

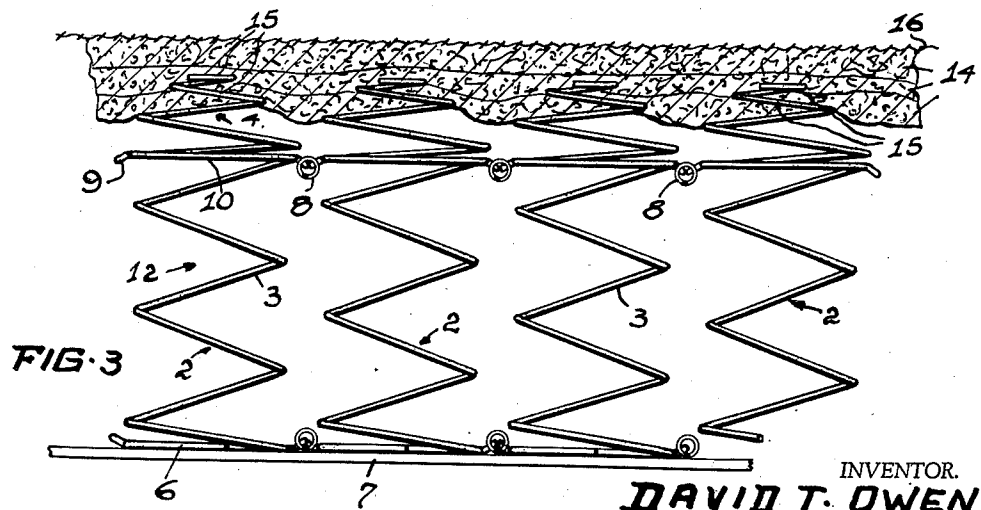
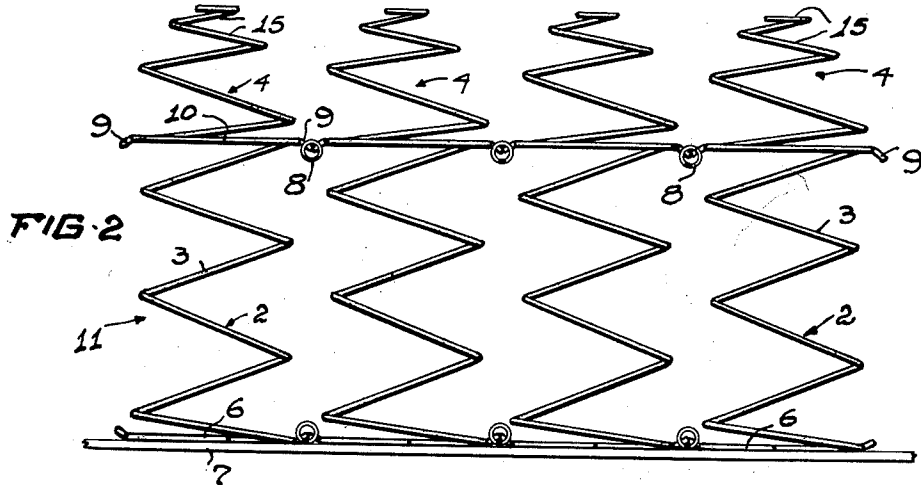
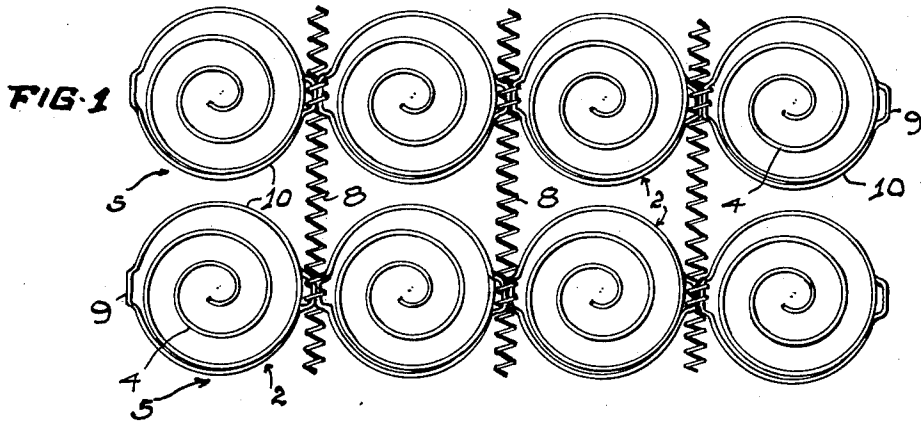
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SPRING AND SPRING CONSTRUCTION

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SPRING AND SPRING CONSTRUCTION

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6 Claims. (Cl. 5—351)

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This invention relates in general to inner spring mattresses, upholstery constructions and similar devices and, more particularly, to coil springs and coil spring cushion structures for such devices. Springs and spring cushion structures of this type have a height of approximately five inches to avoid swaying of the structures and necessitate substantial built-up by layers of stuffing and cotton to provide structures with the customary height of approximately seven inches. However, thus constructed mattresses and upholstery constructions rapidly deform when in use, as their stuffing and cotton layers pack, causing sagging of the structures and wrinkling of their covers.

The general object of the present invention is the provision of mattresses and upholstery constructions which embody springs with a main body portion and an auxiliary portion integrally extended from one end of said main body portion. In these springs, the auxiliary portion is constructed to counteract sagging of the constructions when their stuffing and cotton layers pack. Another object of the invention is the provision of an integral wire coil spring embodying a main body portion having substantially cylindrical shaped outline and an auxiliary, spirally wound top portion having substantially cone-shaped outline and integrally extended from one end of the main body portion.

A further object of the invention is the provision of an integral wire coil spring embodying a main body portion having substantially cylindrical shaped outline, an auxiliary, spirally wound top portion having substantially cone-shaped outline, and outwardly extended offset portions in the main body portion arranged in the area between said main body portion and said auxiliary top portion.

In addition, the invention has certain other marked superiorities which radically distinguish it from presently known structures. These improvements or superiorities embodying certain novel features of construction are clearly set forth in the following specification and the appended claims; and a preferred form of embodiment of the invention is hereinafter shown with reference to the accompanying drawing forming part of the specification.

In the drawing:

Fig. 1 is a fragmentary plan view of a spring seat structure assembled from wire coil springs made in accordance with the invention;

Fig. 2 is a front view of the structure shown in Fig. 1; and

Fig. 3 is a fragmentary sectional view through

an inner spring mattress with a pretensioned spring construction of the type shown in Figs. 1 and 2 arranged therein.

Referring now in detail to the exemplified form of the invention shown in the drawing, reference numeral 2 represents coil springs embodying a main body portion 3 of cylindrical or hour-glass type and a cone-shaped, helically wound top portion 4 integrally extended from one end of main body portion 3. Springs 2 which are arranged in horizontal rows 5 have their bottom coils 6 secured to a base 7 of suitable material and are tied to each other by wire coils 8 threaded upon outwardly and downwardly inclined offsets 9 in the upper coils 10 of main body portions 3, an arrangement sub-dividing the thus formed spring construction into a supporting spring structure 11 and a plurality of individual cone-shaped, helically wound top portions 4 freely extended upwardly from said supporting spring structure for individual action with respect to each other.

The above described construction, when used in innerspring mattresses and upholstered spring constructions, provides such devices with a readily yielding soft top portion which cannot be deformed by sagging, as the auxiliary individually acting cone-shaped, pretensioned helical top portions 4 of the spring construction automatically compensate sagging caused by packing of stuffing or cotton supported by these top portions. This will best be understood from an inspection of Fig. 3 which shows in its sectional view a spring construction 12 of the type previously described. Springs 2 of construction 12, which are coupled with each other by wire coils 8, support with their upwardly extended cone-shaped top portions 4 layers of cotton 14 having extended thereinto the smaller coils 15 of top portions 4 to effect working of these layers by said coils, so as to prevent their packing. A cover member 16 is tightly drawn over layers 14 to pretension top portions 4, and any deformation, sagging or wrinkling of the top surface of the upholstered spring construction by packing of its stuffing and cotton layers is prevented by pretensioned top portions 4 which automatically compensate for such packing.

Having thus described my invention what I claim is:

1. A wire coil spring comprising a main body portion, an auxiliary, spirally wound top portion integrally extended from one end of said main body portion, and oppositely located offsets formed in an intermedial coil of the spring near the said one end of its main body portion.

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2. A wire coil spring comprising a main body portion, an auxiliary, spirally wound top portion integrally extended from one end of said main body portion, and outwardly and downwardly extended oppositely located offsets formed in an intermedial coil of the spring near the said one end of its main body portion.

3. A wire coil spring construction comprising a plurality of springs arranged in rows coupled with each other, said springs each embodying a main body portion, and an auxiliary, spirally wound top portion integrally extended from one end of said main body portion, and means coupling the end coils of the main body portions of the springs with each other to provide a spring construction having a main spring body and spirally wound, individual auxiliary springs integrally extended from said main spring body.

4. A wire coil spring construction comprising a plurality of springs arranged in rows coupled with each other, said springs each embodying a main body portion, an auxiliary, spirally wound top portion integrally extended from one end of said main body portion, and oppositely located offsets in an intermedial coil of the spring near the said one end of its main body portion, and means coupling the offsets of the springs with each other to provide a spring construction having a main spring body and a plurality of spirally wound, individual auxiliary springs integrally extended from said main spring body.

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5. In an upholstered spring construction a plurality of springs each embodying a main body portion and an auxiliary, spirally wound top portion integrally extended from one end of said main body portion, means to couple the main body portions of the springs to form a wire spring construction having a unitary main spring body and a plurality of spirally wound, individual auxiliary springs integrally extended from said main spring body, and stuffing supported by said individual auxiliary springs.

6. An upholstered spring construction as described in claim 5, wherein said stuffing is partly embedded in the end coils of said auxiliary springs.

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