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2,116,012

SEAT SPRING

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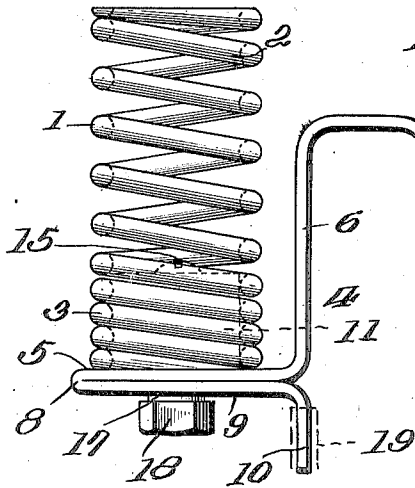


FIG. 1.

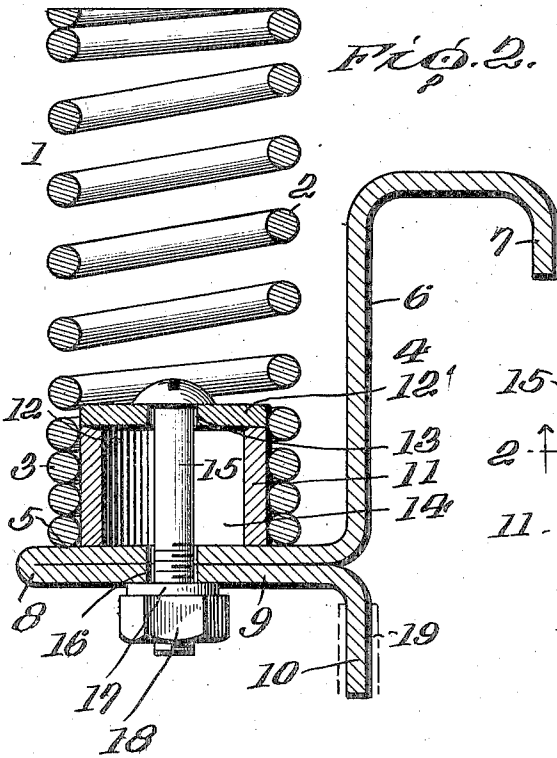
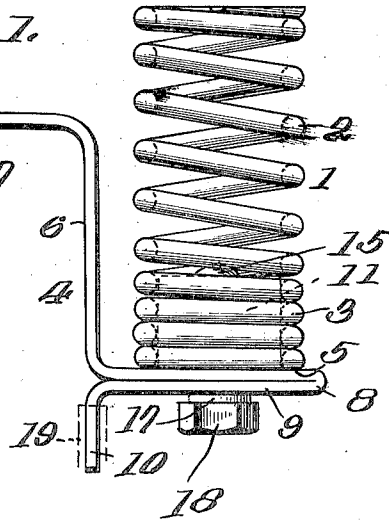


FIG. 2.

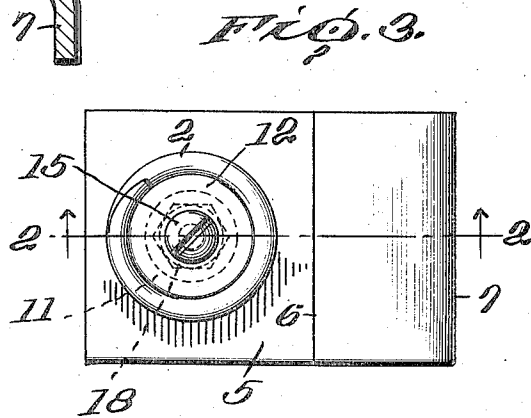


FIG. 3.

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2,116,012

SEAT SPRING

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2 Claims. (Cl. 267-1)

My invention relates to a seat box shock absorber spring for locomotive cab seats and the like.

The principal object of the invention is the provision of a coil spring with a series of the coils compressed together and having a removable connecting means for mounting the spring on a support whereby the free shock absorbing action of the spring will not be retarded.

Another object is to provide a coil spring formed with a series of tightly compressed coils at the lower end thereof into which a bushing is adapted to be pressed for supporting the spring on a support in upright position.

Another object is the provision of a weight carrying compression coil spring having a removable bushing pressed into the lower end thereof whereby the temper and resiliency of the coils will be unimpaired when the spring is mounted on a hanger support.

A further object is to provide a no friction compression coil spring composed of inexpensive materials which may be readily and easily assembled or disassembled in the event of damage to any of the parts, without the necessity of servicing by expert mechanics.

A further object is to provide a non-friction coil spring which is adapted to be positioned on the inside of a box seat whereby the seat top will rest on the top of the spring and any hard jolts will be absorbed thereby.

These and other objects and advantages will be apparent when the specification is considered in connection with the accompanying drawing, in which:

Figure 1 is a vertical elevation of a pair of springs mounted on their respective hanger supports;

Figure 2 is a sectional elevation through one of the springs and hangers of Figure 1; and

Figure 3 is a top plan view of a spring and hanger of Figure 1.

Referring more particularly to the drawing wherein like reference characters refer to like parts throughout the several views, numeral 1 denotes a coil spring comprised of a plurality of somewhat loosely arranged or spaced coils 2 and a series of preferably four or more substantially closed or tightly compressed coils 3 at the lower end of the spring. This relative differentiation in compression or spacing of the upper and lower convolutions or coils is effected during manufacture of the spring.

The lower end of the spring is preferably mounted on and secured to a laterally extending,

relatively flat, support arm 5 of a substantially L-shaped metal angle bracket or hanger member 4, provided with a vertical arm piece 6, extending upwardly but spaced from the side of the coils and having a laterally and downwardly bent portion 7, adapted to be positioned over the upper edge of a box seat of a locomotive engine cab or the like, not shown, whereby the spring is suspended or hung in a vertical or upright position within the box. The strength of the lateral supporting arm 5 is increased by folding or bending the same double, as at 8, and the inner end of the lower face 9 of the doubled portion is provided with a relatively short downwardly depending arm 10 disposed directly below and in alignment with the vertical arm 6. Thus it will be noted that when the hanger is positioned within a seat box, the upwardly and downwardly extending arms 6 and 10 respectively, will flatly engage the side wall of the box and thereby firmly support and retain the spring in an upright position.

A relatively wide rubber band or the like 19, is preferably positioned and retained in position by any suitable means, around the bottom of the downwardly extending arm 10, whereby the arm will be caused to more firmly grip or adhere to the wall of the seat box thus preventing the springs from moving or becoming disengaged from the seat box when the latter is not carrying any weight, or in other words is unoccupied.

The spring is secured to the support arm 5 of the hanger by means of a hollow cylindrical metal bushing or thimble member 11, having open upper and lower ends 12 and 14 respectively with a washer 12' seated on said upper end which washer is provided with an aperture 13 therein. The bushing is of slightly larger size than the inside diameter of the spring coils whereby the same is adapted to be pressed upwardly into the closely turned lower coils 3 and as the bushing is preferably of such a length that the upper end will extend up to the top coil of lower or more closely compacted coils, it will be seen that each of these coils will tightly engage or grip the bushing. A headed threaded bolt 15, of suitable length, inserted downwardly through aperture 13, in the washer 11 and an aperture 16 in bracket arm 5, and having a washer 17 and nut 18 threaded on the extended lower end thereof, serves to secure the bushing to the hanger arm.

By inserting and pressing the bushing into the coils when the latter are cold the temper and resiliency of the coils will be retained whereas according to prior practices it has been customary

in mounting spiral springs to solder or pour molten metal into the bottom end of the spring and the heat from the metal impaired or affected the temper and resiliency of the coils.

5 When the hanger and springs, which are preferably mounted in pairs, are in position within the seat box, the tops of the loosely coiled sections of the springs will extend slightly above the level of the box, and when the usual hinged seat box
10 cover, not shown, is in closed or lowered position, the same will rest upon the springs. As the loosely turned coils are not hindered or retarded by any guide or housing, the same have complete freedom of action and thereby effectively
15 absorb all shocks or jolts caused by the movement of the locomotive, thus providing a comparatively easy riding seat for the operator.

While I have in the present instance described and illustrated my invention as applied to locomotive box seats, it is to be understood that I do
20 not wish to limit myself of this limitation as various changes may be made without departing from the spirit of the invention or the scope of the appended claims.

25 Having thus described my invention:

What I claim is:

1. A weight carrying compression spring for box seats and the like comprising a substantially L-shaped hanger member, an outwardly and
30 downwardly bent portion on said hanger for engaging the box seat and suspending the spring

therein, and a laterally extending doubly bent arm on said hanger having a coil spring mounted in upright position thereon, the upper coils of said spring being loosely arranged and the lower coils thereof being closely compressed together, 5 and a removable bushing tightly pressed within said compressed coils for securing the spring to said hanger arm, and a relatively short flat member on said hanger for flatly engaging the wall of the seat box and retaining the hanger and spring
10 in vertical upright position.

2. A weight carrying compression spring for box seats and the like comprising a substantially L-shaped hanger member, an outwardly and downwardly bent portion on said hanger for engaging
15 the box seat and suspending the spring therein, and a laterally extending doubly bent arm on said hanger having a coil spring mounted in upright position thereon, the upper coils of said spring being loosely arranged and the lower coils thereof
20 being closely compressed together, a removable bushing tightly pressed within said compressed coils for securing the spring to said hanger, and a relatively short flat member on said hanger for flatly engaging the wall of the seat box and retaining the hanger and spring in vertical upright
25 position, said member having means thereon for engaging and gripping the wall of the box whereby the hanger and spring are held in position.

LEE F. BUSH. 30