Feb. 13, 1951 F. EBERT 2,541,468

SPRING CUSHION WITH TELESCOPIC FRAME

Filed Oct. 3, 1949

Fig. 4

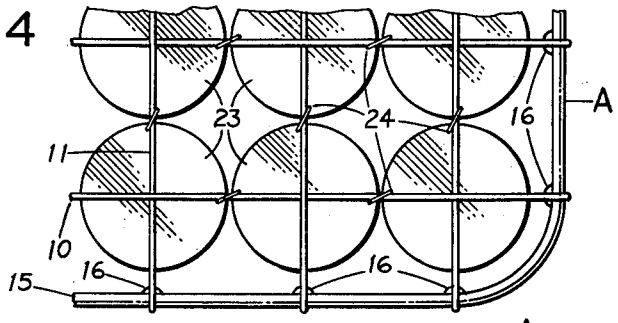


Fig. 3

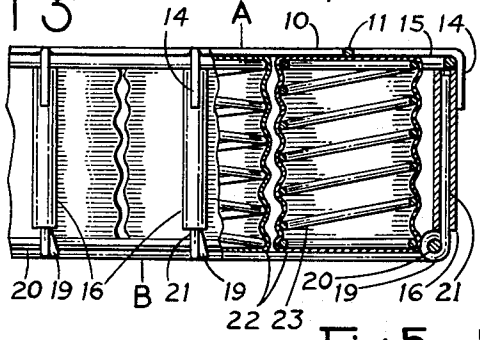


Fig. 2

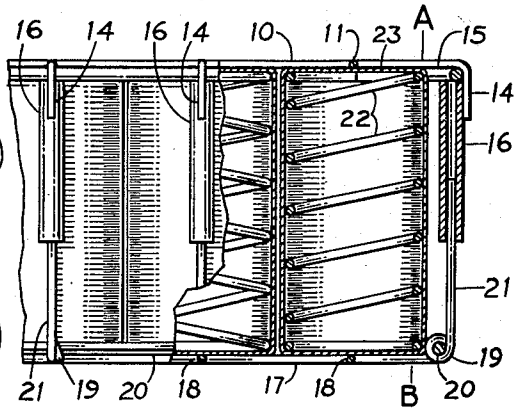


Fig. 5

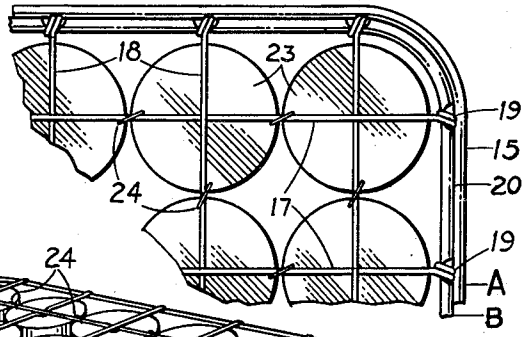
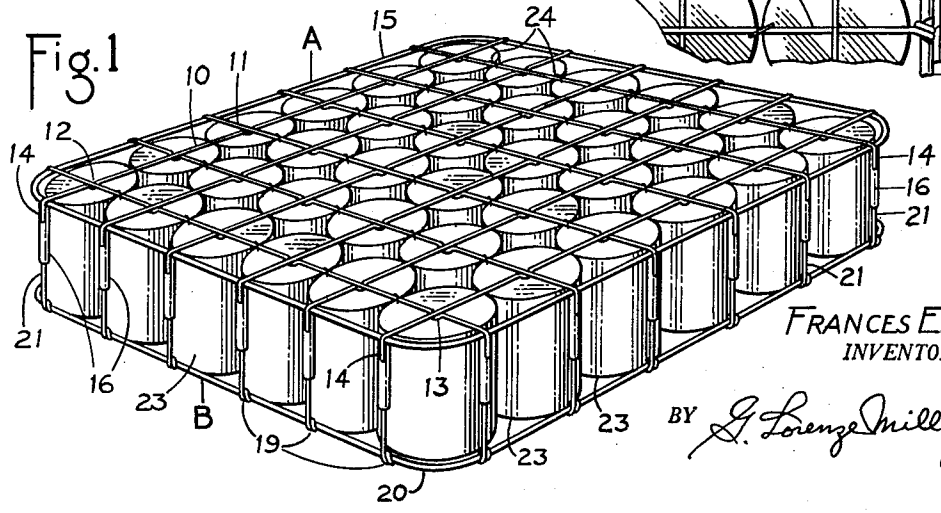


Fig. 1



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SPRING CUSHION WITH TELESCOPIC FRAME

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4 Claims. (Cl. 155—179)

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The present invention relates to a spring construction for vehicle seats, chairs, mattresses and the like.

Heretofore, the upper and lower frames of springs, such for example as are used for cushions in vehicle seats and other spring cushions which are subjected to constant off-center vertical compressions and constant weights have after considerable use become out of alignment. The result is that the springs, padding and covers therefor soon are very lopsided, uncomfortable and decidedly unsightly after extended use.

It is an object of the present invention to overcome the above disadvantage of frame misalignment and resulting spring and padding displacement by providing a novel telescopic connection between the upper and lower frames of the spring structure.

Another object is to provide a novel spring having upper and lower frame members which are connected together and held in position by vertical side members adapted to reciprocate one within the other, thereby increasing the strength, durability and flexibility of the assembly.

The above and further objects and advantages of the present invention will more fully appear from the following detailed description thereof, in which one embodiment of the invention is illustrated in the accompanying drawings.

In the drawings:

Fig. 1 is a perspective view of the invention, the spring cushion elements being extended fully, that is, not depressed, and it will be noted that no seat cushion or covering of any kind has been shown, as this feature may be of any suitable type, and is not part of the invention.

Fig. 2 is an enlarged view, partly in section of the right-hand end and partly in elevation of the left-hand end showing the device fully extended (not depressed), and indicating clearly the telescopic connecting members located between the top and bottom frame members.

Fig. 3 is a view similar to the Fig. 2, but showing the device depressed as it would appear if the whole assembly were to be depressed evenly and completely, over its entire area, the telescopic members shown depressed to their maximum capacity.

Fig. 4 is an enlarged fragmentary top plan view of one corner portion of the device, but not showing the bottom peripheral frame member or hoop to facilitate a clearer view.

Fig. 5 is an enlarged fragmentary bottom plan view of one corner portion of the device, showing both the top and bottom peripheral frame members or hoops.

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Referring in detail to the drawings, the present invention includes upper and lower frame members A and B. The upper frame A comprises a plurality of longitudinal rods or wires 10 and transverse rods or wires 11. These wires 10 and 11 are notched inwardly along their respective lengths to form notches 12 and 13, respectively. The wires 10 and 11 are crossed over and under each other at the notches to provide for strength of structure. Also, the notches are arranged so that a straight length of one of the cross wires seats therein to thereby avoid any outwardly projecting bumps in the assembled structure. This facilitates obtaining a smooth bed or frame foundation for the application of an overstuffed cushion or padding, not shown, and serves to impart firmness to the intercrossed wires 10 and 11 as it tends to prevent slippage of the crossed over wires.

The ends of each set of crossed wires 10 and 11 are bent downwardly to form right angled extensions 14 over a surrounding closed peripheral member, such as a wire loop or hoop 15, preferably of relatively heavier gage than the said cross wires, see Figs. 1, 2 and 3.

The right angle extensions 14 each have axially secured thereto, as by welding, a hollow tube 16 of metal or rigid material. This tube 16 opens downwardly in the direction of the lower frame B, which is likewise formed of cross wires 17 and 18, see Fig. 5. The cross wires 17 and 18 adjacent each of their free ends are formed into a coil 19 around the circumference of a closed wire loop or hoop 20. From the coil 19 the free ends of the wires 17 and 18 are bent upwardly to form right angled extensions 21. Each extension 21 telescopically fits within the bore of one of the tubes 16. Thus the two frames A and B are telescopically connected in such a manner as to be maintained in superimposed alignment.

Between the opposed faces of the frames are interposed a plurality of coil springs 22, each of which are shown covered with a cloth tube 23 and connected together and secured to the cross wires of the frames A and B by small ties 24, see Figs. 4 and 5.

Thus, there is provided a cushion or mattress frame construction and assembly possessing strength and durability, while at the same time being of such flexible nature as to maintain its shape and regular neat appearance even under heavy and rough usage, such as in motor trucks, theater seats, and the like.

While only one embodiment of the invention is described and illustrated, it is to be expressly

understood that other combinations and arrangements of the parts likely to be made by others skilled in the art are also to be considered as within the scope hereof. To determine the scope of the invention reference should be had to the appended claims.

I claim:

1. A cushion spring comprising an upper and lower frame, said frames each comprising a plurality of longitudinal and transverse wires crossed alternately over and under each other, a peripheral hoop connecting the wires of each frame, said free ends of the wires of the frames being bent over the said hoop at substantially right angles so their ends are directed toward each other, and a plurality of hollow members carried by the free ends of the wires of one of the frames positioned to telescope over the free ends of the wires of the other of the said frames.

2. A cushion spring comprising an upper and lower frame, said frames each comprising a plurality of longitudinal and transverse wires crossed alternately over and under each other, a peripheral hoop connecting the wires of each frame, said free ends of the wires of the frames being bent over the said hoop at substantially right angles so their ends are directed toward each other, a plurality of hollow members carried by the free ends of the wires of one of the frames positioned to telescope over the free ends of the wires of the other of the said frames each of said wires of the frames being notched to receive a straight portion of an alternately over crossed wire, and a plurality of coiled springs between the frames so that each notched portion of the frames is centered along an axial line of each spring.

3. A vehicle seat spring comprised of superimposed frames and telescopic side connection members between the frames holding the same in set alignment, the first and second of said frames each comprising a peripheral hoop, said hoop supporting a plurality of interwoven longitudinal and transverse wires, said first frame having the free ends of said wires bent over said hoop and downwardly at substantially right angles thereto, said second frame having the free ends of its said wires coiled around the circumference of its peripheral hoop and extending upwardly at substantially right angles thereto, and hollow tubular members carried by each of said free ends of the first frame in telescopic connection with each of the free ends of the said wires of the second frame.

4. A vehicle seat spring comprised of superimposed frames and telescopic side connection members between the frames holding the same in set alignment, the first and second of said frames each comprising a peripheral hoop, said hoop supporting a plurality of interwoven longitudinal and transverse wires, said first frame having the free ends of said wires bent over said hoop and downwardly at substantially right angles thereto, said second frame having the free ends of its said wires coiled around the circumference of its peripheral hoop and extending upwardly at substantially right angles thereto, hollow tubular members carried by each of said free ends of the first frame in telescopic connection with each of the free ends of the said wires of the second frame, and coiled springs axially centered at each crossing point of said wires adapted to normally retain the said telescopic connection extended.

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The following references are of record in the file of this patent:

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