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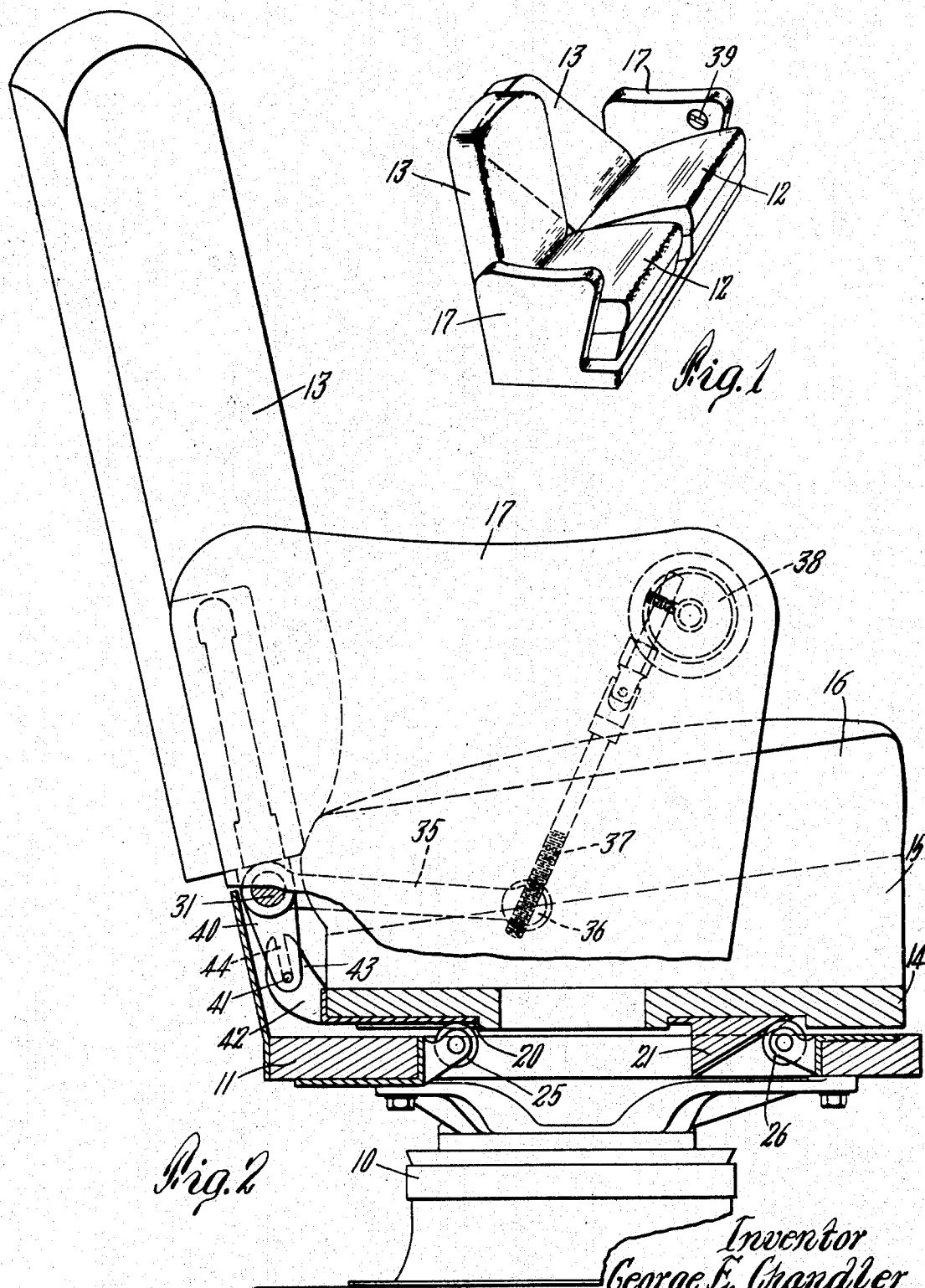
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2,016,133

RECLINING CHAIR

Filed Jan. 11, 1932

2 Sheets-Sheet 1



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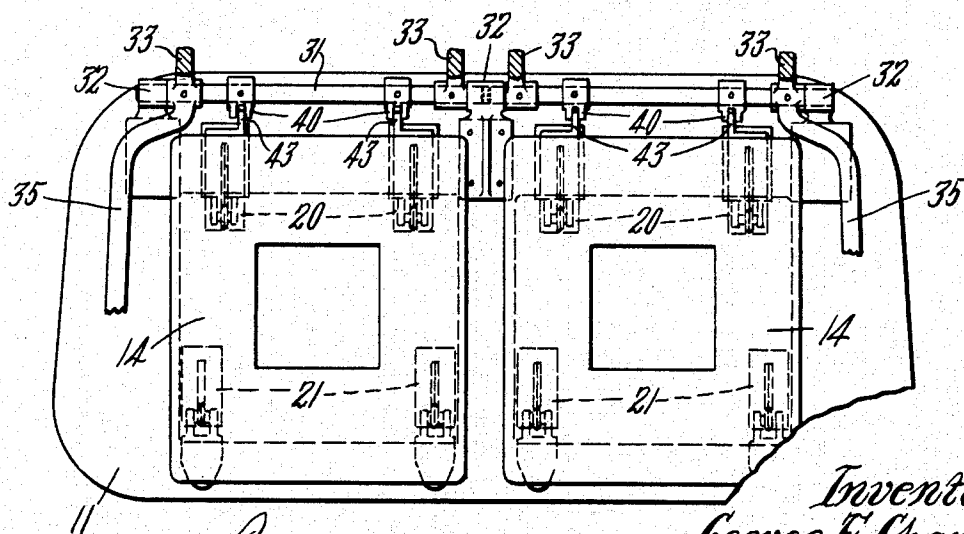
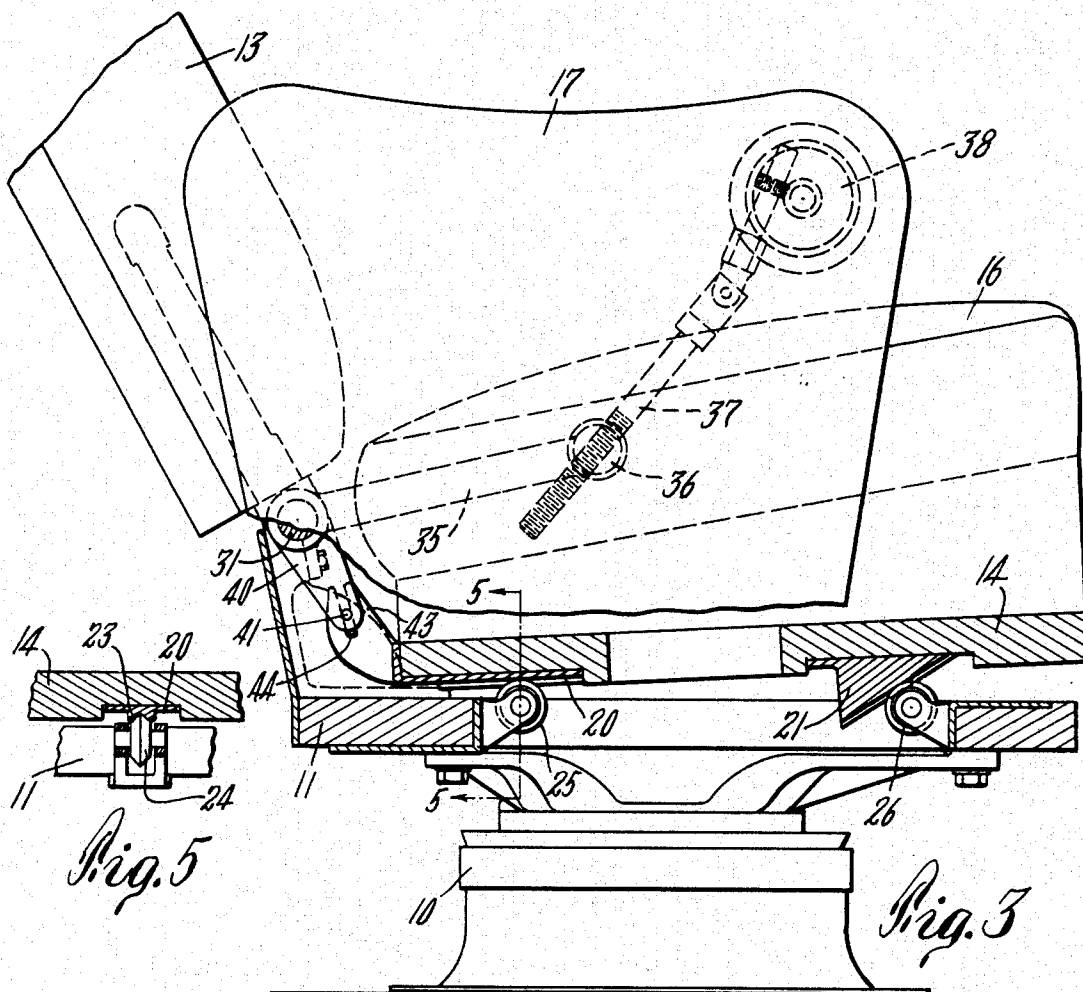
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RECLINING CHAIR

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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RECLINING CHAIR

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3 Claims. (Cl. 155—116)

This invention relates to adjustable reclining chairs and more especially to chairs of the type having backs which can be adjusted to various angles and seats which can be moved forwardly and rearwardly and at the same time angularly adjusted. While the invention is capable of being embodied in chairs of various kinds, it is more particularly described and illustrated herein as embodied in a chair for railway coaches, busses, and other similar vehicles. According to the invention, a chair is provided with a seat which can be moved forwardly and rearwardly, means being included for automatically tilting the seat of the chair rearwardly when the seat is moved forward. Control apparatus is mounted in the arm of the chair, this apparatus being actuable to adjust the angle of the chair back and at the same time to move the seat forwardly or rearwardly a corresponding amount. For a more complete understanding of the invention, reference may be had to the description thereof and to the drawings, of which,—

Figure 1 is a perspective view of a double chair adapted to be mounted on a suitable pedestal in a vehicle.

Figure 2 is a side elevation of the chair shown in Figure 1, a portion being broken away to show certain parts in section.

Figure 3 is a view similar to Figure 2 showing the various parts in different positions of operation.

Figure 4 is a plan view of the base of a chair, with the seat bottoms mounted thereon.

Figure 5 is a fragmentary section on the line 5—5 of Figure 3.

As shown in Figures 1 and 2, the invention may be embodied in a double seated chair mounted to rotate on a suitable pedestal 10. The chair may consist of a flat base 11 of suitable frame-work on which are movably mounted a pair of seats 12 and corresponding backs 13. Each seat may consist of a flat bottom piece 14 supporting a suitable set of springs 15 which in turn carry an upholstered cushion member 16. A pair of chair arms 17 are mounted along the side edges of the base 11. The seats 12, according to the invention, are independently movable forwardly and rearwardly on the base 11. Mechanism is provided whereby forward movement of the seat members 12 automatically results in the rearward tilting of such members when moved forwardly. In Figure 1, the nearer seat is in its rearward position, the further seat being shown in its forward position with the forward portion raised to tilt the seat rearwardly. To facilitate this movement of the

seat members, each bottom member 14 is provided with a pair of rail members 20 on the under face of the member near its rear edge, and a pair of rail members 21 on its under face near the forward edge. These rails may be grooved as shown at 23 in Figure 5 to receive rollers with peripheries bevelled as at 24. A pair of rollers 25 may be mounted by suitable brackets on the base 11 to run in the rails 20 and to support the rear portion of a seat member. A pair of rollers 26 may be mounted by suitable brackets on the forward portion of the base 11 to roll in the grooves of the rail members 21 and to support the forward portion of the seat. The rollers 25 and 26 may conveniently be mounted in openings in the frame or base 11 to economize space. The rail members 21 are preferably triangular in shape so that the rail grooves in which the rollers 26 run make a considerable angle with the bottom face of the base 11. Hence when the seat is moved forwardly, the inclined rail grooves on the rail members 21 cause the elevation of the forward portion of the seat and the consequent rearward tilting of the seat as a whole. The purpose of the forward movement of the seat member with its consequent rearward tilt is to adjust the angle of the seat automatically to a more comfortable position corresponding to a backward tilt of the chair back, the additional rearward tilt of the seat helping to counteract the tendency on the part of the body of the occupant to slide forward when resting against a rearwardly inclined chair back. Hence, common operating means is provided for adjusting the angle of the chair back and for moving the chair seat. The chair backs 13 are rockable on the axis of a pair of coaxial horizontal shafts 31 which are supported on the base 11 above the rear portion thereof. As shown in Figure 4, suitable bearing members 32 may be mounted on the base 11, the shafts 31 being rockable therein. For the angular adjustment of the chair backs 13, suitable lever arms 33 are provided, these arms rising upwardly from the shafts 31 and being secured to the sides of each chair back. These arms are fixed on the shafts 31 and are rockable therewith about their axis. An operating lever 35 is mounted on each shaft 31 and projects forwardly therefrom inside the corresponding arm 17 of the chair. This operating lever 35 carries a suitable nut 36 swiveled in the forward end thereof, this nut being in threaded engagement with a threaded shaft 37 which may be rotated through suitable gearing 38 by a convenient crank handle 39 mounted within the arm of the chair and exposed at the inner face of the chair arm for convenient

manipulation. Operation of the crank handle 39 in either arm of the double chair shown in Figure 1 swings the corresponding chair back and its shaft 31 about the axis of the shaft to adjust the angle of the back.

Fixed to each shaft 31 are one or more downwardly projecting lever arms 40. These arms, as shown in Figure 4, consist of a pair of parallel jaws with a pin 41 supported adjacent to the lower ends thereof. A connecting member 42 is secured to the rear portion of the chair bottom 14 in line with each lever arm 40, each connecting member 42 having a forked end portion 43 projecting upwardly and provided with a terminal slot 44 in which is received the pin 41 of the corresponding lever 40. It is evident from Figures 2 and 3 that when the lever arms 40 are rocked about the axis of the shaft 31, the pin and slot connection between the arms 40 and the corresponding connecting members 42 cause the seat to move forwardly or rearwardly according to the direction of the swing of the arms 40. As the seat moves forwardly, the rail members 21 ride on the rollers 26 and elevate the forward portion of the seat, this movement being simultaneous with a rearward swing of the seat back 30. By the use of such or equivalent connecting means, the removal of the seats from the base 11 is facilitated. If the forward end of a seat 12 is sufficiently raised, the forked end portions 43 clear the pins 41 and permit the removal of the seat for brushing, cleaning, or repairing.

It is evident that many modifications and changes can be made in the herein described embodiment of my invention without departing from the spirit or scope thereof as defined by the following claims.

I claim:

1. A reclining chair comprising a support, four rollers carried by said support in a substantially horizontal plane and rotatable on parallel transverse axes, a seat member having rails on its bottom adapted to travel on the respective rollers, the rearward rails being substantially in the plane of the seat bottom, the forward rails being inclined rearwardly and downwardly, a chair back rockable about a fixed axis on said support, means for adjusting the inclination of said chair back, and disengageable means yieldably connecting said seat and back at a level lower than said axis whereby said seat is thrust forwardly and rearwardly by rocking movement of said back, said seat being tiltable for disengagement from said back.

2. A reclining chair comprising a seat support, a seat slidable thereon, means for raising the forward portion of the seat when it moves forward, and a seat back pivoted on said support to rock on a horizontal axis, said back having a pin and fork connection at its lower end with the rear end of said seat.

3. A car seat comprising a pedestal, a seat support mounted on said pedestal and including a substantially horizontal platform with a central hollow, a pair of rollers mounted on stationary axes in said hollow, a seat movable on said rollers, said seat having on its bottom a pair of downwardly and rearwardly inclined elements extending into said hollow and riding on said rollers, operating means actuable to shift said seat forwardly and rearwardly, and freely disengageable means connecting said seat with said operating means.

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