Sept. 27, 1932. J. Y. TURNER 1,880,181

SHOCK ABSORBING SEAT SUPPORT

Filed Aug. 22, 1930

Fig. 1.

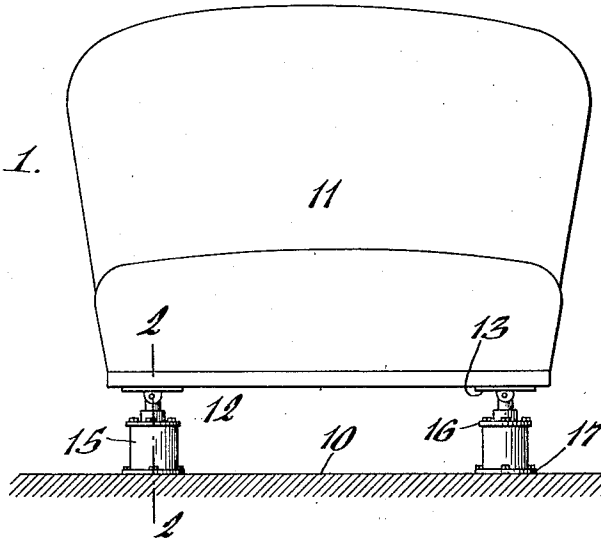


Fig. 2.

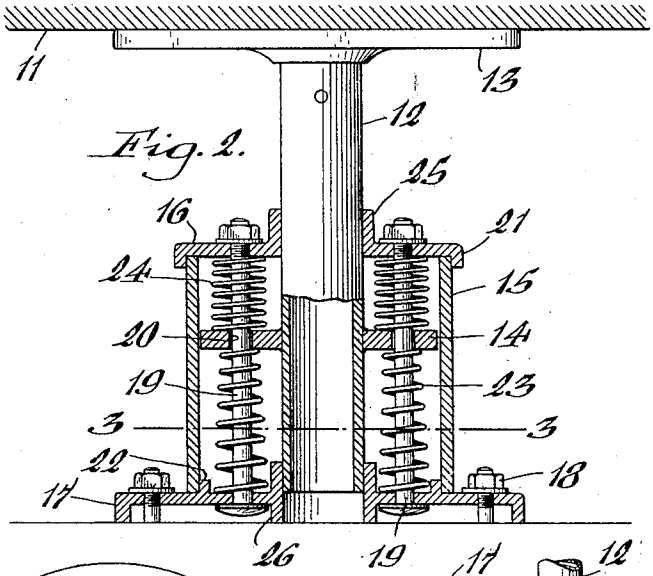


Fig. 3.

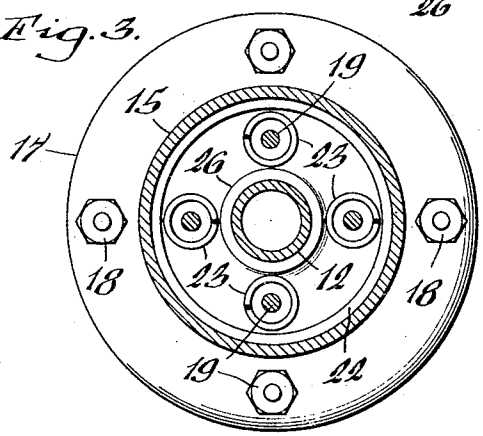
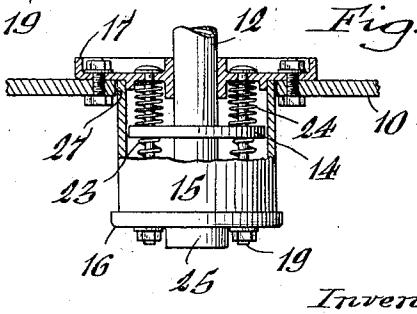


Fig. 4.



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UNITED STATES PATENT OFFICE

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SHOCK ABSORBING SEAT SUPPORT

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This invention relates to seat supporting means and particularly to a resilient support for vehicle seats and the like;

Its chief object is the provision of a seat-supporting means of this character which will effectually absorb the shocks incidental to the vehicle travelling over the roadway, and which will afford maximum comfort to its occupants.

Another object of the invention is to provide improved means for guiding the seat relative to the support and thereby produce a rugged structure which is reliable and durable in construction.

In the accompanying drawing:—

Figure 1 is a front elevation of a vehicle seat showing my invention applied thereto. Figure 2 is an enlarged transverse vertical section taken in the plane of line 2—2, Figure 1. Figure 3 is a horizontal section taken on line 3—3, Figure 2. Figure 4 is a sectional elevation of a modified form of the invention, showing a different manner of applying the resilient support to the vehicle.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring to the embodiment of the invention shown in Figures 1 to 3 inclusive, my improved resilient or shock-absorbing seat support is interposed between the floor 10 of the vehicle and the bottom of the seat 11. By way of example, I have shown two of the seat-supporting units disposed at opposite sides of the seat.

Each of the seat supports comprises an upright post 12 provided at its upper end with an attaching plate 13 adapted to be bolted or otherwise secured to the seat-bottom, and having a disc or piston-like enlargement 14 adjacent its lower end, the post being guided for movement in a suitable housing consisting of a cylindrical shell or casing 15 and upper and lower caps or cover plates 16 and 17, respectively. This housing in anchored to the floor of the vehicle by bolts 18 passing through openings in the base plate 17. Extending through the housing about the post 12 are a plurality of upright tie bolts 19 which engage the upper and lower plates 16 and 17 and freely pass through openings 20 in the post-enlargement 14, and serve to securely fasten these parts to the corresponding ends of the shell 15. In order to maintain these plates in proper vertical alinement, the upper one is preferably provided with a depending annular flange 21 engaging the outer side of the shell 15, as shown in Figure 2, while the lower plate 17 has an annular flange 22 rising therefrom which engages the inner side of the opposing end of said housing.

The supporting post 12 is supported in the housing 15 by suitable resilient means which is so constructed and arranged that the road shocks are absorbed by it rather than being transmitted to the post 12 and seat 11. This means consists of a plurality of pairs of oppositely disposed compression springs 23 applied to the bolts 19 and interposed between the post-enlargement 14 and the base plate 17. Interposed between the opposite side of this enlargement and the plate 16 and applied to the upper portions of the bolts 19 are supplementary compression springs 24 which are preferably lighter than the springs 23 and serve to check the rebound of the post 12.

The post 12 is centrally guided for vertical movement relative to the housing 15 by upper and lower bearing members applied to the upper and lower ends of the housing. To this end the upper plate 16 is provided with an upperly extending bearing collar 25 and the base plate 17 is provided with a similar bearing collar 26. By guiding the post at its extreme lower end and adjacent its upper end, the same is maintained reliably in an upright position and parallel to the guide bolts 19 and shock absorbing springs 23, 24, thereby insuring perfect shock absorbing action and eliminating misaligment and binding of the parts.

Instead of mounting the seat in the manner shown in Figure 1 wherein the seat supporting units are above the floor, the same may be disposed below the floor in the manner shown in Figure 4. In this arrangement, the cylindrical housing 15 passes through an opening 27 in the floor and instead of arranging the plates 16 and 17 in the manner shown in Figure 2, these parts are reversed.

The plate 17 which is larger in diameter than the companion plate and projects beyond the housing, is applied to the top of the housing and serves as the attaching flange for suspending the housing from the floor. This construction makes it possible to bring the vehicle seat closer to the floor. As regards the other features of construction, these are identical with the construction heretofore described.

I claim as my invention:—

A shock-absorbing seat for vehicles and the like, comprising a substantially cylindrical casing including upper and lower reversible plates detachably applied thereto and having vertically alined bearing collars formed thereon, one of said plates being larger than the diameter of the casing and constituting an attaching flange for anchoring the casing to the vehicle-floor, tie bolts extending through said casing for securing the plates thereto, a seat-carrying post extending into the housing and guided adjacent its upper and lower ends in said bearing collars and provided intermediate its bearing points with an enlargement having openings therein for freely receiving said tie bolts, and compression springs applied to the tie bolts above and below said enlargement and each bearing at one end against one side of said enlargement and at its other end against the opposing casing-plate.

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