April 30, 1940. H. C. LORD 2,199,004

CUSHION SUPPORT

Filed Feb. 12, 1938

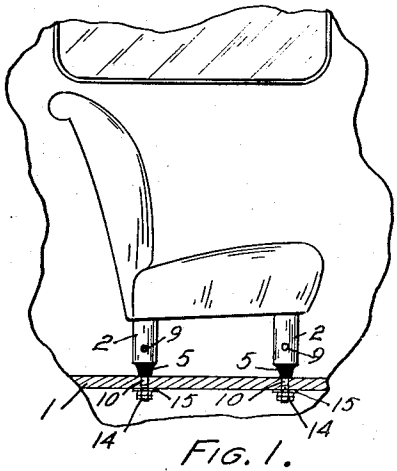


FIG. 1.

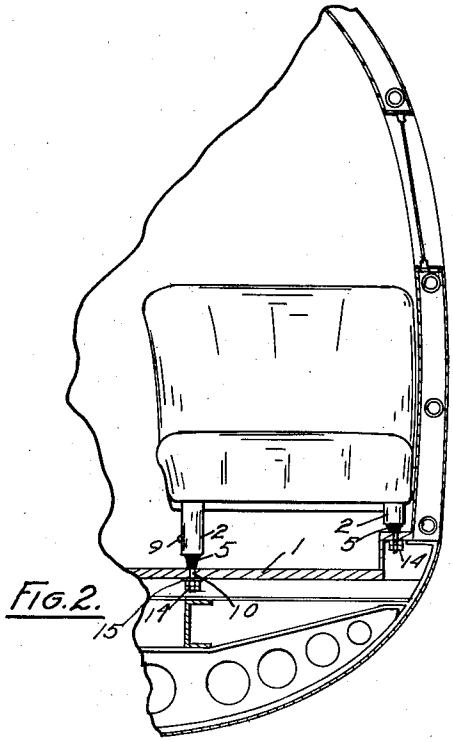


FIG. 2.

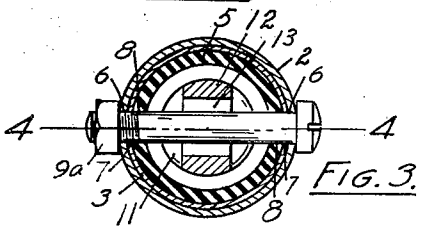


FIG. 3.

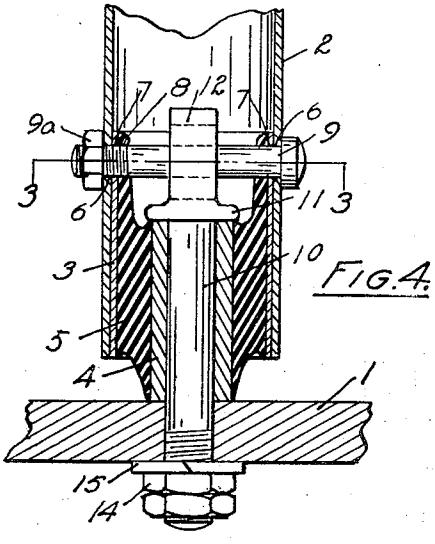


FIG. 4.

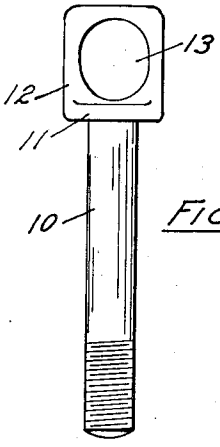


FIG. 5.

INVENTOR.

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CUSHION SUPPORT

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9 Claims. (Cl. 287—85)

The present invention is designed to provide a cushion support and, as exemplified, is applied to a chair leg. Chairs or seats in automobiles, airplanes and other vehicles are not only subjected to the weight of the person using the chair but are subjected to very severe strains by reason of the user exerting tilting pressure on the seat, thus tending to pull part of the legs of the chair upwardly and very materially increase the pressure on the other legs. In airplane construction there is a further requirement and that is in the very definite securing of the chair so that the chair in shocks or accidents will not break loose and increase the hazard in this way. The use of the support is designed to accomplish the purpose of anchoring the cushioning and also anchoring the attached chair or other article in a very simple, rugged and secure manner. Features and details of the invention will appear from the specification and claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing as follows:

Fig. 1 shows a side elevation of a chair having the supports as installed in an airplane.

Fig. 2 a front elevation of such a chair with such a support mounted in an airplane.

Fig. 3 a section on the line 3—3 in Fig. 4.

Fig. 4 an enlarged section on the line 4—4 in Fig. 3.

Fig. 5 a detached view of the securing bolt.

1 marks the floor, 2 a chair leg which is in the form of a tube, 3 the outer member of the support which is shown in the form of a shell, 4 a central member in the form of a sleeve, 5 a rubber bushing between the members, the bushing being preferably bonded to the surfaces of the members, but in any event definitely secured thereto.

The leg has oppositely placed perforations 6. The shell has similar perforations 7 which are adapted to be brought into register with the perforations 6. The outer member 3 extends upwardly above the inner member and for the purposes of strength the rubber is carried up in the inner wall of this extension. The rubber is slotted at 8 opposite the perforation 7 and a bolt 9 extends through the perforations and the slots and is secured by a nut 9a.

A bolt 10 has a head 11 which engages the upper end of the inner member. The bolt has an upward extension 12 which is provided with an elongated slot 13 through which the bolt 9 extends. The bolt extends through the floor and is secured by a nut 14 which is provided with a lock washer 15.

The inner member extends below the bottom of the outer member of the support and thus spaces the support from the floor. The leg 2 preferably extends downwardly to the bottom of the outer member and is therefore spaced from the floor. The bolt extending through the slot 13 prevents the loosening of the bolt and thus assures a secure connection between the leg and the floor. The length of the slot is such as to give the normal freedom of movement to the support but to finally and positively limit this movement should there be an abnormal strain on the chair parts. Thus should there be a complete failure of the rubber the chair connection would be maintained. It will be noted that the relation of the parts including the lost motion connection is such that the moving parts are maintained out of contact in the normal operating range of the mounting or joint, and that the pin in normal operation, does not engage the sides of the slot, but only is brought into contact relation to limit the extremes of movement.

What I claim as new is:

1. In a support, an outer member and an inner member; a rubber bushing between the members, the outer member being extended and having perforations extending through opposite walls of the extension, and the inner member having spaced abutments; and a cross member extending through the perforations and between the abutments, said members in normal operation being in non-contact relation.

2. In a support, an outer member and an inner member; a rubber bushing between the members, the outer member having perforations extending through opposite walls, and the inner member being in the form of a sleeve; a bolt extending through the inner member and having spaced abutments at its upper end; and a cross pin extending through the perforations and between the spaced abutments.

3. In a support, an outer member and an inner member; a rubber bushing between the members, one end of the outer member being extended and having cross perforations in opposing walls; an attached member having a wall engaging the outer wall of the outer member and having perforations therein registering with the perforations in the outer wall; and a bolt extending through the perforations.

4. In a support, an outer member and an inner member; a rubber bushing between the mem-

bers, the outer member having perforations extending through opposite walls, and the inner member having spaced abutments; a cross pin extending through the perforations and between the abutments; and an attached member having a wall engaging the outer wall of the outer member and having perforations registering with perforations of the outer member, the cross pin extending through the perforations of the outer member.

5. The combination with two members to be attached, one of which is hollow; of a joint comprising an outer element, an inner element, and an intervening cushion of rubber, the outer element being attached to the hollow member and the inner element to the companion member; and a lost motion connection between the members providing free relative movement between the members and housed in the space at the end of the rubber cushion toward the hollow member.

6. In combination a hollow chair leg; a support for the leg; a mounting between the support and the leg comprising an outer element attached to the leg, an inner element attached to the support, and an intervening cushion of rubber; and a lost motion connection with the leg and inner element, the lost motion connection being housed in the space above the rubber cushion providing free movement between the leg and the support and preventing separation thereof.

7. In combination of chair leg; a support for the leg; a mounting between the support and the leg comprising an outer member, an inner member, and a rubber cushion between the members, one of the members being attached to the leg and the other to the support; and a lost motion safety connection supplementing the connection formed by the members, the members providing free relative movement between the members in non-contact relation in normal operation and limiting the separation of said members.

8. In a joint, the combination of outer and inner members; a rubber bushing between the members, one of the members having perforations extending therethrough and the other member having spaced abutments; and a cross-member extending through the perforations and between the abutments, said members being out of contact relation in the joint under normal operating conditions.

9. In a joint, the combination with members to be connected; of a joint between the members, said joint comprising an outer element, an inner element, and a rubber cushion between the elements; means attaching the joint to the members; and a lost motion connection between the members providing free relative movement between the members, in non-contact relation under normal operating conditions, but limiting the motion at both extremes of the motion and housed in a space offset in the direction of motion from the rubber.

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