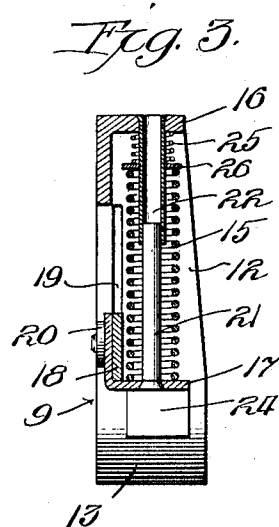
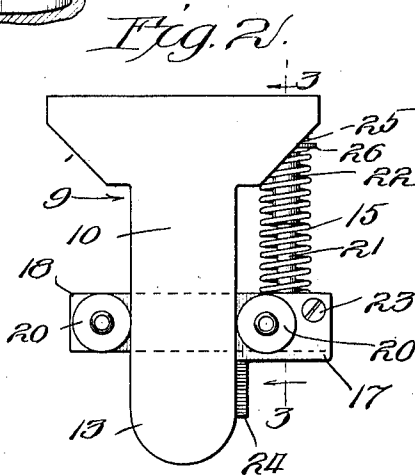
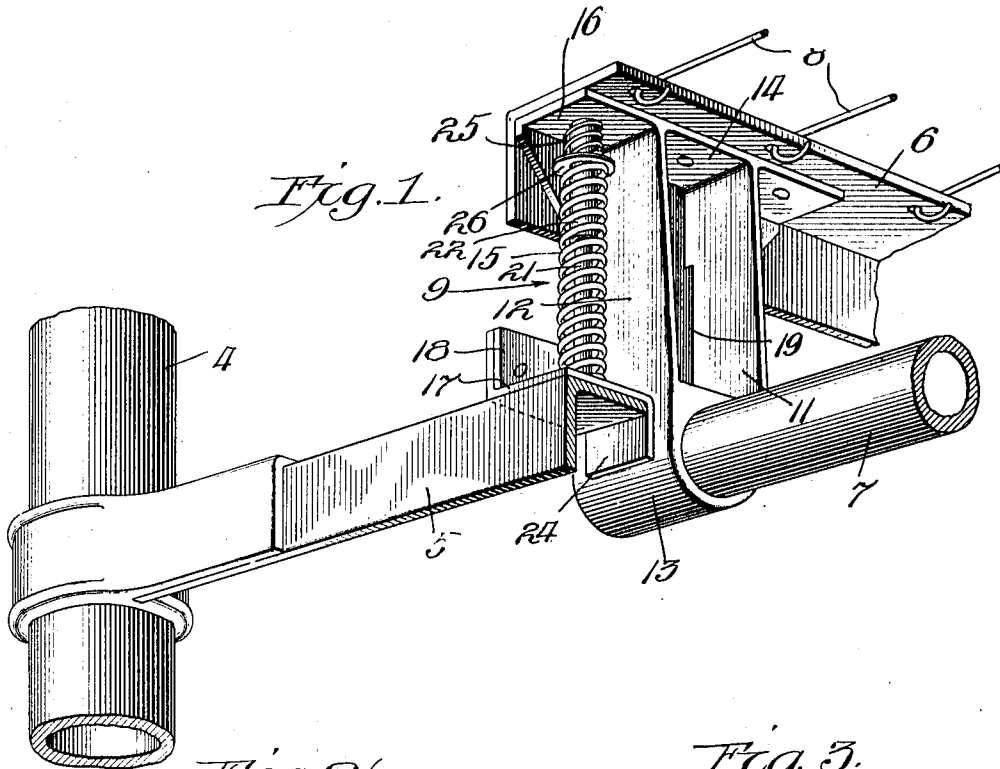


V. HENCE.
BED SPRING.

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1,055,277.

Patented Mar. 4, 1913.



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VINCENT HENCE, OF CHICAGO, ILLINOIS.

BED-SPRING.

1,055,277.

Specification of Letters Patent.

Patented Mar. 4, 1913.

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To all whom it may concern:

Be it known that I, VINCENT HENCE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bed-Springs, of which the following is a specification.

The present invention relates particularly to a spring support for beds and the like, whereby a yielding connection is established between the bed-springs and the side rails of the bed-frame.

It will be understood that the ordinary bed-spring consists of a comparatively rigid framework, between the ends of which are stretched springs or any suitable yielding fabric, the corners of the framework resting upon the side rails of the bed-frame. This being the case, the bed-spring will not be evenly supported at its four corners, unless the bed-frame is standing on an even floor, and the bed-spring is perfectly true. Furthermore, when no yielding connection is provided for the corners of the bed-frame, the only spring-action which can be obtained is that in the fabric of the bed-spring itself.

I am aware of the fact that constructions have previously been devised for providing yielding supports between the corners of the bed-spring and the frame. However, as a general rule, such yielding supports have always been in the form of structures entirely separate and distinct from either the bed-spring or the bed-frame, so that when they are used, the bed-spring is sustained considerably higher than is desired. I am aware of a construction in which the yielding connection constitutes a portion of the bed-spring itself, but in such construction, it has been necessary to extend a bar or other like device clear across the bed-frame from one side rail to the other. This is objectionable both on account of the added cost of such bars, and on account of the necessity for using a different length of bar for each width of bed.

The present invention is intended to provide the desirable features of a construction in which the yielding connection constitutes a portion of the bed-spring proper without the necessity of using a bar or the like, extending clear across from one side of the bed-frame to the other. In other words it is intended to provide a yielding connection for the bed-spring, the construction of which shall be entirely self-contained, thus making it unnecessary to employ bars, rods,

or any other supplementary devices whatsoever.

Other objects and uses will appear from a detailed description of the invention which consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 shows a perspective view of the corners of the bed-spring and bed-frame, showing particularly the device of my invention; Fig. 2 shows a back view of the device; and Fig. 3 shows a section taken on the line 3—3 of Fig. 2, looking in the direction of the arrows.

In the several figures, the corner post of the bed is designated by the numeral 4. One of the side rails 5 is shown, but the back rail is not illustrated for the reason that it would be lower down on the post.

The numeral 6 designates the end bar or angle of the bed-spring and the numeral 7 designates one of the side tubes or rods thereof. The ends of a portion of the yielding fabric are shown at the points 8.

The yielding connection of the present invention is designated by the numeral 9. It constitutes one of the corners or risers of the bed-spring and thus serves to establish the connection between the end rail 6 and the side bar 7 thereof. For this purpose, it comprises a back plate 10 which is reinforced by side webs 11 and 12. A socket in the bottom portion 13 receives the end of the side bar 7, while a top plate 14 may be connected to the cross rail 6 by means of screws, bolts, or the like. In this way, a perfectly firm and solid connection is established between the side and cross rails of the bed-spring.

It is customary to allow the side rail of the bed-spring to sit down just inside of the side rails of the bed-frame. This being the case, in order to establish a yielding connection between the bed-spring and the bed-frame, I have provided a connection, in which the downward pressure is exerted at a point directly above the side rail of the bed-frame. For this purpose, I have interposed a spring 15 between an extension or flange 16 of the riser 9 and an angle-piece or bearing 17. The latter rests directly on the side rail of the bed-frame, so that the downward thrust is direct, and there is no tendency to twist the angle-piece. For the purpose of guiding the angle-piece in its up and down movements, I have attached it to a short bar 18 which extends through

slots 19 of the side webs, and occupies a fixed position with respect to the side rail of the bed-frame as the bed-spring rises and falls. Rollers or the like 20 may be connected to the cross-bar for the purpose of improving its riding qualities. A guide rod 21 secured to the angle-bearing 17 has its upper end entered into and working within a tube 22 which in turn is connected to the extension 16. The spring surrounds the rod and tube, so that the latter serve to prevent any buckling of the spring and further improve the riding qualities of the device.

For the purpose of facilitating the assembling of the several parts, and particularly inasmuch as it is desired to assemble them with the spring under an initial compression, I have provided a screw-connection 23 between the angle bearing and the cross-rod. In this way, the spring which is normally longer than the distance between the angle-bearing and the extension or flange 16 can be compressed the necessary amount to bring the angle-bearing up to the cross-bar 17, and then the parts can be screwed together.

For the purpose of still further guiding the angle-bearing and preventing any possible twisting, which might lock the cross-bar 18, I have provided a downwardly extending ear 24 on the angle-bearing which ear rests against the side face of the web 12. Also, for the purpose of improving the riding qualities of the device as a whole, I have split the spring into parts. The lower part is comparatively stiff, while the upper part 25 is of lighter construction and yields first. A disk 26 is interposed between the two springs. With this arrangement, the lighter or initial movements of the bed-spring will be taken up by the spring 25 while heavier loads will cause the heavy spring to come into action.

I wish particularly to emphasize the fact that by means of the herein described construction, or its equivalent, I have provided an arrangement such that the weight is supported at a point directly above the side rail of bed-frame, so that the spring of the yielding connection is at all times subjected to a direct thrust, and so that no twisting force is exerted on the angle-bearing or on the bar 18. These results are accomplished without the necessity of extending a cross-bar entirely from one side rail of the bed-frame to the other. In other words, by means of the arrangement herein shown and described, or its equivalent, an entirely self-contained structure is provided, notwithstanding the fact that it really constitutes a corner connection of the bed-spring proper.

I claim:

1. In a device of the class described, the

combination of a riser having a pair of oppositely disposed vertical slots, an extension connected to the upper portion of the riser, a guide bar extended horizontally through the slots, and having one of its ends projecting to a point beneath the extension, a bearing member beneath the extension and secured to said projecting end of the guide bar, and a spring interposed between the extension and the bearing member, substantially as described.

2. In a device of the class described, the combination of a riser having a pair of forwardly extending vertical side webs, there being oppositely disposed vertically extending slots in said webs, a bearing member mounted adjacent to one web, a portion of the riser extending sidewise to a point directly above the bearing member, a spring interposed between said extending portion and the bearing member, a guide bar mounted for vertical movement in the slots of the webs and having one of its ends secured to the bearing member, and rollers on said guide bar, adapted to engage the riser for guiding purposes, substantially as described.

3. In a device of the class described, the combination of a riser adapted to have vertical movements along the side of a bed rail, a sidewise projecting extension on said riser, adapted to travel in a vertical line above the bed rail, a bearing member seated on the bed rail, means for guiding the riser in its vertical movements with respect to the bearing member, a telescopic guide secured to the extension and to the bearing member, for the purpose of guiding the extension in its vertical movements, and a spring surrounding the said telescopic connection and interposed between the bearing member and the extension, substantially as described.

4. In a device of the class described, the combination of a riser, a bearing member mounted adjacent to one side of the same, a portion of the riser which extends sidewise to a point directly above the bearing member, co-acting guide members on the bearing member and on said extending portion, for guiding the extending portion in its vertical movements, and a pair of springs of unequal resisting power placed in tandem between the bearing member and the extending portion, whereby the weaker of said springs will first yield to permit movements of the extending portion under comparatively small loads, and whereby the stronger of said springs will subsequently yield to permit movement of the extending portion under greater loads, substantially as described.

VINCENT HENCE.

Witnesses.

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