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SPRING ELEMENT FOR MATTRESS AND BED SPRING

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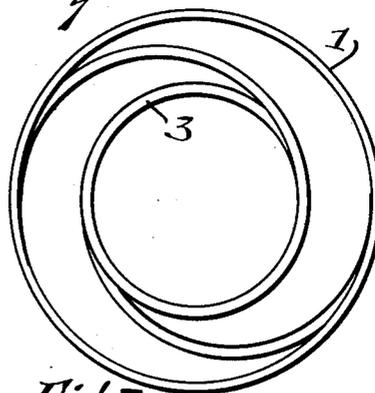
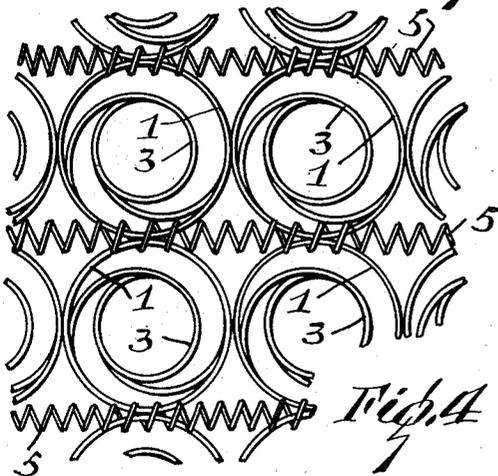
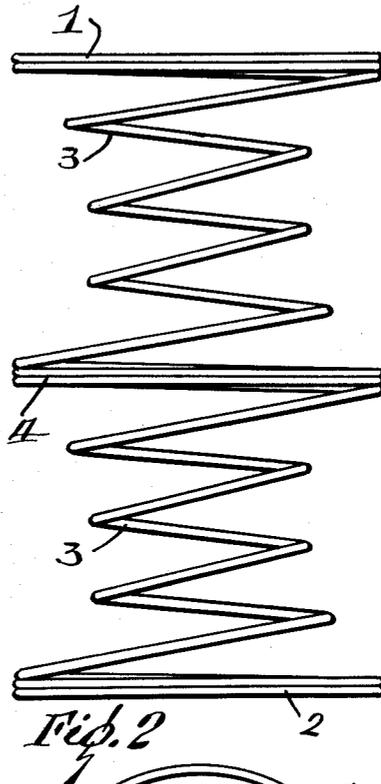
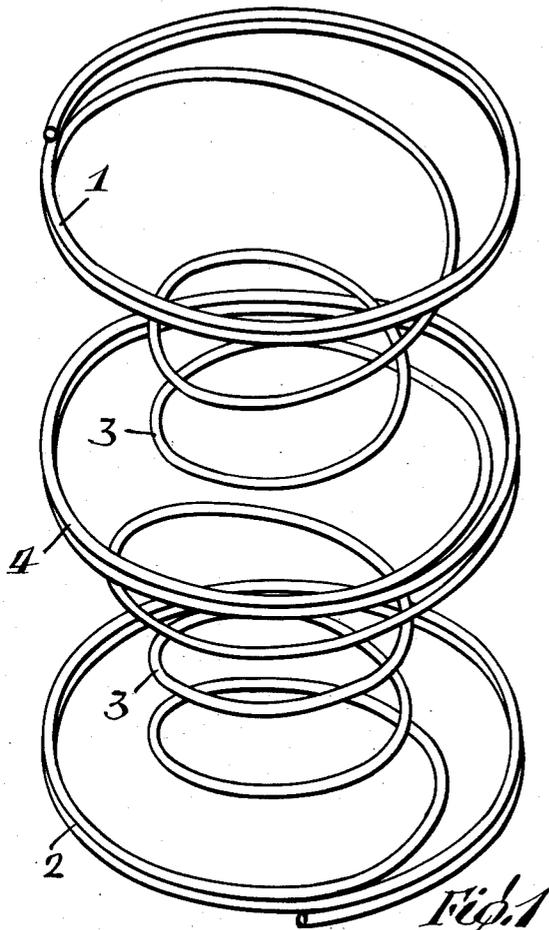


Fig. 3
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3,076,203
**SPRING ELEMENT FOR MATTRESS
 AND BED SPRING**

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 2 Claims. (Cl. 5-256)

The present invention relates to a new spring element for mattresses and bed springs and has for its main object the provision of a new spring element which enables to connect the plurality of spring elements in a mattress or bed spring not only at the top and bottom thereof, but also at mid-height, so as to provide three levels of connections between the spring elements.

Yet another important object of the present invention resides in the provision of a spring element of the character described which provides for the construction of bed springs and spring mattresses in which the spring elements are prevented from lateral displacement and deformation thereby preventing torsion of the spring elements, breakage of the same and piercing of the cloth surrounding the assembly of springs in a mattress.

Still another important object of the present invention is the provision of a spring element of the character described of inexpensive construction and of improved elasticity and which is well adapted for assembly into bed springs or spring assemblies for mattresses by the conventional method of fabrication.

The foregoing and other important objects of the present invention will become more apparent during the following disclosure and by referring to the drawings, in which:

FIGURE 1 is a perspective view of a spring element in accordance with the invention;

FIGURE 2 is an elevation view of the same;

FIGURE 3 is a top plan view; and

FIGURE 4 is a partial top plan view of a spring assembly for mattresses or bed springs using the spring elements of the invention.

In the drawings, the same reference characters indicate the same elements throughout.

The spring element in accordance with the invention comprises a resilient wire spirally wound to form two contiguous convolutions 1 at the top end of the spring element and two contiguous convolutions 2 at the bottom end of the spring element and of the same diameter as the convolutions 1. In conventional spring elements the convolutions 1 and 2 are present and are interconnected by spaced convolutions which have a smaller diameter.

In accordance with the present invention, the two groups of contiguous convolutions 1 and 2 are also connected by spaced convolutions 3 of smaller diameter but the spring element of the invention is characterized by the presence at mid-distance between the groups of convolutions 1 and 2 of an additional pair of contiguous convolutions 4 which have a diameter equal to the convolutions 1 and 2.

To build a bed spring or a spring mattress with the spring elements of the invention, the latter are disposed in adjacent rows and the three pairs of larger diameter contiguous convolutions are united to each other by

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means of horizontally extending spiral wires 5 which are wound over one convolution of each pair so as to be squeezed between the two contiguous convolutions in each pair. Thus there are helical wires 5 disposed at three levels, namely: at the levels of the top pair 1, intermediate pair 4 and lower pair 2 of the contiguous convolutions.

Other means than wires 5 may connect the spiral elements.

Thus, the feature of the invention resides in the provision of the convolutions 4 which enable to guide or stay the spring elements at mid-distance between their top and bottom. The resulting spring assembly has a longer duration and will not become deformed under load by lateral displacement of its center portion.

While a preferred embodiment in accordance with the present invention has been illustrated and described, it is understood that various modifications may be resorted to without departing from the spirit and scope of the appended claims.

What I claim is:

1. A spring element for spring mattresses and bed springs consisting of a single resilient metal wire spirally wound and forming at each end a group of at least two contiguous convolutions and at mid-distance between the two ends, an additional group of, at least two contiguous convolutions of substantially the same diameter as the convolutions at the two ends of the spring element, and spaced spiral convolutions, of a diameter smaller than the diameter of said groups of contiguous convolutions, uniting said three groups of contiguous convolutions.

2. A spring assembly for spring mattresses and bed springs, comprising a plurality of spring elements disposed in adjacent rows, each spring element consisting of a single resilient metal wire wound in spiral and constituting at each end a group of at least two contiguous convolutions and at mid-distance between said two ends another group of at least two contiguous convolutions of substantially the same diameter as that of the contiguous convolutions at the two ends of the spring element, spaced spiral convolutions, of a diameter smaller than the diameter of said three groups of contiguous convolutions, uniting said three groups of contiguous convolutions, and spirally wound wire means interconnecting, threaded around and uniting the adjacent portions of one of the contiguous convolutions of two adjacent spring elements for each group of contiguous convolutions.

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