

[54] **VEHICLE ATTENDANT'S CHAIR**
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[22] Filed: **October 16, 1970**

[21] Appl. No.: **81,316**

[52] U.S. Cl. **297/349, 248/408, 248/416**

[51] Int. Cl. **B60n 1/02**

[58] Field of Search.....297/345, 346, 349, 240; 248/407, 425, 402, 408, 409, 403, 415, 416, 418

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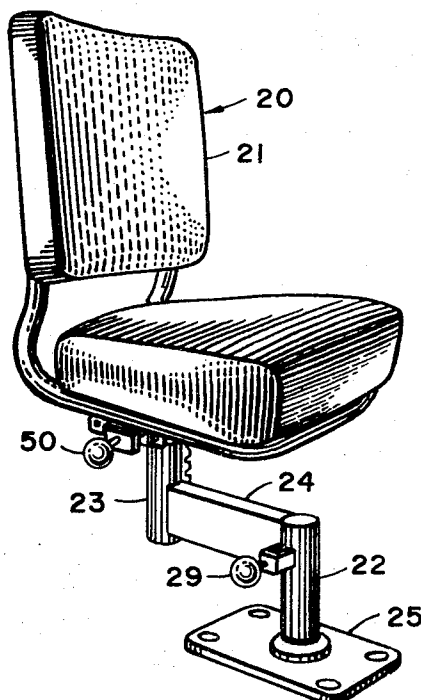
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[57] **ABSTRACT**

A chair or seat is spring-supported on a cylindrical support mounted on the end of a horizontal beam, the other end of the beam being fixed to a rotatable sleeve carried by a vertical support fixed to a base and with releasable means for locking the sleeve in selected stored and operating positions.

5 Claims, 16 Drawing Figures



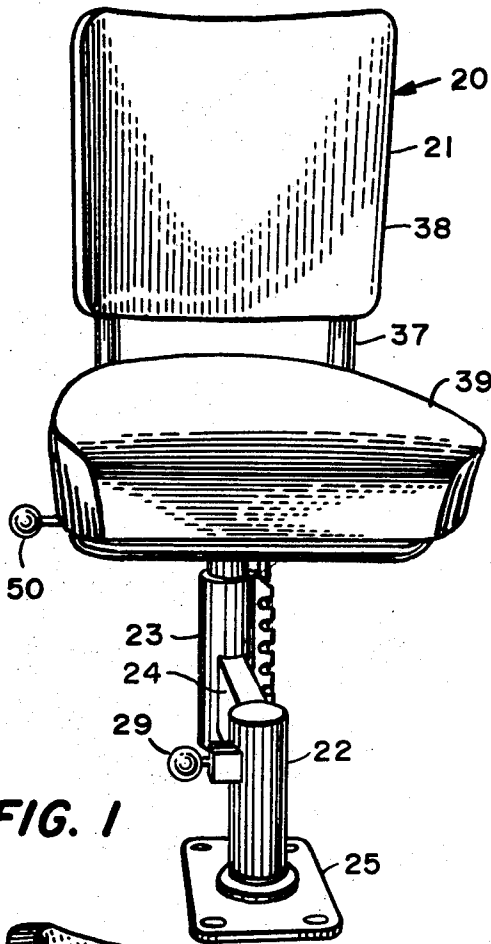


FIG. 1

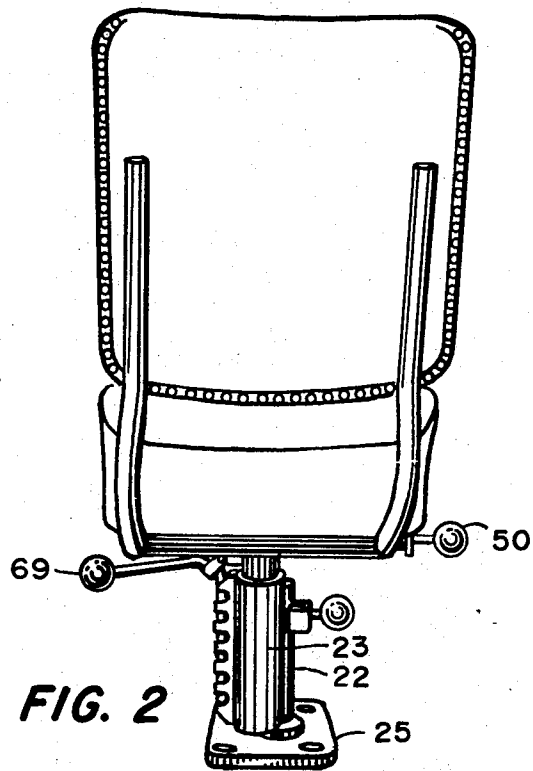


FIG. 2

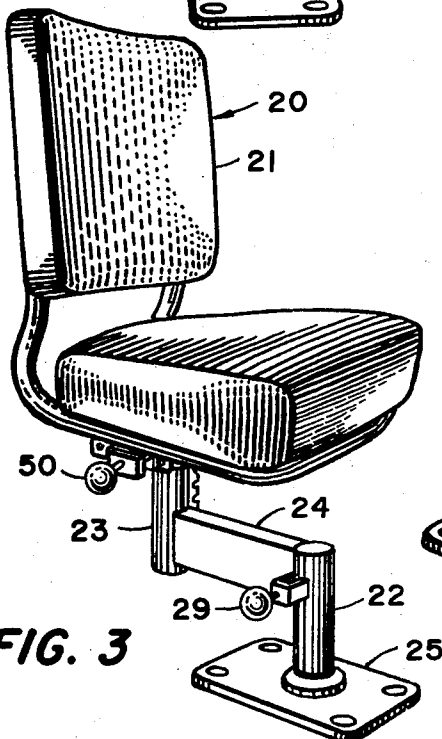


FIG. 3

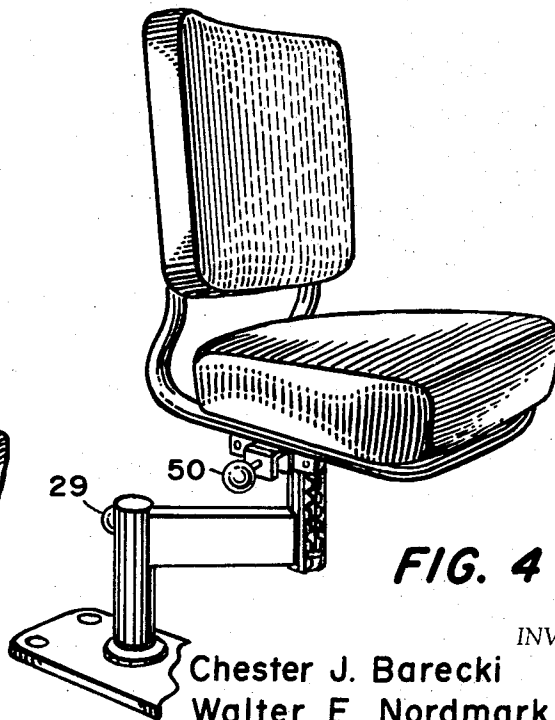


FIG. 4

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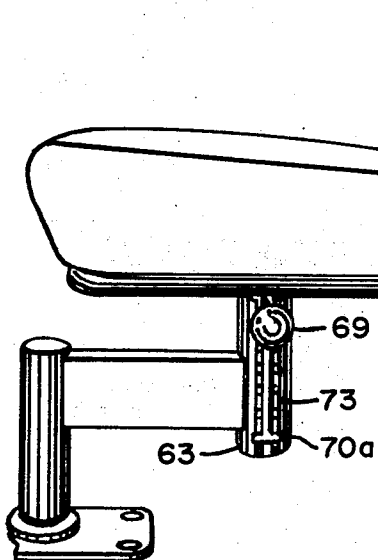


FIG. 5

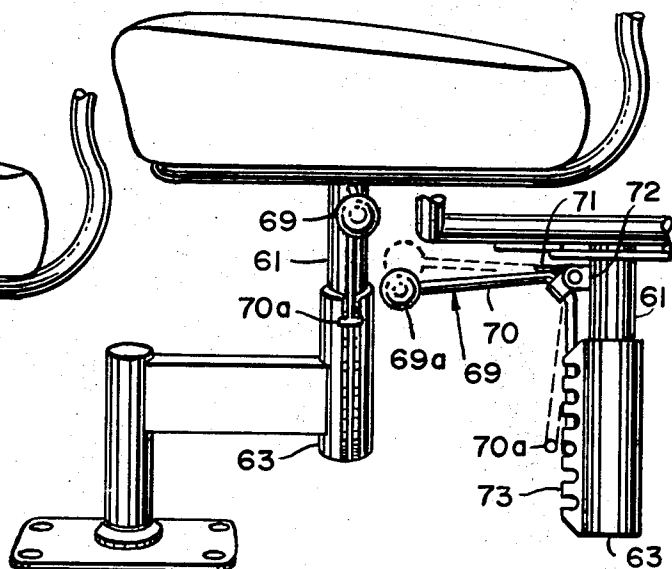


FIG. 6

FIG. 7

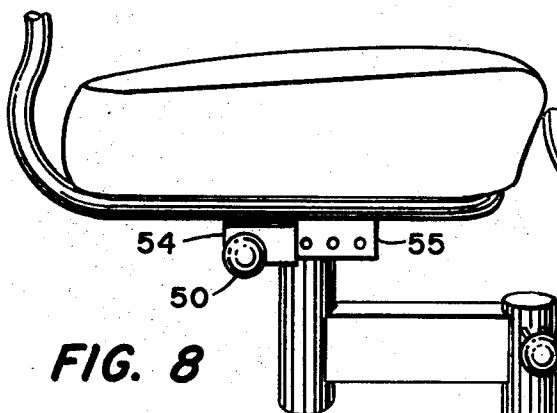


FIG. 8

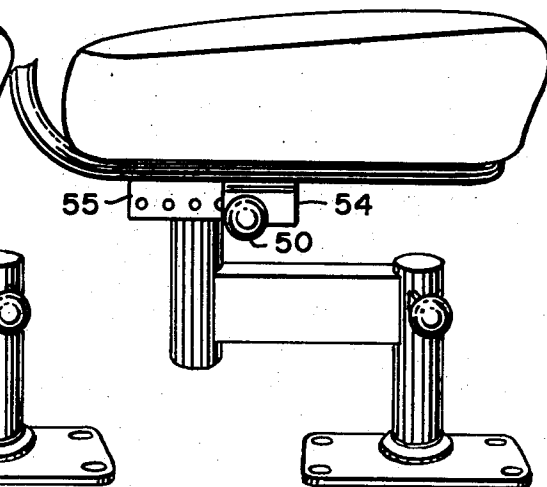


FIG. 9

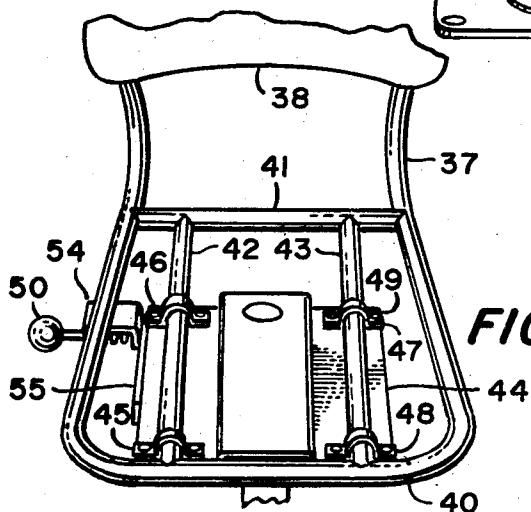


FIG. 10

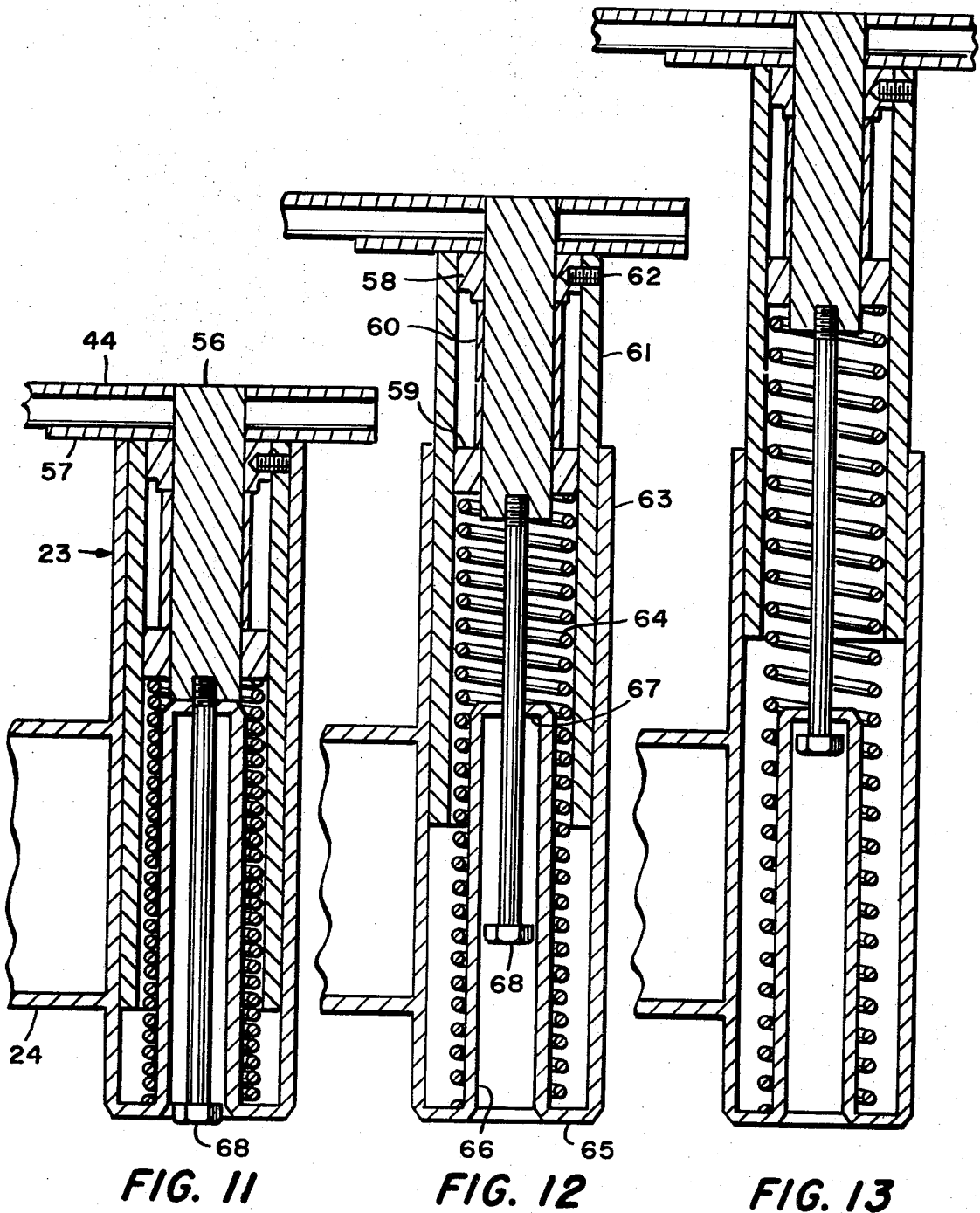
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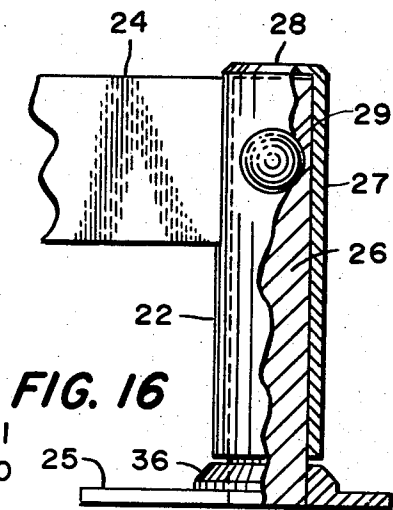
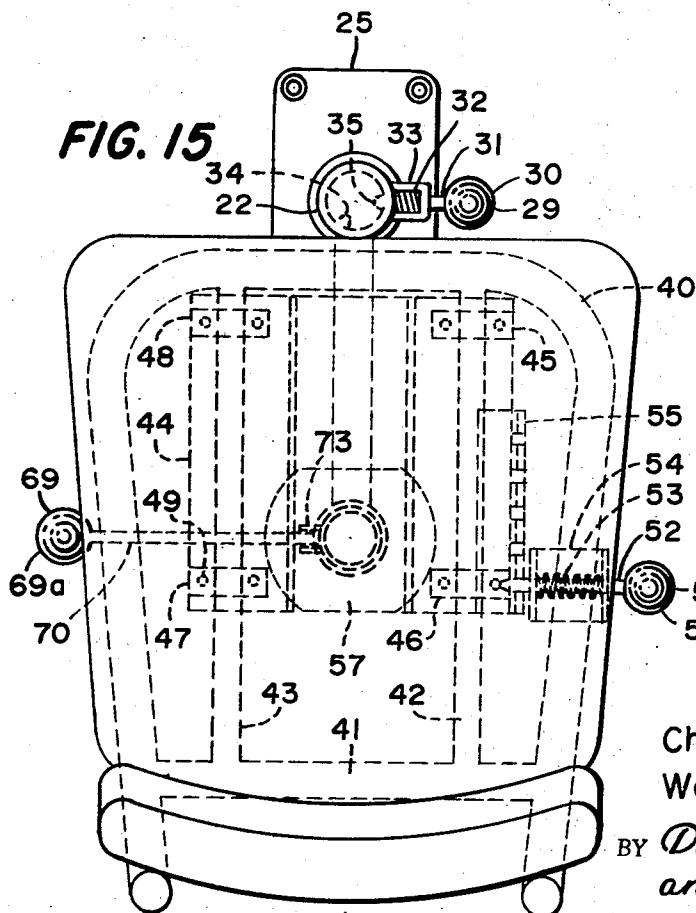
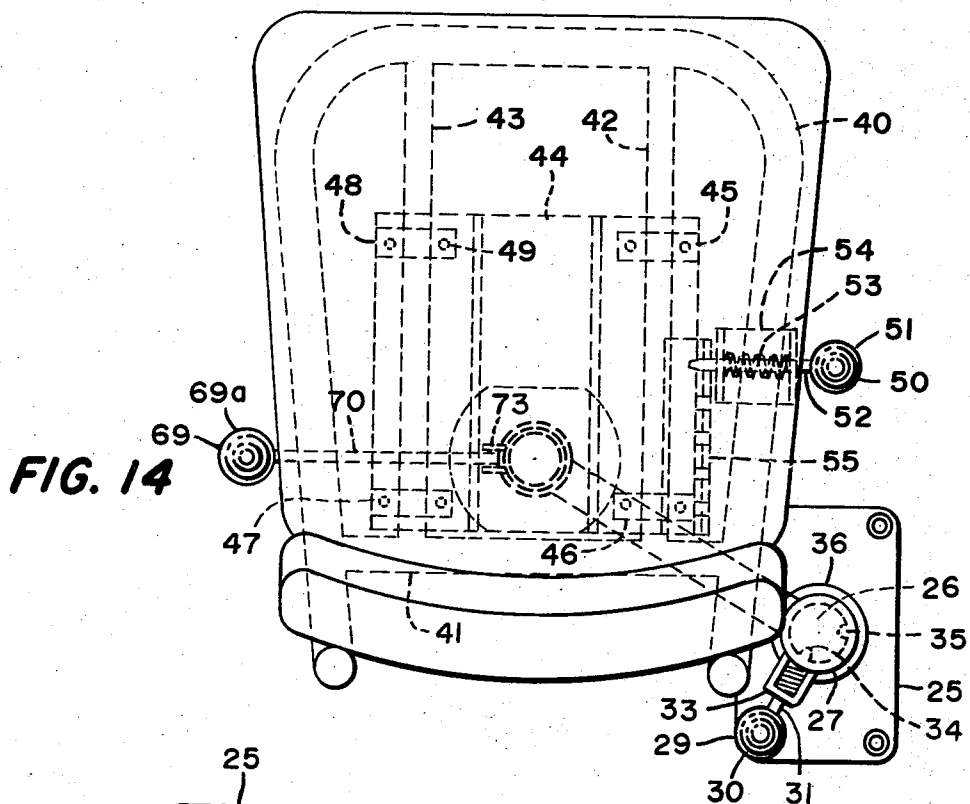
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VEHICLE ATTENDANT'S CHAIR

BACKGROUND AND SUMMARY

For many uses it has been desirable to have a spring-equipped seat support permitting swinging of the seat to various positions and locking the seat in the selected positions, as, for example, in a stored position adjacent a console or to operating position at a control panel, while at the same time limiting upward movement of the seat. We have discovered that the foregoing can be achieved by providing a base on the vehicle carrying a vertical support with a sleeve rotatably mounted on the support, the sleeve having a laterally-extending beam with its outer end carrying a seat support on which the seat is guided and spring-mounted. In such a structure, releasable means are provided for locking the sleeve in selected positions of rotation, as, for example, in a storage position and in operating positions, and in the structure a limit member is provided for limiting upward movement of the spring-mounted seat.

DRAWINGS

In the accompanying drawings, FIG. 1 is a front perspective view of the chair unit in the operating position; FIG. 2, a rear perspective view of the same; FIG. 3, a three-quarter front view of the chair unit in the operating position; FIG. 4, a view similar to FIG. 3 showing the chair unit in a stored position; FIG. 5, a view of the left side of the chair unit with the seat in the lowest position; FIG. 6, a view similar to FIG. 5 showing the chair seat in the highest position; FIG. 7, a fragmentary rear view of the seat support and the seat frame, showing the functioning of the seat height adjustment mechanism; FIG. 8, a view of the right side of the chair unit showing the chair seat in the most rearward position; FIG. 9, a view similar to FIG. 8 showing the chair in the most forward position; FIG. 10, a front perspective view of the chair frame, with the seat cushion removed and showing the fore and aft adjustment mechanism; FIG. 11, an enlarged broken sectional view of the column seat support with the seat in the lowest position and showing the retainer member or bolt; FIG. 12, a view similar to FIG. 11 but showing the seat in the middle height adjustment; FIG. 13, a view similar to FIG. 12 but showing the seat in the highest position and restrained from upward movement; FIG. 14, a top plan view of the chair unit in the stored position, with the seat in the most forward position; FIG. 15, a similar top view of the chair unit in the operating position, showing the seat in the most rearward position; and FIG. 16, a broken side view of the vertical support or pedestal with part of the sleeve or outer cylinder cut away to expose the inner part and to show how the pedestal or vertical support is attached to the base plate.

DETAILED DESCRIPTION

In general, we have provided a vehicle attendant's chair comprising a base which may be fixed to the floor of a vehicle and carrying a vertical support or pedestal on which is mounted a sleeve for rotation on

the vertical support. The sleeve is provided with a laterally-extending beam, with the outer end of the beam secured to a seat support. The seat support is equipped with a seat guide or cylinder on which is mounted a seat, spring means being interposed between the seat and the seat support. Releasable means are provided for locking the rotatable sleeve in a stored position or in a selected operating position or positions. When the locking means are in intermediate positions, the entire sleeve can be lifted from the pedestal or vertical support. Further, means are provided for releasably locking the seat in both horizontal and vertical positions.

Referring more specifically to the drawings, the chair unit 20 is comprised of a swiveling seat unit 21 on an essentially Z-shaped pedestal 22, with an offset column 23 supported by a horizontal beam 24 attached to a floor base plate 25.

As shown in FIG. 16, the pedestal 22 consists of an inner column 26 enclosed by a cylinder 27 closed at the top 28. The cylinder 27 rotates or swivels on the inner column 26.

The locking mechanism 29, as seen in FIGS. 14 and 15, consists of a knob 30 on a plunger 31, held in place by a spring 32 inside of a supporting housing 33 and nestles into a recess 34 in the column 26 for locking it in the stored position, or recess 35 for locking it in the operating position. When the locking mechanism 29 is disengaged and is swung anywhere between the recesses 34 and 35, the chair unit 20 may be raised off the inner column 26 and removed from the vehicle.

A supporting ring 36 is welded to the plate 25 as well as the inner column 26 to form a strong union of the two. It also acts as a spacer with a carpeted floor so that the carpeting does not have to be laid under the lower end of the cylinder in order to fit snugly against the column 26, which would provide a possibility of the carpeting shredding and wadding up under the cylinder, or even between the cylinder and the column, causing a binding action.

The seat unit 21 consists of a tubular steel frame 37 supporting a back cushion 38 and a seat cushion 39.

As shown in FIGS. 10, 14 or 15, the tubular steel seat frame consists of a U-shaped steel tube 40 with a rear stretcher tube 41 and a set of parallel tubes 42 and 43 on which the chair slides to obtain a fore and aft adjustment.

The tubular frame is supported by a top plate 44 and is attached to it with four clamps 45 to 48 by screws, lock washers, and nuts 49.

The fore and aft adjustment mechanism 50 consists of a knob 51, plunger 52, spring 53, supporting housing 54 attached to the underside of the U-tube 40, and an adjustment bracket 55. The plunger 52 engages with the adjustment bracket 55 by slipping into one of the five holes. The adjustment bracket 55 is attached to the underside of the top plate on the right side of it.

As shown in FIGS. 11, 12, and 13, the seat unit 21 is attached to the offset column 23 by having the center post 56 of the column protrude through the support bracket 57 and into the top plate 44 for stability. The center post 56 turns inside the flanged bearing 58 and the swivel collar 59 held apart by the spacer 60. There is an inner cylinder 61 attached to

the flanged bearing 58 by a set screw 62 as well as an outer cylinder 63 attached to the beam 24. An assist spring 64 fits inside the cylinders, pushing against the bottom plate 65 and the swivel collar 59, to aid in raising the seat from the low position in FIG. 11 to the high position in FIG. 13. Inside the assist spring 64, there is an inner tube 66, closed at the upper end 67, to act as a stop, with the long bolt 68, to prevent the seat from accidentally being pulled off the offset column when raising the seat to the high position, FIG. 13.

As shown in FIGS. 5, 6 and 7, the height adjustment mechanism 69 consists of a knob 69a at the end of the operating rod 70 which itself is attached to the inner or guide cylinder 61 by a bracket 72, then is bent downward so that the up stop 70a at its lower end will engage with one of the several notches of the rack 73, attached to the outer cylinder or seat support 63. The up stop 70a is held in one of the notches of the rack 73 by a spring 71 inside of the bracket 72 until the operating rod 70 is pulled up, forcing the up stop 70a out of the notch so that the seat may be raised or lowered.

While in the foregoing specification we have shown the structure in considerable detail for the purpose of illustrating an embodiment of the invention, it will be understood that such details may be varied widely by those skilled in the art without departing from the spirit of our invention.

We claim:

1. A vehicle attendant's chair comprising: a base; a vertical support column mounted to said base; a sleeve telescopically and rotatably carried by said support; a laterally-extending beam carried by said sleeve; an offset tubular column supported by said beam and including vertically spaced notches; seat means including a post coaxial with said offset column; an intermediate cylinder slidably telescopically resealed within said offset column to adjust said seat means in elevation and at least partially surrounding said post; means rotatably mounting said post with said intermediate cylinder; a cylindrical inner tube integral at its lower end with said offset column and spaced inwardly thereof to define an annular space to receive said intermediate cylinder when said seat is lowered; compression spring means engaging said means rotatably mounting said post to urge said intermediate cylinder and said seat means upwardly; a rod connected to said post and received within said inner tube and including means preventing complete retraction therefrom for limiting the upper extension of said seat; and an operating arm mounted to said intermediate cylinder above said offset cylinder including a stop engageable with a selected one of said notches and selectively movable to a disengaged position permitting adjustment of the elevation of said seat means.

2. The structure of claim 1 wherein said seat means includes a horizontal plate mounted to the top of said post; a tubular seat frame supported by said top plate and including first and second tubular members extending fore-to-aft of said seat; clamp means securing

said tubular frame members to said top plate while permitting longitudinal sliding motion thereof along said top plate; an apertured adjustment bracket mounted to said top plate beneath said frame; a spring-biased plunger mounted beneath said seat frame and adapted to engage one of the apertures on said adjustment bracket as said seat is adjusted in fore and aft positions, whereby when said plunger is retracted from engagement with an aperture of said adjustment bracket, said seat may be adjusted relative to said mounting plate.

3. The system of claim 1 wherein said base includes a base plate; a vertical column attached to said base plate and including at least first and second recesses formed in the side thereof; and wherein said system further comprises locking mechanism rotatably and slidably mounted to said sleeve and including a retractable plunger biased against said column and adapted to enter one of said recesses when aligned therewith; a beam extending laterally of said sleeve; tioned either in an operating position or a stored position, and said sleeve may be removed from said column in any intermediate position.

4. The structure of claim 1 further comprising an annular supporting ring secured to said base column and to said base and serving as a spacer with a carpeted floor.

5. A vehicle attendant's chair comprising a floor base plate; an upright column mounted to said base plate and extending above the same, said column defining first and second recesses spaced at different angular locations thereabout; a sleeve rotatably mounted to said column; locking mechanism rotatably and slidably mounted to said sleeve and including a retractable plunger biased against said column and adapted to enter one of said recesses when aligned therewith; a beam extending laterally of said sleeve; a cylinder sleeve support mounted on the distal end of said beam; a guide cylinder telescopically received in said support; a seat rotatably mounted to said guide cylinder; means for selectively adjusting the height of said seat relative to said beam; whereby said beam may be selectively positioned at either an operating or a stored position by retracting said plunger and turning said sleeve until said plunger aligns with one of said recesses and said seat and beam may be removed completely from said floor column by retraction of said plunger from either of said recesses; said seat including a downwardly-extending post slidably received within said guide cylinder; a top plate mounted to the top of said post; a tubular seat frame carried by said top plate for forward and aft sliding motion; an adjustment means including a bracket attached to the underside of said side plate and including a plurality of laterally-spaced apertures; and a retractable plunger carried by said seat frame for locking said frame relative to said top plate when said plunger is received in one of said apertures of said adjustment bracket while permitting fore and aft adjustment of said seat frame relative to said top plate when said plunger is retracted from said apertures of said adjustment bracket.