United States Patent

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[54] **VEHICULAR SAFETY CHAIR**

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[21] Appl. No.: **30,634**

[52] **U.S. Cl.** **297/191,** 297/422, 297/460

[51] **Int. Cl.**.....**A47c 1/12**

[58] **Field of Search**.....297/191, 452, 243, DIG. 2, 297/183, 194, 411, 421, 422, 412, 457, 188, 460

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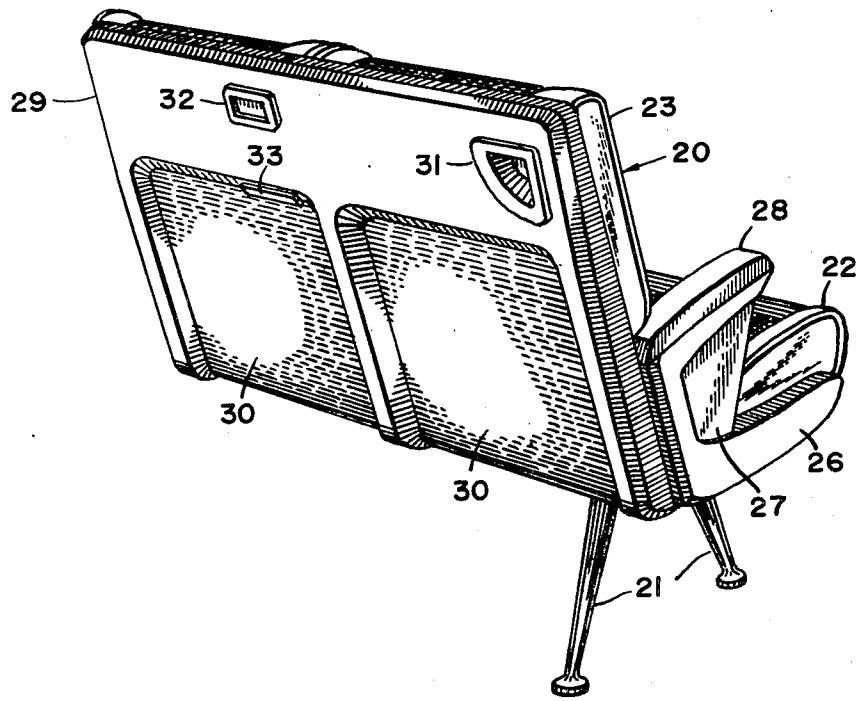
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[57] **ABSTRACT**

A vehicle chair having a high back frame with cushions is provided with a rear panel of yieldable material anchored to the frame with a space between the panel and cushions, the panel being cut away at an inner corner to provide a hand grip and laterally thereof provided with an ash channel opening, the panel being preferably formed to provide knee recesses into one of which the ash channel opens and the arm rest being provided with a supporting cigarette-snuffing metal panel.

4 Claims, 12 Drawing Figures



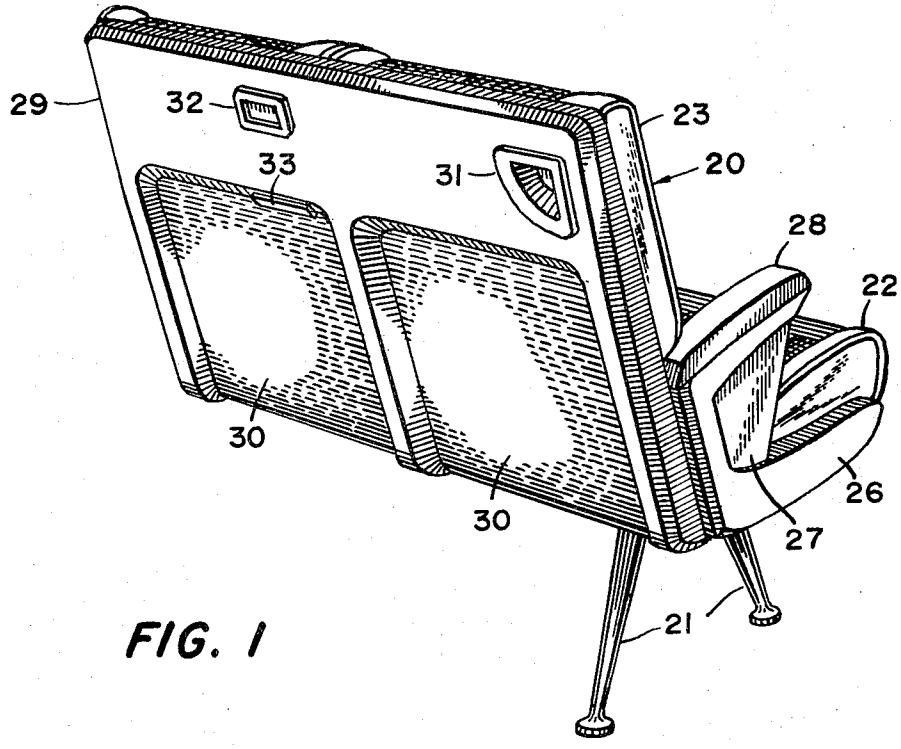


FIG. 1

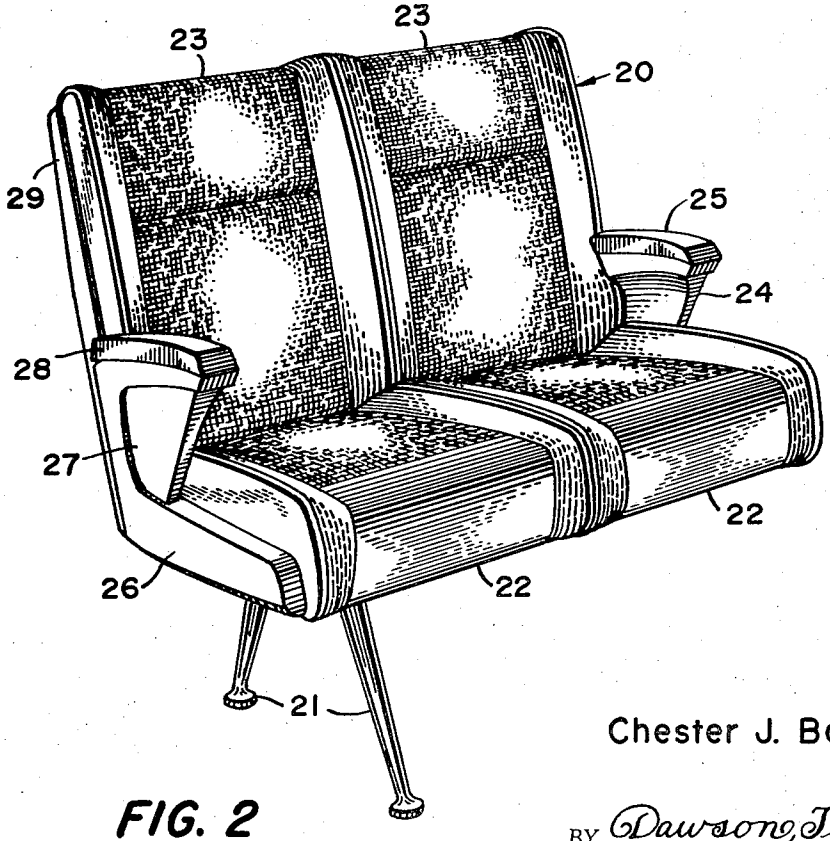


FIG. 2

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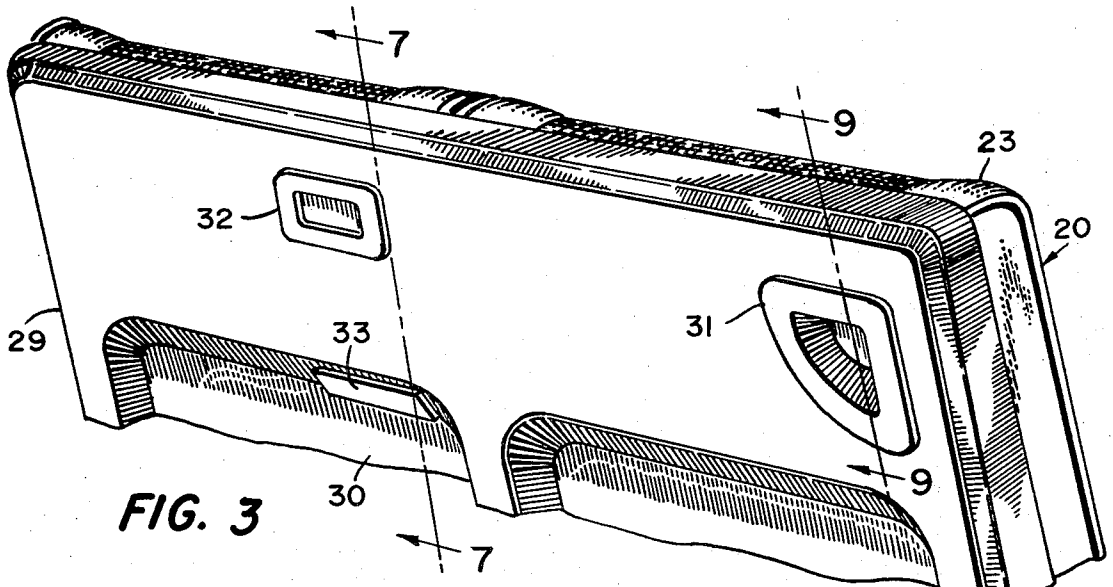


FIG. 3

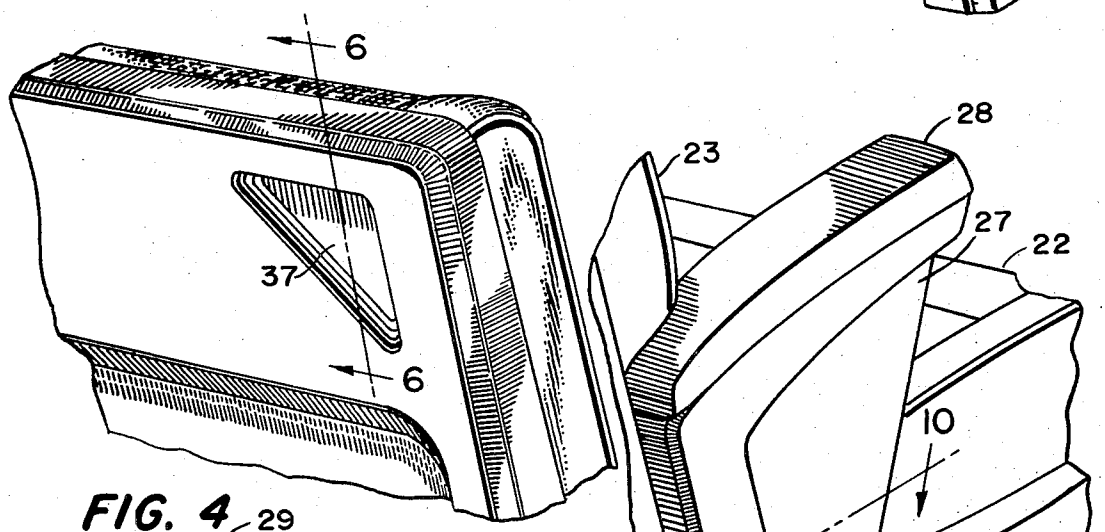


FIG. 4

FIG. 5

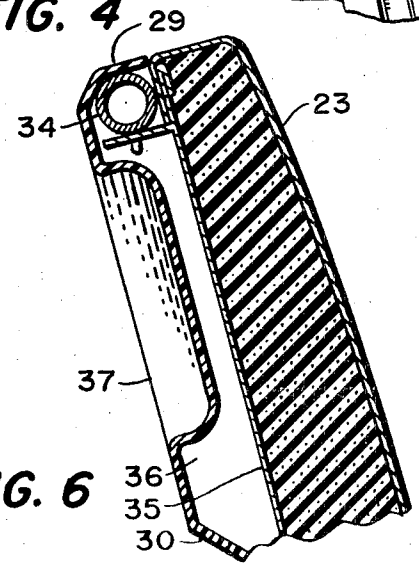


FIG. 6

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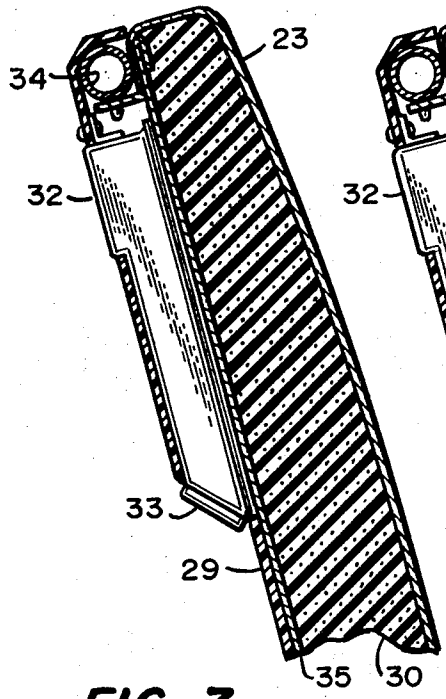


FIG. 7

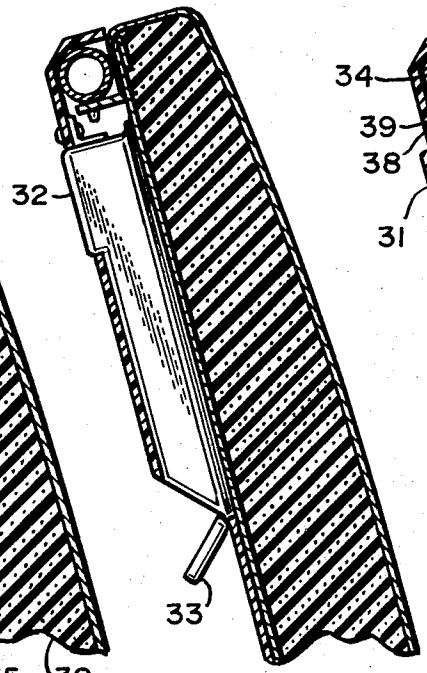


FIG. 8

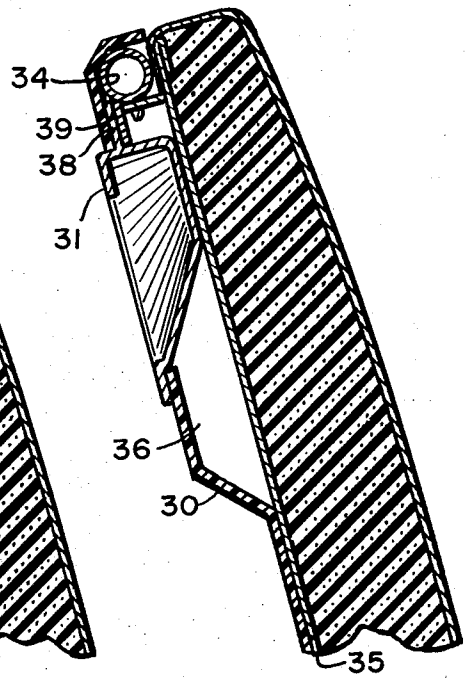


FIG. 9

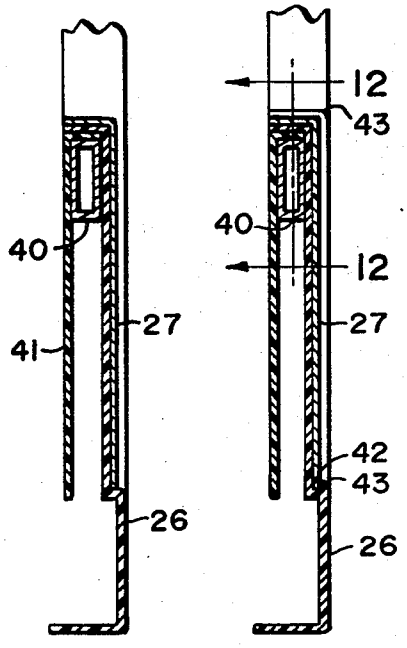


FIG. 10 FIG. 11

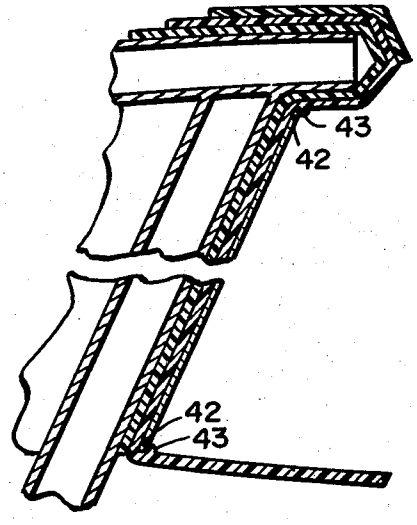


FIG. 12

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VEHICULAR SAFETY CHAIR

BACKGROUND AND SUMMARY

The usual vehicular chair, as, for example, in a bus, is provided with a top rail providing a hand grip, but this rigid structure presents a hazard in the case of a sudden deceleration of the vehicle, and also the use of the hand grip behind the occupant of the seat is an annoyance to the passenger. Ash trays mounted upon the seat back also present a hazard and are very unattractive in appearance. It is also of great importance to provide yieldable means to protect a person being thrown forwardly in the case of sudden deceleration of the vehicle and who comes into contact with the rear seat back in front of him. A problem has also been presented with respect to the snuffing of cigarettes since the cigarette is often pressed against plastic, fabric, or other materials of the seat and injure the material.

I have discovered that a panel of flexible or yieldable material, such as plastic, thin metal, etc., may be employed by supporting it upon the back of the chair frame to provide a chamber or space between it and the seat back, the seat back being preferably high and carrying high cushions. Such a panel may be cut away along the inner corner or portion adjacent the aisle to provide a hand grip which is thus not only concealed but also in a position where the wrist and lower portion of the arm in addition to the hand grip afford a means for checking forward movement of the passenger. Also, the space is utilized for providing an ash channel which may be extended downwardly to a knee recess therebelow and provided with a movable closure. Further, by utilizing a supporting panel below the arm rest, the panel being formed of metal, a relatively broad area is provided for cigarette snuffing.

DRAWINGS

In the accompanying drawings,

FIG. **1** is a perspective view of the rear of the chair showing the high back with the recessed hand grip and ash tray opening and the cigarette butt snuffing panel;

FIG. **2**, a perspective view of the front of the chair showing the high head cushions, individual bucket seats, and also the snuffing panel;

FIG. **3**, a fragmentary perspective view of the upper portion of the back;

FIG. **4**, a similar fragmentary perspective view of the back showing a different form of recessed hand grip molded into the plastic back panel;

FIG. **5**, a fragmentary perspective view of the aisle end panel;

FIG. **6**, a fragmentary sectional view of the upper back, the section being taken as indicated at line **6—6** of FIG. **4**;

FIG. **7**, a detailed sectional view of the back beside the ash tray, the section being taken as indicated at line **7—7** of FIG. **3**;

FIG. **8**, a sectional view similar to FIG. **7** showing the ash tray opened for emptying;

FIG. **9**, a fragmentary sectional view taken through the metal hand grip, the section being taken as indicated at line **9—9** of FIG. **3**;

FIG. **10**, a fragmentary horizontal sectional view of the aisle end panel, looking down, taken at line **10—10** of FIG. **5** and showing how the metal panel is attached to the outer plastic panel with contact cement;

FIG. **11**, a view similar to FIG. **10** but showing the metal panel snapped into a groove in the outer plastic panel;

and FIG. **12**, a fragmentary vertical sectional view of the aisle end, the section being taken as indicated at line **12—12** of FIG. **11** to show the upper and lower grooves in the plastic outer panel which hold the metal panel securely in place.

DETAILED DESCRIPTION

The vehicular chair **20** consists of legs **21**, bucket seats **22**, high back cushions **23**, a wall panel **24**, arm rest panel **25**, a decorative aisle panel **26** with a metal insert panel **27**, an arm rest **28** and a high plastic or yieldable metal back panel **29** with knee recesses **30**, a recessed hand grip **31**, and an ash tray channel **32** having a closure-equipped bottom **33** in one of the knee recesses **30**.

As shown best in FIGS. **6–9**, the back cushions **23** and outer back panel **29** are attached to a tubular steel frame **34**. The outer back panel **29** may extend only across the upper portion of the chair back, but I prefer to have the panel extend downwardly substantially along the entire back of the chair and provided with knee recesses **30** since one of the knee recesses provides also a means for emptying the ash tray. At the recesses, the back panel comes into contact with the rear side **35** of the cushions **23**, but above the knee recesses there is a small space or chamber **36** which makes possible the hand grips **31** and the ash tray channel **32**.

FIGS. **4** and **6** show a hand grip which is molded right into the plastic back panel and this hand grip **37** needs no further support or means of attachment. It may touch the back **35** of the seat cushion, but need not do so.

The metal hand grip **31** shown in FIGS. **3** and **9** may be provided with a metal flange **38** welded to flange **39** which in turn is welded to the top tubular rail **34**. If desired, the members **38** and **39** and the rail **34** may be connected by screws, rivets, welding, or any suitable means.

The aisle end consists of a tubular frame **40** covered first by a plastic inner panel **41**, then the plastic outer panel **26**, covered by the metal panel **27** and capped with a plastic arm rest **28**. The entire arm rest structure is generally in the shape of the letter C, and in this structure the metal panel **27** forms the outer exposed surface and a support extending between the lower and upper portions of the arm rest member. The metal cigarette butt snuffing panel **27** may be cemented to the plastic panel, as shown in FIG. **10**, or it can be made to snap into grooves **42** in the outer plastic panel, as illustrated best in FIGS. **11** and **12**. The grooves may be made by the addition of a slight ridge **43** to the plastic panel.

From the foregoing, it will be observed that the rear panel **29**, is preferably formed of plastic material but which may, if desired, be formed of thin metal or other material which will yield under impact, provides a safety measure in itself, while at the same time the spacing of this panel from the back cushions enables the hand grip to be substantially concealed and formed as a part of the rear panel. Similarly, the panel provides for the ash channel which opens into a knee recess

below so that the closure of the recess is exposed for opening to clean the channel. Thus the anchoring of the rear panel to the sturdy metal frame **34** of the seat back provides the hand grip support, the ash channel support, and is further yieldable itself as a means for protecting the passenger in the seat to the rear of the seat back illustrated.

While in the foregoing I have set out a specific structure in considerable detail for the purpose of illustrating a preferred embodiment, it will be understood that such details may be varied widely by those skilled in the art without departing from the spirit of my invention.

I claim:

1. A vehicle chair adapted to extend to one side of a vehicle aisle, comprising a high back frame, a high back cushion carried by said frame, a back panel of yieldable material anchored to and extending across the upper rear portion of said frame in spaced relation to said cushion to provide a closed chamber therebetween, a hand grip in said back panel adjacent said aisle and opening into said closed chamber; said back panel providing a forwardly-extending knee recess in the lower portion thereof; and an ash receptacle in the upper portion of said back panel and recessed within said chamber and including a downwardly-extending channel communicating with said knee recess, whereby ashes or debris deposited in said receptacle will flow under gravity through said channel.

2. The structure of claim **1** further comprising a movable closure at the bottom of said channel and accessible through said knee recess for removing debris from said channel.

3. The structure of claim **2** wherein said hand grip is in the upper corner of the panel adjacent said aisle.

4. The structure of claim **2** further comprising a C-shaped arm rest secured to said frame adjacent the aisle end of said seat; and a snuffer plate extending in supporting relation between upper and lower horizontal portions of said C-shaped arm rest.

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