Oct. 3, 1933. W. H. WILMOT 1,928,918

SPRING MATTRESS

Filed March 2, 1932

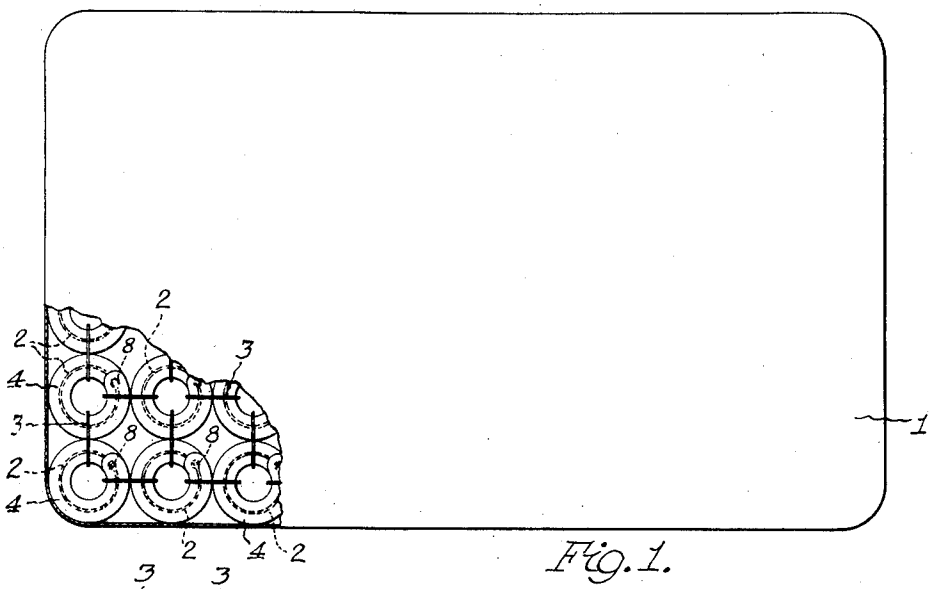


Fig. 1.

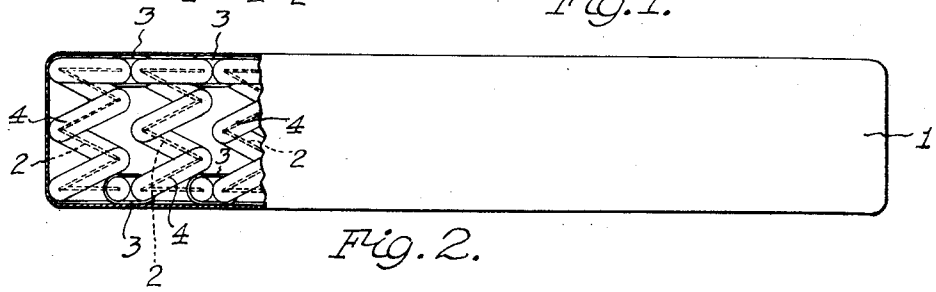


Fig. 2.

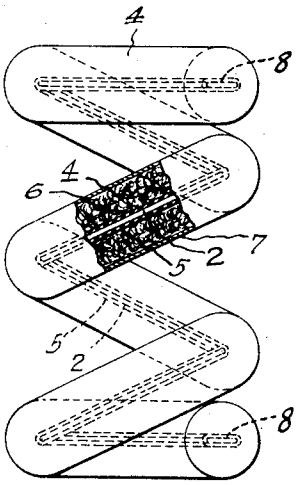


Fig. 3.

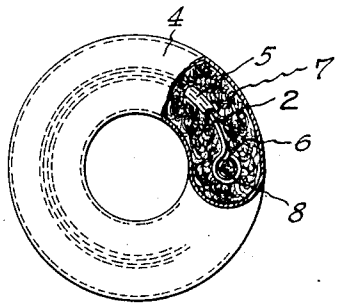


Fig. 4.

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SPRING MATTRESS

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3 Claims. (Cl. 5—248)

This invention relates to a spring mattress, seat cushion, or similar structure in which resiliency is secured through the employment of a plurality of coiled springs, and an object of the present invention is to secure a cushioning effect between the turns of each coiled spring, whereby one turn is cushioned upon and yieldingly supported by an adjacent turn of each spring under load, preventing the imparting of a set to the spring by the application of too heavy a load thereon or continued application of a heavy load thereto.

A further object is to provide a construction wherein a freely yieldable cushioning member of much greater external diameter than the diameter of the wire forming the spring, is applied to each turn of the spring to give a gradual cushioning effect between the turns as they approach each other under load, and also prevent the turns from contacting each other with consequent noise.

A further object is to provide means whereby a comparatively soft flexible cushioning member, preferably formed of fibrous material, such as cotton or the like, is confined to hold it in shape, and also attached at its ends to the ends of the spring to prevent wrinkling or bunching up and slipping longitudinally upon the wire of the spring.

With the above and other ends in view, the invention resides in the matters hereinafter set forth and more particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which—

Figure 1 is a partial plan view of a mattress illustrative of an embodiment of the invention, with a portion of the covering broken away to disclose the spring construction beneath;

Fig. 2 is a side elevation of Figure 1 with a portion of the covering broken away;

Fig. 3 is a side elevation of one of the springs detached and enlarged;

Fig. 4 is an end elevation of Fig. 3 and partly in section.

As shown in Figures 1 and 2, the mattress or other similar structure comprises the usual casing 1 of fabric or other suitable material forming the top, bottom and end and side walls thereof. Within this casing is a spring structure including the usual plurality of coiled springs 2 set in an upright position and tied together at their upper and lower ends in any suitable manner as by wire loops 3 to provide a yieldable body within said casing or envelope, the mattress thus far described being of well known construction.

The present invention resides in providing a cushioning member indicated as a whole by the numeral 4 and which is sleeved upon the wire forming each spring, said member being preferably of cylindrical form in cross section and consisting of a small flexible axial tube 5 of rubber or other suitable material, to receive the wire of the spring, said tube having slightly greater internal diameter than the cross-sectional diameter of the wire, so that this tube may be readily slipped endwise upon the wire to extend the full length thereof. This tube 5 forms the core of a cylindrical body 6 of fibrous material, preferably of cotton or the like which is carried by this core and is provided with an outer covering or casing 7, preferably of fabric, to hold said body in place and in cylindrical form. This body 6 being of much greater diameter than the wire of the spring and also formed of loose yielding material, when sleeved upon the wire, covers the turns of the spring, and these turns of each spring are thus cushioned, one upon the other, the cylindrical cushion on one turn coming into contact with the cushion on the next turn when the spring is put under load. Each turn of each spring is therefore separately supported, yieldingly, and therefore the danger of imparting a set to the spring by too heavy a load or a heavy load which is long continued, is obviated. Due to the size of the cushion in diameter, a gradual cushion effect is secured as the turns of the springs approach each other when put under load.

In order to prevent this cylindrical cushion 4 from slipping endwise upon the wire and becoming bunched or knotted, the ends of the outer tubular fabric casing 7, are secured in any suitable manner to the ends of the wire, an eye 8 being preferably formed in each end of the wire to provide a place of attachment for the casing 7 thereto, and thus the comparatively loose soft fiber body is confined by its casing 7 and held in proper shape and position upon the wire, but in no way restricts the free flexure of the turns of the spring under normal load conditions. The cross-sectional diameter of the cushion member, will, of course, be varied according to the size of the coils and the space between adjacent turns, but will preferably be such that there will be a space between the cushion on one turn of the coil and the cushion on the adjacent turns when the spring is not under load.

This cushion 4 for each spring, may, as shown, be of such diameter that the cushion on one spring will just lightly touch the cushions on adjacent springs when the springs are not under

load, or the springs may be so spaced or the cushions may be of such cross-sectional diameter as to leave a space between adjacent cushions and thus prevent them from rubbing against each other in use and thus wearing the fabric covering 7 thereof.

Obviously other changes may be made within the scope of the appended claims, without departing from the spirit of my invention, and I do not, therefore limit myself to the particular construction shown.

Having thus fully described my invention, what I claim is:

1. In a spring structure, the combination of a coiled spring formed of wire with enlargements at its ends, and cushioning means for said spring comprising a fibrous body of cylindrical external form with said wire extending axially thereof throughout its length with said enlargements embedded in the end portions of said body, and a casing of thin flexible material enclosing and engaging the surface of said body throughout its length and closed at its ends to confine the ends of said body therein with said enlargements embedded within said end portions of said body, to secure said cushioning means to said wire.

2. In a spring structure, the combination of a spring formed of a coil of wire with a loop at each end, a tubular member sleeved upon said wire and covering the same between said loops, and cushioning means for said spring comprising a body formed of separate fibres loosely compacted into cylindrical form with said wire and tubular member extending through said body axially thereof and with said loops embedded in the end portions of said body, and a casing of fabric engaging the surface of said body throughout its length and with said casing ends closed to enclose the ends of the body and retain the same therein with said loops embedded therein, said casing maintaining the body in cylindrical form and together with said loops securing said body in place upon said wire.

3. In a spring structure, the combination of a plurality of vertically disposed coiled springs formed of wire, a tubular member sleeved upon said wire forming each spring and having an internal diameter substantially equal to the diameter of said wire and extending throughout the length of said spring, and cushioning means for each spring comprising a loose fibrous body of cylindrical form sleeved upon said tubular member throughout the length thereof, and a casing of thin flexible material enclosing said body in contact with the surface thereof throughout its length, said casing being closed at its ends over the ends of said body to confine the material of the body therein, said tubular member on said wire being formed of a material adapted to adhere to said wire and to which the fibrous material of the body is adapted to adhere to prevent said fibrous material from moving longitudinally of said wire and bunching up within said casing.

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