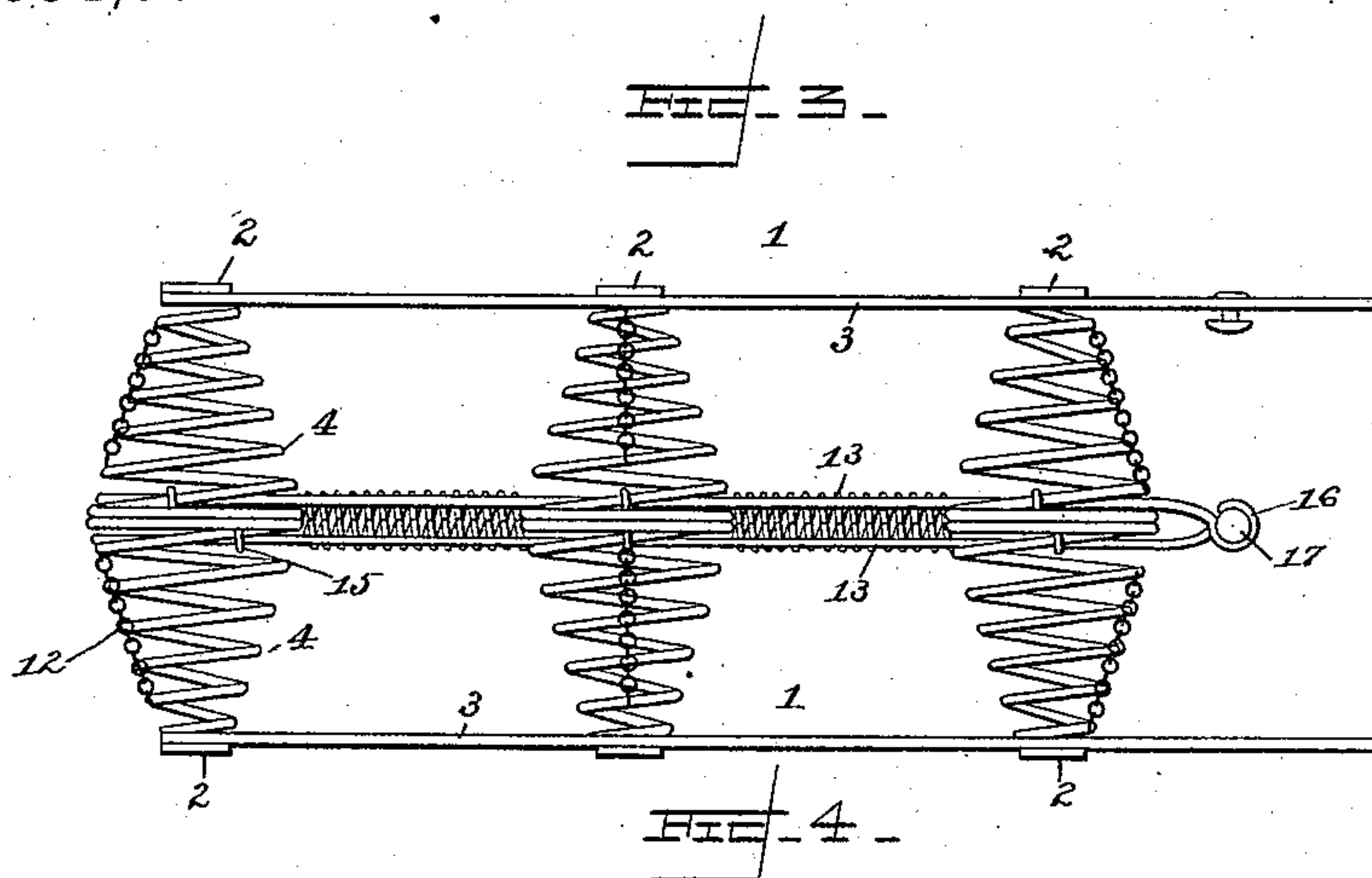
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Harold H. Simms.  
S. P. K. Haupt.

By their Attorneys.

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Peter U. Miller and  
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# UNITED STATES PATENT OFFICE.

PETER U. MILLER AND MILTON T. ZUCK, OF EASTON, PENNSYLVANIA; SAID  
ZUCK ASSIGNOR TO SAID MILLER.

## SPRING BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 534,338, dated February 19, 1895.

Application filed July 10, 1894. Serial No. 517,127. (No model.)

*To all whom it may concern:*

Be it known that we, PETER U. MILLER and MILTON T. ZUCK, citizens of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Spring Bed-Bottom, of which the following is a specification.

This invention relates to spring bed bottoms; and it has for its object to provide a new and useful spring bed bottom in which the springs thereof are firmly braced and connected together to obviate displacement, and providing for an even distribution of the weight placed on the bottom, while at the same time making provision for the folding of the bottom into a comparatively small compass for the purpose of shipping and storage.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings:—Figure 1 is a top plan view of a spring bed bottom constructed in accordance with this invention. Fig. 2 is a transverse sectional view on the line  $x-x$  of Fig. 1, with the folding sections of the bottom opened. Fig. 3 is an end view, of the bed bottom showing the sections folded. Fig. 4 is an enlarged detail plan view of a section of the bed bottom showing more clearly the detachable connections between the separate spring supporting frames and the hinge connection between the wire stiffening frames. Fig. 5 is a small detail sectional view on the line  $y-y$  of Fig. 4.

Referring to the accompanying drawings, 1—1 designates separate spring supporting frame sections each comprising a series of parallel longitudinal spring metal slats or bands 2, and a similar series of transverse slats or bands 3, securely riveted to the longitudinal slats 2, at the points of intersection therewith, and said sections 1 when connected together comprise a complete bottom frame for the support of the spiral springs 4, that are securely fastened to the longitudinal slats or bands 2. The said spiral springs 4 are of the ordinary construction and are arranged in any desired number on the supporting

frame sections 1, and the inner ends of the transverse slats or bands 3, of said frame sections are extended beyond the innermost of the longitudinal slats or bands 2, and are adapted to overlap each other when the bed bottom is spread open for use. The inner projecting ends of the transverse slats or bands 3, of one of said frame sections 1 are provided on their upper sides with headed lock studs 5, which are adapted to detachably interlock with the slots 6, formed in the inner ends of the transverse slats or bands of the opposing or other frame section 1, and said slots 6, are enlarged at one end into the widened entrance openings 7 that are adapted to slip over the heads of said studs in engaging and disengaging the slots therewith.

When the frame sections 1 are spread open the overlapping inner ends of the transverse slats are detachably locked together by the means described, and in order to fold one section of the bottom upon the other it is simply necessary to first draw the same slightly apart in order to bring the openings 7, over the heads of the studs 5, and by then separating the overlapped inner ends of the transverse slats of the separate frame sections, one of such sections carrying the springs mounted thereon can be easily folded upon the other, as illustrated in the drawings, to provide for the convenient handling of the bed bottom either in shipping or for storage purposes. All of the spiral springs 4, that are fastened on the longitudinal slats of each of said frame sections have their upper coils connected by the coil-spring bridges 8, which connect the upper coils of every four adjacent springs including those springs forming the inner rows of each section of the bed bottom, and intermediate connecting coil springs 10, also connect the upper coils of the springs in the same longitudinal row in order to provide a firm but yielding bracing connection between all of the springs, and it is to be further noted that at opposite ends of the bed bottom are arranged the diagonal coil bracing springs 11. The diagonal coil bracing springs 11, are connected at their lower ends to the lower coils of the end springs, excepting those at the corner of the bottom, and at their upper ends are connected with an upper coil of the next



adjacent spring in the same longitudinal row so that additional means shall be provided for maintaining all the springs comprising the bed bottom uniformly in place and preventing the canting or displacement of any one spring. In addition to the connections just described the outermost spring of the bottom at the sides and end are held in tension and prevented from tipping or working out of place by means of the short brace springs or chains 12, connected at their lower ends to the lower coils of the springs and at their upper ends to one of the upper coils, and said short brace springs or chains will serve to correct any tendency of the outer side and end springs to work out of place, by causing the same to always resume or be held to their normal positions, and together the bracing connections for the springs will provide for always maintaining an even spring surface when the bed bottom is in use.

The entire set of springs and particularly the outer side and end rows thereof are bound together and stiffened by means of the rectangular wire stiffening frames 13. The wire stiffening frames 13, consist of continuous lengths of wire rods that are bent upon themselves at the corners of the bed bottom as at 4<sup>a</sup>, in order that the said frames may be arranged continuously so as to extend under the top coils of the outermost side and end springs, and the said wire stiffening frames are connected or fastened to the springs through which they extend by means of clasps 15, or other suitable connections which will serve to hold the said stiffening frames properly in position under the top coils of the springs through which they extend. The opposite extremities of each of said rectangular wire stiffening frames that are arranged on each section of the bed bottom terminate at a point in a line with the longitudinal center or hinging point of the bed bottom, and at such extremities the wire rods forming said frames are formed into hinge eyes 16, that overlap and receive the hinge rivets 17, which serve to hinge the separate stiffening frames together in order to not interfere with the folding of the bottom sections when the supporting frame sections are disconnected. It is very important, to obviate any straining of the parts in folding and opening of the bottom sections, that the end portions of the separate wire stiffening frames be always maintained in a perfectly straight alignment, and to provide for this the end terminals of one of said wire stiffening frames are slightly curved or bent to one side as at 17<sup>a</sup>, so as to dispose the hinge eye at such terminal at one side of the adjacent hinge eye of the other stiffening frame without substantially interrupting the continuity or alignment of the end portions of said wire stiffening frames.

By reason of the employment of the hinged

wire stiffening frames it will be obvious that the springs are not only bound and stiffened together, but in the event of any uneven or heavy pressure on the edges of the bed, the said wire stiffening frames will distribute the strain to four or more springs and thereby prevent any one spring from receiving the entire strain.

From the above it will be obvious that the herein described bed bottom possesses the qualifications claimed, and it will be understood that changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a spring bed bottom, the combination of these separate supporting frame sections each comprising a parallel series of spring metal longitudinal and transverse slats joined together at their points of intersection, the inner projecting ends of the transverse slats of one section being provided with headed lock studs, and the inner projecting ends of the other sections being provided with slots widened at one end into entrance openings and adapted to interlock detachably with said headed lock studs, and the flexibly connected spiral springs fastened on the longitudinal slats of said frame sections, the flexible connection of the springs admitting of the disconnection of the locked slats when the bed bottom is opened, by drawing the sections apart substantially as set forth.

2. In a spring bed bottom, the combination of separate spring supporting frame sections detachably connected together in a line with the longitudinal center of the bed bottom when the latter is opened up, the flexibly connected spiral springs fastened on said frame sections, wire stiffening frames arranged to continuously extend under the upper coils of the outer side and end springs on each frame section, said wire stiffening frames being fastened to each spring through which they extend and having their extremities terminating in overlapping hinge eyes disposed at the longitudinal center of the bed bottom, the extremities of one of said frames being slightly curved or bent to one side, and hinge rivets engaging the overlapping hinge eyes of said wire stiffening frames, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

PETER U. MILLER.  
MILTON T. ZUCK.

Witnesses:

JACOB F. RAFFERTY,  
JOHN M. STEWART.