Jan. 12, 1954 R. R. DARTER 2,665,746

CHILD'S AUXILIARY SEAT FOR BARBER CHAIRS

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Fig. 1.

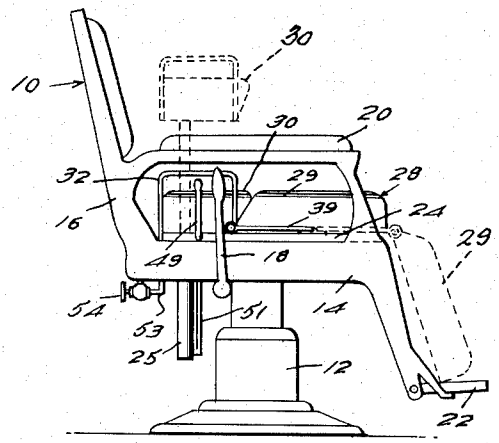


Fig. 3.

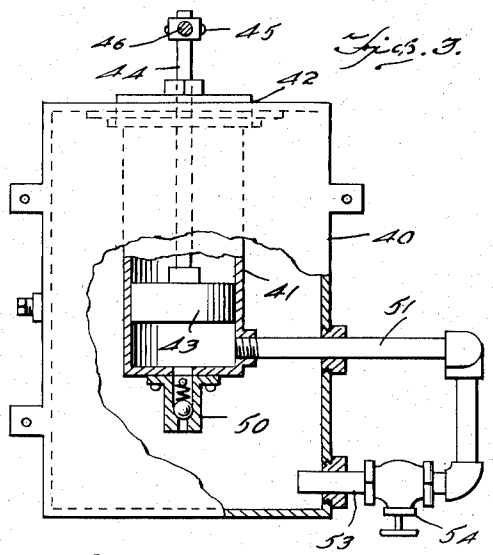
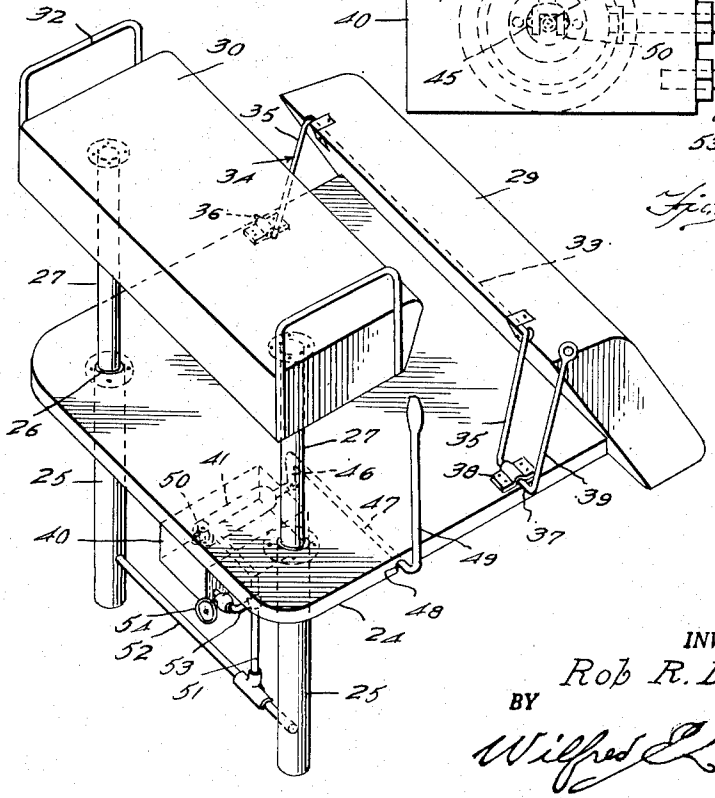


Fig. 2.



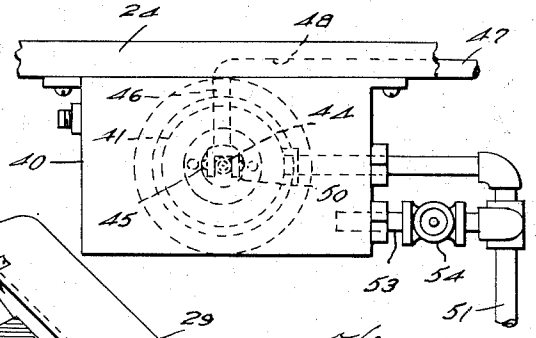


Fig. 4.

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CHILD'S AUXILIARY SEAT FOR BARBER CHAIRS

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4 Claims. (Cl. 155—132)

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This invention relates generally to the class of chairs and seats and is directed particularly to improvements in chairs of the type used by dentists, barbers or other persons whose work requires them to operate upon both adults and children.

While dentist chairs and barber chairs are constructed so that the chair as a whole may be raised or lowered where work must be done upon persons of different heights, ordinarily such chairs are not equipped to elevate children to a convenient position for the operator and it is usually the custom, particularly with barbers, to have a removable seat which is placed upon the regular seat of a chair or to use a board which is placed across the arms of the chair, upon which children may sit while having their hair cut. These methods are awkward and unsafe.

It is a primary object of the present invention to provide in a chair of the character stated, a seat construction, more particularly a seat cushion, in two parts with means whereby the forward one of the parts may be shifted forwardly and downwardly to an out-of-the-way position and the rear part of the seat or seat cushion can be elevated to a desired height, the seat parts when brought back to adjoining relation, providing a single seat cushion upon which an adult may sit comfortably.

Another object of the invention is to provide in a two part seat cushion construction of the character stated, a novel means for facilitating the forward shifting of the forward part of the cushion whereby the occupant of the rear part can place his feet upon a bottom cushion board, thereby avoiding the soiling or damaging of the covering material of the forward portion of the seat.

A still further object of the invention is to provide a two part seat cushion construction wherein the rear seat portion which forms the seat proper for a child, may be conveniently elevated by hydraulic lift means actuated by a hand lever in the same manner as the larger seat structure.

Other objects and advantages of the invention will become apparent as the description of the same proceeds and the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming a part of the specification, with the understanding, however, that the invention is not to be limited to the exact details of construction shown and described since obvious modifications will occur to a person skilled in the art.

In the drawings:

Figure 1 is a view in side elevation of a barber chair of conventional type, showing in association therewith, a divided seat cushion structure made in accordance with the present invention;

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Figure 2 is a view in perspective of the seat cushion structure removed from the chair supporting frame and showing the parts of the cushion separated;

Figure 3 is a detail view illustrating the fluid pumping mechanism.

Figure 4 is a view in front elevation of the fluid tank and adjacent parts.

Referring now more particularly to the drawing the numeral 10 generally designates a conventional type of barber chair and it is to be understood that this may also represent a dentist chair or any other chair of similar form, wherein the supporting pedestal is designated 12, which pedestal carries the rigid seat frame 14 from the rear part of which rises the back 16.

As is well known, chairs of this character have the pedestal in the form of a piston housing and means is provided whereby the upper or piston portion of the pedestal is caused to rise to elevate the chair, by the actuation of a hand lever which is designated 18. No details are shown or considered necessary, of the elevating means for the chair, since this is standard construction and forms no part of the present invention.

The numeral 20 illustrates one of the two side arms of the chair while the foot rest for the chair is designated 22.

In accordance with the present invention there is provided a flat base 24 which may be formed of wood, metal or any other suitable material and which is of the proper contour to rest upon the chair frame 14 between the arms 20.

The chair frame 14 is an open frame and there extends downwardly through the frame the two vertically disposed piston cylinders 25 which are secured to the base 24, as shown, and have their open upper ends coinciding with openings 26 in the base for the extension upwardly of the pistons 27, each of which is slidably fitted in a cylinder 25 and is forced upwardly therefrom by fluid pressure introduced into the lower end of the cylinder as hereinafter described.

Adapted to fit on the base is a seat cushion structure which is generally designated 28 and which comprises the two separate portions 29 and 30, the portion 29 constituting the front portion and the portion 30 the rear portion.

The rear portion 30 of the seat structure provides the auxiliary seat which is elevated by the pistons 27, the upper ends of the pistons being secured to the underside of the auxiliary seat by collars 31 or in any other suitable manner.

Each side of the auxiliary seat 30 has an upstanding handle bar 32 which the occupant of the auxiliary seat may grasp if he so desires.

The forward seat portion 29 is connected along the bottom of the back edge thereof with the horizontal yoke portion 33 of a substantially U-shaped shift frame which is generally designated

34 and which includes in addition to the yoke portion 33 the right angularly extending side arm portions 35. Each of the side arm portions is connected with an end of the yoke portion 33 and the other ends of the side arm portions, which portions are in spaced parallel relation and perpendicular to the portion 33, are turned outwardly at right angles as indicated at 36 and 37. The portions 36 and 37 of the shift frame arms each forms an element of a hinge and is maintained in position for rotation, upon the top of the base 24, by means of a hinge plate 38. The hinge plates are at opposite side edges of the base as shown and the length of the arms 35 is such that when the frame is swung rearwardly and downwardly it will bring the forward portion 29 of the seat structure into a position where it will butt against the forward part of the auxiliary seat 30 when the latter is lowered onto the base 24 as shown in Figure 1.

To facilitate the shifting of the forward portion 29 of the seat, the lateral hinge extension 37 extends outwardly a short distance beyond the adjacent side of the base 24 and has joined thereto an end of a lever 39. This lever 39 lies horizontally in a rearward direction at the right-hand side of the chair structure when the seat portion 29 is in place or flat upon the base 24 and, when it is swung upwardly and forwardly into the opposite horizontal position, the shift frame 34 is raised and swings forwardly and slides the seat portion 29 downwardly to rest on the foot rest 22 where it will be entirely out of the way of an occupant on the auxiliary seat 30.

As previously stated, the auxiliary seat 30 is raised by hydraulic means and for this purpose the following mechanism is provided.

Supported in a convenient location beneath the seat frame or within the seat frame 14 is a fluid tank 40 and positioned within this tank is a piston cylinder 41 which has an end secured to a wall of the tank and opening therethrough as indicated at 42.

Within the fluid cylinder 41 is a piston 43 having a piston rod 44 which passes through the opened end of the cylinder to the outside of the latter and of the tank and is pivotally attached as at 45 to the crank end 46 of a rock shaft 47 which is mounted in a suitable channel 48 in the bottom of the base 24 and extends laterally to and beyond the right hand side of the base. This shaft at the outer end is connected with an operating lever 49 which when rocked back and forth reciprocates the piston 43 in the cylinder 41.

The inner end of the cylinder is within the tank 40 and has therein an inwardly opening check valve 50 which admits fluid to the piston cylinder when the piston is drawn outwardly.

Connected with the forward or check valve end of the cylinder is a pipe line 51 which leads outwardly through the tank and connects with a distributing pipe 52 which is connected between the lower ends of the piston cylinders 25.

The pipe 51 has connected therewith a fluid return pipe 53 which leads back to the fluid tank 40 and has therein a hand valve 54. It will be readily apparent that this hand valve is kept closed when the pumping piston 43 is being actuated and thus the fluid forced out into the line 51 will enter the cylinders 25 beneath the pistons 27 and raise the auxiliary seat structure 30. When the auxiliary seat structure is to be lowered the operator opens the valve 54 and the weight of the auxiliary seat and the person thereon will force the pistons 27 downwardly, thus ejecting the fluid from the cylinders 25 and causing it to return to the tank 40 by way of the by-pass 53.

From the foregoing it will be readily apparent that there is provided by the present invention a seat construction of novel form and relatively simple design by means of which children may be seated at a desired elevation on the chair structure which is also designed for used by adults. It will also be apparent that when the auxiliary seat 30 is elevated dirtying and damaging of the forward seat portion 29 is prevented by the convenient forward and downward shifting of this part of the seat so that the occupant of the auxiliary seat 30 can place his feet upon the base 24.

I claim:

1. In a chair of the character set forth a seat comprising a base, a cushion unit thereon comprising a forward portion and a rear portion, the rear portion constituting an auxiliary seat, means for elevating the rear portion from the base, and pivoted means coupling the forward portion to the base and adapted when actuated in one direction to move said forward portion forwardly and downwardly from the base, so that it will be free of contact with the feet of a child occupying the auxiliary seat.

2. The invention as set forth in claim 1, wherein said pivoted means comprises a frame having a central portion pivotally connected to the rear of said forward portion and two side arm portions pivotally attached to the base, and an actuating lever comprising another arm laterally offset from and extending parallel to one of said arm portions.

3. The invention as set forth in claim 1, wherein said elevating means comprises a pair of vertical fluid cylinders carried by and below said base and opening upwardly therethrough, a piston in each cylinder and projecting upwardly therefrom and attached to said auxiliary seat, a tank mounted on the lower side of said base, a piston-cylinder unit within said tank, a lever for actuating the last named piston to force fluid into the cylinders beneath the pistons, and valve means for exhausting the fluid from the cylinders back into said tank.

4. In a chair of the character set forth, a seat frame, a flat base board thereon, a cushion unit on the base and divided transversely into a rear auxiliary seat portion and a forward portion, a substantially U-shaped frame having a middle portion lying along the bottom back edge of said forward portion and pivotally attached thereto and spaced side leg portions lying on the base when the forward seat portion is resting thereon and extending forwardly, a hinge connection between the free end of each leg and the base for swinging the frame upwardly and forwardly to effect the forward and downward shifting of the seat forward portion from the base, a lever attached to the pivoted end of one leg, and means for raising and lowering said rear auxiliary seat.

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