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2,701,006

BATH CHAIR

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2 Sheets-Sheet 1

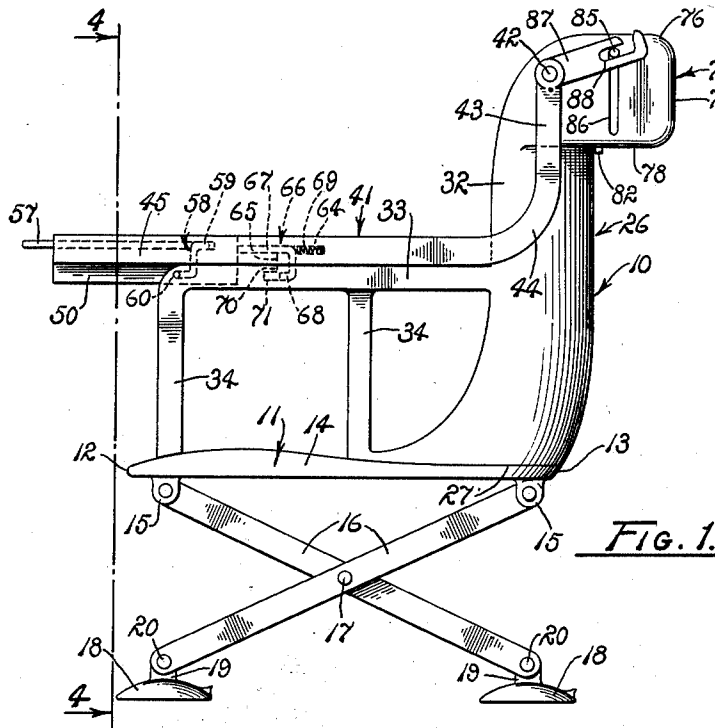


FIG. 1.

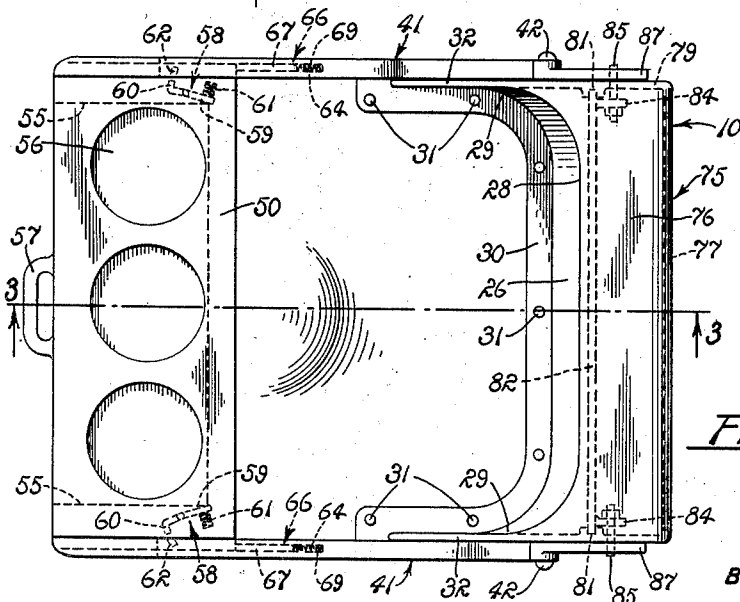


FIG. 2.

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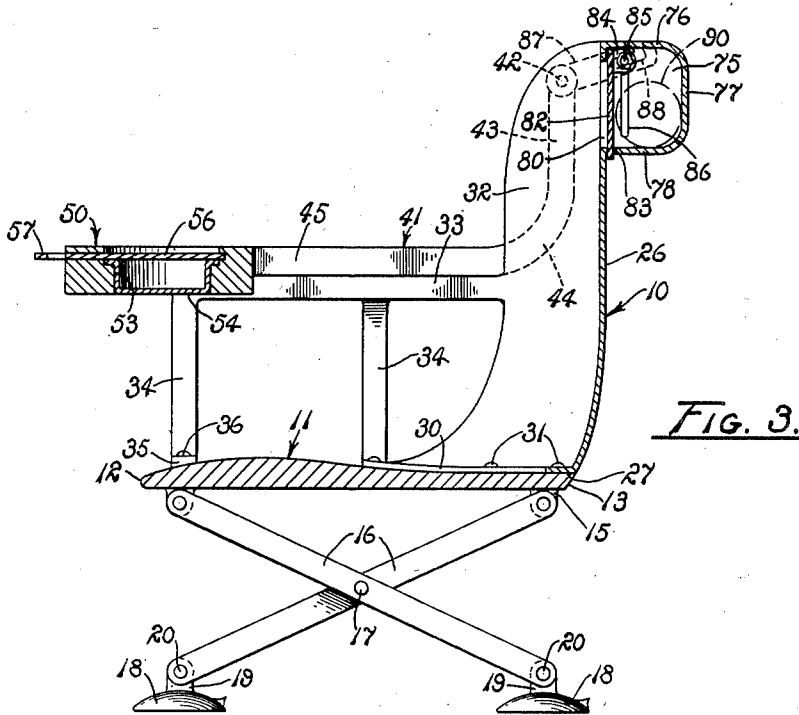


FIG. 3.

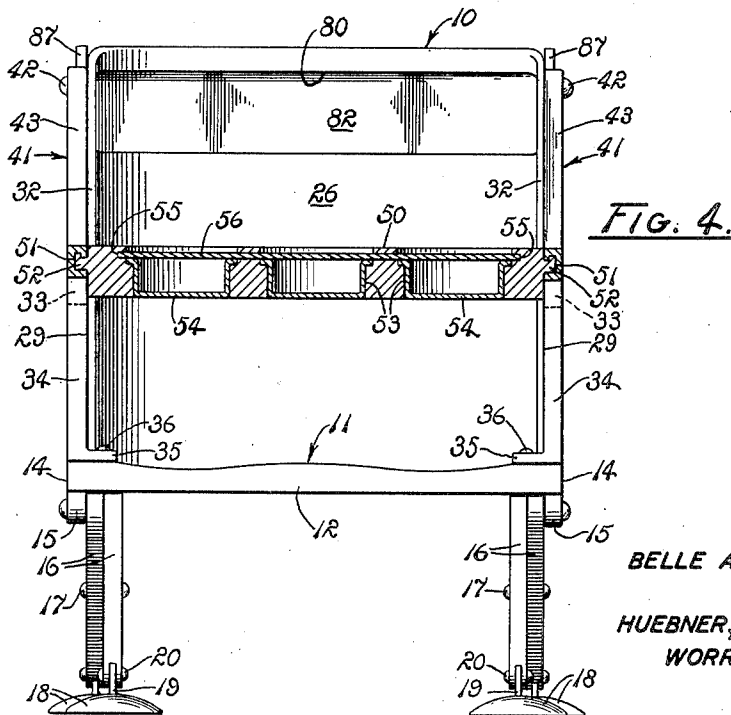


FIG. 4.

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BATH CHAIR

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6 Claims. (Cl. 155—126)

The present invention relates to chairs and more particularly to chairs adapted for use in bath tubs, shower stalls, and the like.

It has long been recognized that the seated or reclining positions normally assumed in a bath tub and the standing position for showers are not the most conducive to comfort or convenience in bathing. For those having physical disabilities incident to sickness, injury, advanced age, or the like, these positions are frequently so unsatisfactory that bathing is restricted to sponging operations. It has been discovered that a large measure of the discomfort and inconvenience can be obviated by the provision of a chair suited to the support of an occupant in an elevated position in bath tubs, shower stalls, and the like with the normally requisite toilet articles provided in conveniently accessible locations.

An object of the present invention is to provide a bath chair suitable for use in bath tubs, shower stalls, and the like.

Another object is to obviate or substantially reduce the dangers incident to falling in bath tubs and shower stalls by providing a chair for occupant support therein.

Another object is to provide a bath chair of the character described having provision for dependable maintenance of position once subjected to the weight of an occupant.

Another object is to provide a bath chair making provision for the support of toilet articles, towels, and the like in conveniently accessible positions therein.

Another object is to provide a chair having a tray removably positionable in occupant retaining position.

Another object is to provide a bath chair having a towel housing compartment.

Another object is to provide a bath chair having a tray removably positionable to confine an occupant of the chair, receptacles mounted in the tray, covers for the receptacles, automatic means for retaining the covers over the receptacles when the tray is displaced from occupant retaining position, a towel containing housing, a waterproof door mounted in closing relation to the housing, and a control linkage interconnecting the door and the tray whereby the door is automatically closed in response to movement of the tray to occupant retaining position.

Further objects and advantages will become apparent in the subsequent description in the specification.

Referring to the drawings:

Fig. 1 is a side elevation of a bath chair embodying the principles of the present invention.

Fig. 2 is a plan view of the chair illustrated in Fig. 1.

Fig. 3 is a vertical longitudinal section through the chair as viewed from line 3—3 in Fig. 2.

Fig. 4 is a front elevation of the chair with a tray utilized therein shown in vertical section as on line 4—4 in Fig. 1 of the drawing.

Referring in greater detail to the drawings:

The bath chair of the present invention is indicated generally by the reference numeral 10. The chair is provided with a substantially rectangular seat 11 of generally the conventional chair seat form having a forward edge 12, a rearward edge 13 and approximately parallel side edges 14 substantially at right angles to the forward edge and the rearward edge. A pair of substantially aligned ears 15 extend downwardly from the seat adjacent to each of its side edges 14. A leg 16 is attached to each of the ears 15. The resultant pair of legs 16 at each side of the seat are crossed and interconnected in bracing relation, as at 17.

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A suction cup 18 of rubber or other suitable water proof, flexible material is preferably mounted on the lower end of each leg. Each cup provides an ear 19 of metal embedded in the cup which projects upwardly into a bifurcated portion at the lower end of each of the legs. A pin 20 is passed through each bifurcated portion and its respective ear. The suction cups are adapted to rest downwardly on the bottom of a conventional bath tub, shower stall or the like and with the weight of a person sitting on the seat forcing the suction cups downwardly, the chair is dependably maintained in the predetermined position.

The chair 10 is provided with a seat back 26 having a lower edge 27, an upper edge 28, and vertical parallel side edges 29. The lower edge 27 of the seat back is formed with an inwardly extending flange 30 whereby the seat back is secured to the seat bottom by means of a plurality of rivets 31 passed through the flange and through the seat adjacent to the rearward edge 13. Side wings 32 are formed integrally and arcuately blended with the side edges 27 of the seat back forming a concave portion against which a person may rest while seated on the chair. A side arm 33 extends forwardly from each side wing vertically above and parallel to the side edges of the seat and terminating approximately above the forward edge of the seat. A plurality of posts 34 interconnect each side arm with the seat. The posts are integral at their upper ends with the side arms and at their lower ends are provided with lips 35 which are riveted at 36 to the seat bottom. The posts 34 maintain the side arms in fixed parallel relation to the seat bottom.

A pair of tray arms 41 are pivotally mounted at 42 on opposite sides of the chair individually on the side wings 32 adjacent to the upper edge of the seat back and on a common horizontal transverse axis. Each tray arm has a vertical portion 43 adjacent to its pivot, an arcuate portion 44, and a horizontal portion 45 adapted to rest horizontally on one of the side arms 33 when in a downwardly pivoted position. The tray arms are also adapted to be pivoted upwardly and rearwardly to withdrawn positions.

A substantially rectangular tray 50 is supported longitudinally horizontally between the tray arms 41 by forming a groove 51 longitudinally in the inner face of each of the tray arms and forming a complementary tongue 52 on each of the ends of the trays. The tongues have a sliding fit with the grooves 51 so that the tray may be moved forwardly and rearwardly on the tray arms or may be removed entirely from the tray arms on sufficient forward movement.

A plurality of cylindrical recesses or cups 53 are formed in the tray 50. An open top receptacle 54 is fitted into each of the recesses 53. The receptacles are adapted to receive toilet articles such as soap, wash cloths, bobby pins, curlers, hair pins, toilet water, perfume, powder, or the like. A cover guideway 55 is formed above the receptacles 54 in the tray 50 and a rectangular cover 56 of sheet material slidably mounted therein for reciprocal positioning transversely of the tray between a position in covering relation to the receptacles and a position removed therefrom. A handle 57 is formed in the outer edge of the cover to aid in manual manipulation of the cover.

In order to preclude inadvertent dumping of articles from the receptacles 54 incident to upward pivotal movement of the tray 50 and arms 41 while the cover 56 is displaced, a pair of latches 58 are provided at opposite sides of the tray. Each latch consists of a rod bent to the form shown in Figs. 1 and 2 having a trigger portion 59 at one end thereof and an angularly related hook portion 60 at the opposite end. Each of the rods is pivotally mounted substantially at its mid-portion in the tray with the trigger thereof rearwardly extended into the adjacent guideway 55. A spring 61 is located in a recess in the tray and engages the trigger of the latch urging the trigger into its respective guideway and the hook portion of the latch into a bore 62 formed in an inside face of the adjacent arm of the chair. When the cover 56 is slid forwardly, each of the springs 61 urge the triggers of their respective latch rods into the guideways 55 and the hook portions 60 thereof into the bores 62 locking the tray

arms 41 so as to preclude upward pivotal movement thereof. When the cover is slid rearwardly into shielding relation to the receptacles 54 so as dependably to retain articles therein and/or to shield articles from water during bathing, the cover presses against the trigger portions 59 of the latches and releases the hook portions thereof from the bores 62.

Somewhat similarly, upward pivotal movement of the tray arms 41 is precluded by displacement of the tray 50 from its rearwardmost position in the grooves 51. This is not only for the purpose of precluding inadvertent displacement of the tray during pivotal movement of the arms but it will be observed that the tray serves to interconnect the arms for corresponding pivotal movement and such interconnection is best effected when the tray is fully in place. A bore 64 is formed rearwardly from each of the grooves 51 longitudinally of its respective tray arm 41. A slot 65 is formed downwardly through the tray arm from each of the bores at a position intermediate the rearward end portion of its adjacent groove and rearward end portion of the bore. A substantially J-shaped, rod-like, retainer 66 provides a portion 67 slidably mounted in the bore 64 with a forwardly extended end disposed within the adjacent groove. As evident in Fig. 1, the retainer is downwardly extended through the slot 65 and provides a hooked lower end 68. A compression spring 69 is mounted in each of the bores 64 between the retainer therein and the rearward end portion of the bore. A slot 70 is formed downwardly in each of the chair arms 33 in a position to receive the hooked lower end of its retainer. Each of the slots 70 provide a forwardly extended bore 71 into which the hooked lower end 68 can seat in order to lock the tray arm against the chair arm.

A towel housing 75 is formed at the upper edge of the seat back and extends rearwardly therefrom providing a top wall 76, a rear wall 77, a bottom wall 78 and spaced end walls 79 substantially flush with the side wings 32 of the seat back. An opening 80 is provided through the seat back near its upper edge for accessibility to the enclosure. Vertical guide ways 81 are molded or formed into the end walls of the enclosure adjacent to the openings 80 for the guided movement of a rectangular door 82 of sheet material which is vertically movable between a position in covering relation to the opening or downwardly to a withdrawn position for accessibility for the interior of the enclosure. The lower edge of the door projects through a slot 83 formed through the bottom wall 78 of the enclosure permitting vertical movement of the door. An ear 84 projects rearwardly from each end of the door interiorly of the enclosure and a rod 85 is mounted between the ears and extends through a vertical slot 86 formed in each of the end walls 79 of the enclosure. The vertical positioning of the door 82 is regulated by pivotal positioning of the tray arms 41 through the provision of a lever 87 secured to and extending from each tray arm radially of its pivot 42. An arcuate slot 88 is formed downwardly in the extended end of each lever and thence longitudinally of the lever as evident in Fig. 1. When the tray arms are in their downward positions rested on the side arms of the chair the ends of the rod 85 extend into the longitudinal portions of the slots 88 in the levers. As the tray arms are pivoted upwardly, the door 82 is slid downwardly until it reaches its lowermost position, in which position the rod registers with the side openings in the levers 87 whereby the tray arms may be pivoted further rearwardly and downwardly beyond rod engagement. On pivoting the tray arms upwardly and forwardly, the levers 87 again engage the rod moving the door upwardly toward closed position while the rod moves inwardly of the longitudinal slot 88.

Operation

The operation and utility of the bath chair 10 of the present invention are believed to be apparent and are briefly summarized at this point. The chair is placed in a bath tub, shower stall, or other location desired with the suction cups 18 rested on the bottom thereof. With the tray 50 in rearwardmost position in the tray arms 41 and with the cover 56 in covering relation to the receptacles 54 in the tray, the tray arms 41 are pivoted upwardly and rearwardly to admit a person to the chair. With the arms elevated the door 82 is open so that a towel 90 may be placed in the housing 75.

When an occupant sits in the chair, the suction cups 18

are compressed against the support surface on which they are rested and the chair dependably retained in position. When a person is seated in the chair, the tray arms 41 are pivoted forwardly and thence downwardly until they come to rest position on the side arms 33. As the tray arms are pivoted forwardly, the door 82 is moved to closed position to maintain the towel 90 in dry condition in the housing and the tray 50 is moved to convenient position forwardly of the occupant of the chair. Access is gained to the receptacles simply by sliding the cover 56 forwardly from the tray 50. Somewhat similarly, if it is desired to remove the tray, it can be slid forwardly from the arms 41.

It will be recalled that the arms 41 are latched against upward movement by the forward displacement of either the tray 50 or cover 56 from its initial positions. This obviates inadvertent discharge of articles from the receptacles 54.

The chair is an aid to young and old in its provision of occupant support at an elevation conducive to comfort and bathing convenience. The automatic latching of the tray arms 41 in lowered position incident to displacement of the cover 56 or tray 50 and the automatic positioning of the door 82 by elevational movement of the arms are useful adjuncts to the chair. It will be noted that whenever the chair is occupied and the tray arms 41 lowered, the door is closed so that during all bathing the towel is maintained in a dry condition.

Although the invention has been herein shown and described in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and apparatus.

Having described my invention what I claim is new and desire to secure by Letters Patent is:

1. The combination of a mounting member, a pair of substantially parallel tray arms mounted on the mounting member for reciprocal movement between a horizontal position and a retracted position, a tray having upwardly disposed receptacles therein mounted between the tray arms for reciprocal movement between a predetermined operable position and a displaced position, releasable means latching the tray arms in horizontal position released by moving the tray in the arms to operable position, a cover mounted on the tray for reciprocal positioning between a position in shielding relation to the receptacles and a retracted position, and further releasable means latching the tray arms in horizontal position released by moving the cover to shielding position.

2. In a chair having a seat and a back upwardly extended from the seat, a pair of substantially horizontal arms forwardly extended from the back on opposite sides of the seat, a pair of arms pivotally mounted on opposite sides of the back for reciprocal movement between horizontal positions and upwardly pivoted retracted positions, each of the arms having a groove formed longitudinally therein in facing relation to the opposite arm, a tray having receptacles therein slidably mounted in the grooves of the arms for reciprocal forward and rearward movement therein, said tray having guideways formed therein at opposite sides of the receptacles, a cover slidably mounted in the tray for reciprocal movement between a position in covering relation to the receptacles and a retracted position, a latch pivotally mounted in the tray releasably engageable with the chair having a trigger portion extended into a guideway for engagement with the cover, resilient means urging the catch into chair engagement, a retainer reciprocally mounted in a tray arm having a hooked portion extended for chair engagement and a trigger extended into the groove of its tray arm for tray engagement, and resilient means urging the retainer into a position with the trigger portion disposed in the groove and the hooked portion latched in the chair.

3. In a chair having a seat the combination of a pair of substantially horizontal arms mounted on opposite sides of the seat in substantially parallel relation, a pair of tray arms pivotally mounted on the chair for reciprocal movement between positions rested on the arms and retracted positions pivoted upwardly therefrom, each of the tray arms having an extended end provided with a longitudinal groove laterally disposed toward the opposite tray arm, a tray slidably mounted in the grooves of the tray arms for reciprocal movement longitudinally thereof, a retainer

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slidably mounted in a tray arm rearwardly of the tray mounting groove thereof for reciprocal movement longitudinally of the tray arm, said retainer having a hooked portion downwardly extended from the tray arm and an operating end portion forwardly extended into the tray mounting groove, the chair arm on which the tray arm is adapted to rest being formed with a slot downwardly therein adapted to receive the hooked portion of the retainer and having a forwardly extended bore adapted to receive said hooked portion when the retainer is forwardly positioned in its tray arm while rested on the chair arm, and a compression spring mounted in the tray arm urging the retainer forwardly in the tray arm.

4. In a chair having a seat the combination of a pair of substantially horizontal arms mounted on opposite sides of the chair in substantially parallel relation, a pair of tray arms pivotally mounted on the chair for reciprocal movement between substantially horizontal positions rested on the chair arms and retracted positions pivoted upwardly therefrom, a tray mounted on the tray arms, said tray having parallel guideways formed therein on opposite sides of the receptacles, a latch pivotally mounted in the tray having a trigger portion extended into a guideway and a hooked opposite end portion engageable with an arm of the chair, and a spring mounted in the tray urging the latch into chair arm engagement.

5. In a chair having a seat and a back upwardly extended from the seat, a pair of substantially horizontal arms horizontally extended from the back on opposite sides of the seat, a towel housing mounted on the back accessible through an opening formed through the back, a door slidably mounted in the housing for reciprocal movement between a position in closing relation to the opening formed through the back and a downwardly retracted position, said housing having closed opposite ends at opposite sides of the back provided with vertically elongated slots, a rod mounted on the door and oppositely

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extended through the slots, a tray arm pivotally mounted on the back adjacent to the housing on each side of the chair and forwardly extended therefrom, said arms being reciprocally pivotal between horizontal positions rested on the arms of the chair and retracted positions upwardly pivoted therefrom, and a lever rigidly extended from each arm rearwardly across the ends of the housing, said levers having slots formed therein adapted to receive the door positioning rod whereby pivotal elevational movement of the tray arms reciprocally positions the door to and from closing relation to the opening in the back.

6. In combination with a pair of substantially parallel arms mounted for pivotal movement between a substantially horizontal position and a position pivoted upwardly therefrom, a tray having upwardly disposed receptacles therein mounted between the tray arms for reciprocal movement between a predetermined operable position and a displaced position, releasable means for latching the tray arms in their horizontal position mounted for engagement with the tray when said tray is in operable position and released by such engagement, a cover mounted on the tray for movement between a position in covering relation to the receptacles and a position removed therefrom, and further releasable means for latching the tray arms in horizontal position engageable with the cover when said cover is in covering relation to the receptacles and released by such engagement.

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