April 8, 1947. J. M. CAUGHEY 2,418,697

SEAT SPRING

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FIG. 1.

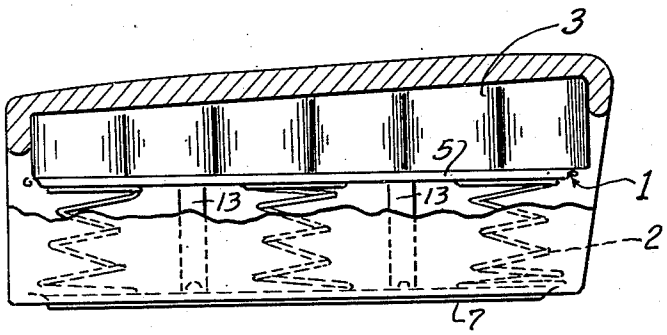
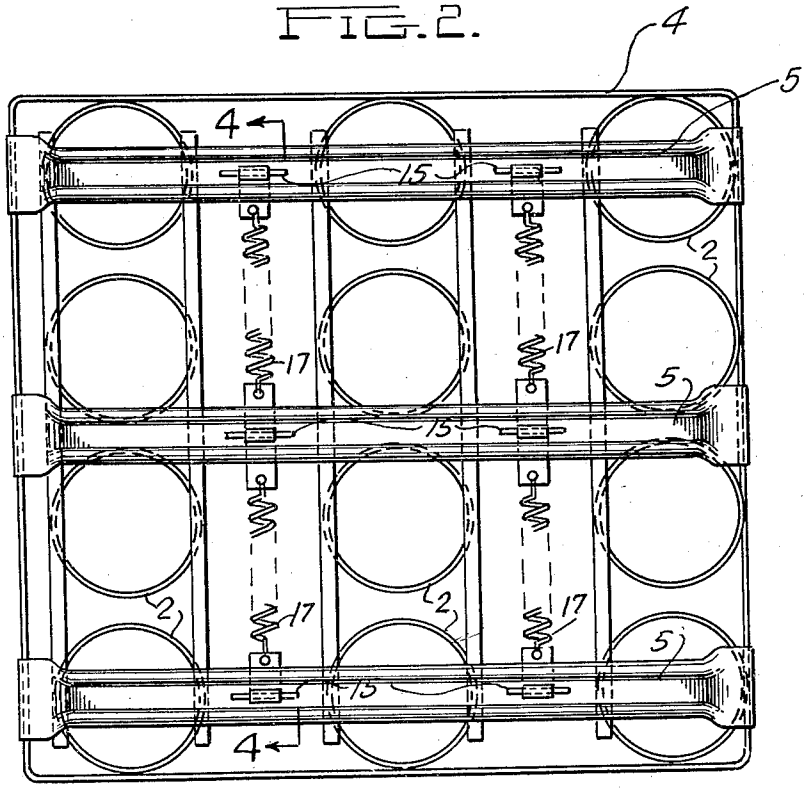


FIG. 2.



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FIG. 3.

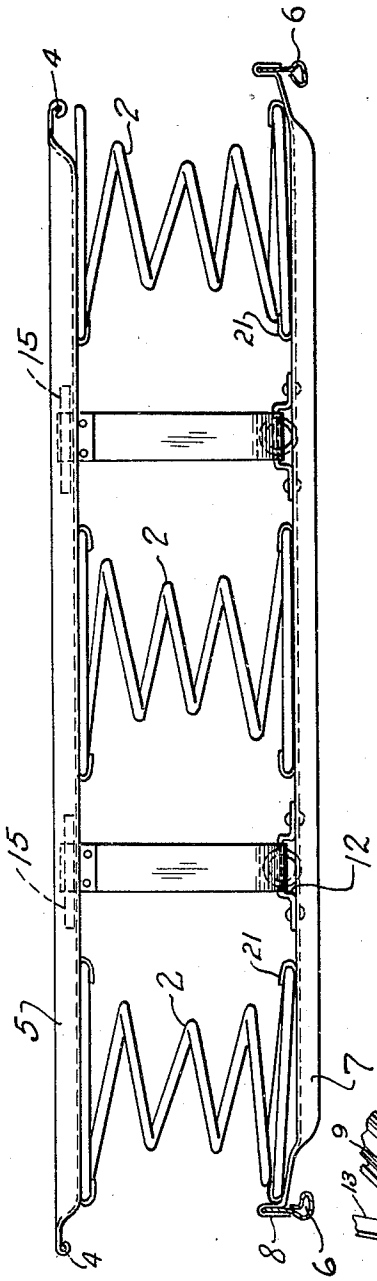


FIG. 4.

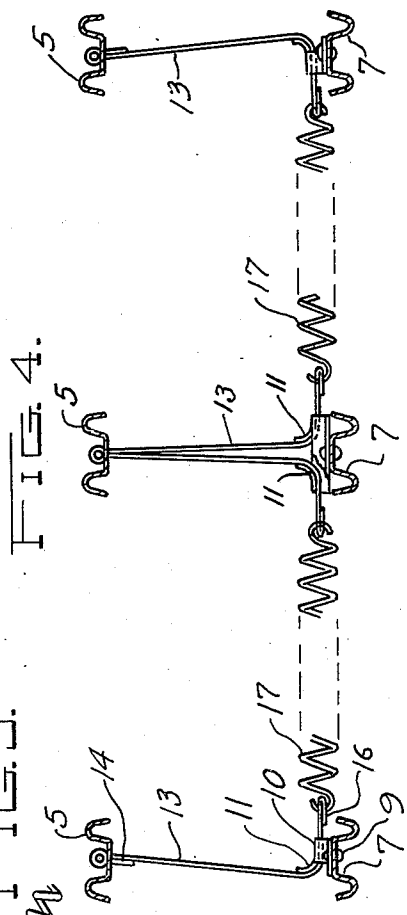
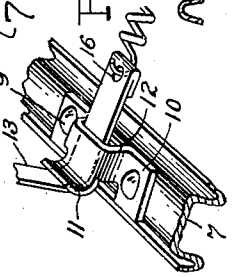


FIG. 5.



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SEAT SPRING

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Application September 2, 1944, Serial No. 552,409

4 Claims. (Cl. 155—179)

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This invention relates to seat springs, especially seat springs for automobiles, trucks, etc.

It is the object of the invention to provide a spring structure in which the throw of the springs is snubbed so that when the vehicle is traveling over rough roads and severe jolts occur, the tendency of the seat springs to throw the rider is minimized, if not substantially eliminated.

Referring to the drawings:

Fig. 1 is a schematic view of the seat cushion.

Fig. 2 is a plan view of the lower section of the seat spring.

Fig. 3 is an end elevation of the lower section of the seat spring.

Fig. 4 is a detail of the snubbing unit.

Fig. 5 is a fragmentary perspective of one of the cross bars showing the attached clip that forms a brake for the check strap.

The cushion is preferably a double-deck cushion, the upper deck 1 of which is supported by relatively strong hour-glass type springs 2. The upper deck supports a group of lighter springs as, for instance, the Marshall springs 3. However, I want it understood that my invention does not have to be used with the Marshall type of spring or, for that matter, with a double-deck spring. The deck 1 is made up of a border wire frame 4 with cross metal slats 5, preferably in the form of three channels, as shown in Fig. 4. The middle channel opens upwardly and the outer channels or beads open downwardly. The bottom frame has an outer border frame 6 of loop-like cross-section, which is shown and claimed in the Maurice Stubnitz Patent No. 2,359,451, dated October 3, 1944. The ends of the cross slats 7 are folded over the upstanding member of this border frame as at 8 and these cross slats have the same cross-section as the cross slats 5 of the deck, as shown in Fig. 4. But here the central channel opens downwardly and the two outer channels or beads open upwardly. Slats 7 have struck-out spurs 21 which secure the bottom coils of spring 2 to the slats. There are riveted by rivets 9 to the lower channel 7 the clips 10. These clips have a turned-up lug 11 or braking surface which is arched. The center of the clip is looped up, as at 12 (Fig. 3).

Leather or canvas straps 13 are folded over at their top, as shown at 14, to form a loop which can be poked up through an orifice in the deck slats 5 and then a pin 15 inserted to tie the end of the strap to the slat. The lower end of the strap is threaded around the arched lug or brake 11 and through the loop 12 and on the lower end has a fold and eyelet 16. The middle strap in

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Fig. 4 is a double one, that is, it has two runs passing over the two lugs or braking surfaces 10. The tension springs 17 are hooked onto the ends of the straps of adjoining slats, as shown in Fig. 4, which puts the straps 13 under an initial tension. This serves to hold the heavy hour-glass type springs 2 under a slight compression. This is a desirable thing in any seat cushion spring and various ways have been heretofore proposed to hold the seat cushion springs under initial tension, as for instance, cloth bags or sacks in the Marshall cushion spring.

My assembly not only provides the initial compression of the springs, but also provides a snubbing action to prevent the throw of the springs on the rebound which is present in such a spring as the Marshall spring. Not only do the tension springs 17 tend to resist the upward throw of the springs on the rebound, by reason of interposing the pull of the tension springs 17, but the assembly forms a dampener on the rebound by reason of the friction due to the straps 13 being pulled around the arched braking surfaces 11 by the pull of the tension springs 17. This forms a very simple but effective structure to put a set of springs under initial compression and at the same time to snub or dampen the rebound of the springs when the vehicle is given a sudden jolt.

What I claim is:

1. In a seat spring assembly, the combination of upper and lower frames with springs spacing and connected to the frames and means connecting the frames and putting the springs under an initial compression, said means comprising a braking surface, an element connected to said frames and resilient means for drawing said element over said surface, whereby said first mentioned means acts as a snubbing or dampening instrumentality on the rebound of the springs when subjected to a jolt.

2. In a seat spring assembly, the combination of upper and lower frames with springs spacing and connected to the frames, a strap secured at one end to the upper frame and an arched braking member secured to the lower frame around which the strap is drawn and a spring secured at one end to the other end of the strap and secured at the other end to the lower frame for putting the strap under tension and serving as a rebound dampener when the spring seat is subjected to a jolt.

3. In a seat spring assembly, the combination of upper and lower frames with springs spacing and connected to the frames, a flexible strap at one end anchored to the upper frame member,

a clip secured to one of the frames and provided with a loop and an arched lug or brake member, said strap being engaged around the arched lug and through the loop of the clip and a tensile spring secured at one end to the other end of the strap and at the other end secured to the lower frame for putting tension on the strap, said last mentioned assembly serving to dampen the rebound of the springs when the spring seat is subjected to a jolt.

4. In a seat spring assembly, the combination of upper and lower frames with springs spacing and connected to the frames, a friction member on one of the frames and a strap extending between said frames, and means connecting said strap adjacent to the ends thereof to said frames to tension said strap and thereby put the springs under an initial compression and also to afford a dampening agency on the rebound of the springs when the same has been subjected to a jolt, said means including a friction member on one of said frames and means on said one frame slidably receiving said strap in contact with said friction

member and yielding means on said one frame secured to an end of said strap for drawing said strap over said friction means.

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