

June 28, 1960

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INVALID'S COMMODE

2,942,648

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2 Sheets-Sheet 1

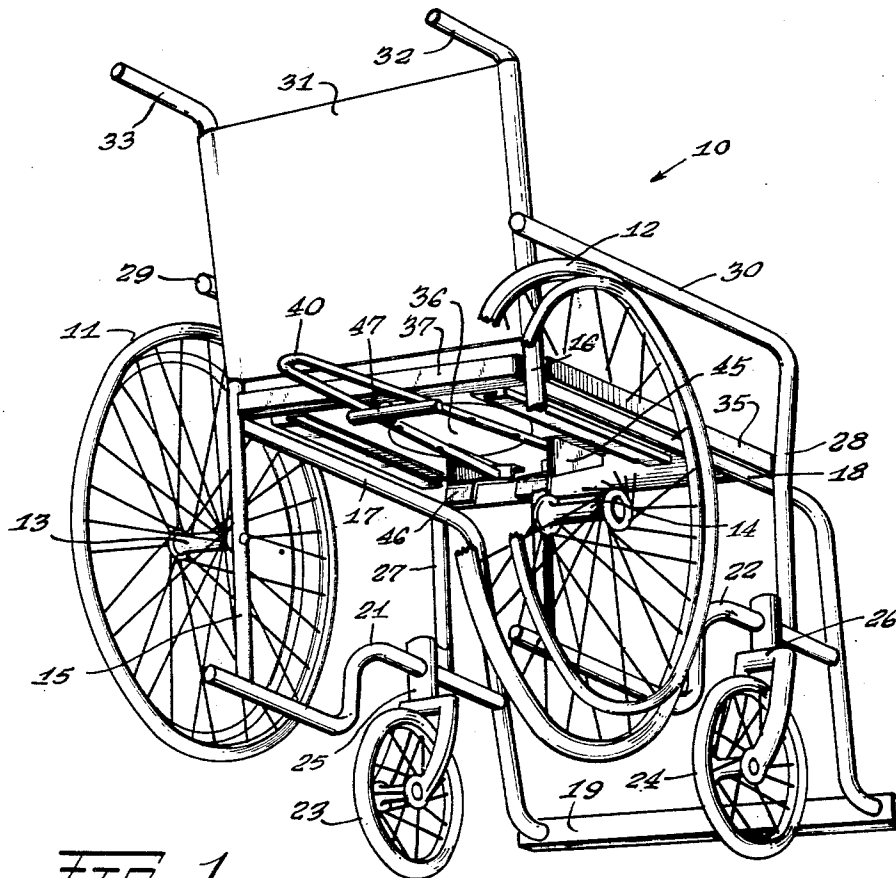


FIG. 1

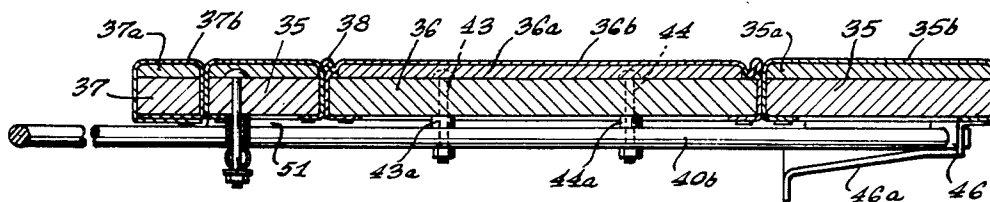


FIG. 3

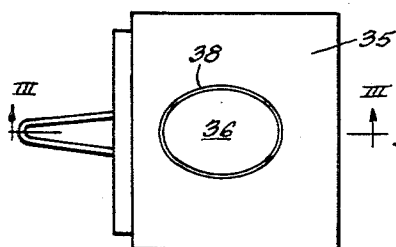


FIG. 2

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2 Sheets-Sheet 2

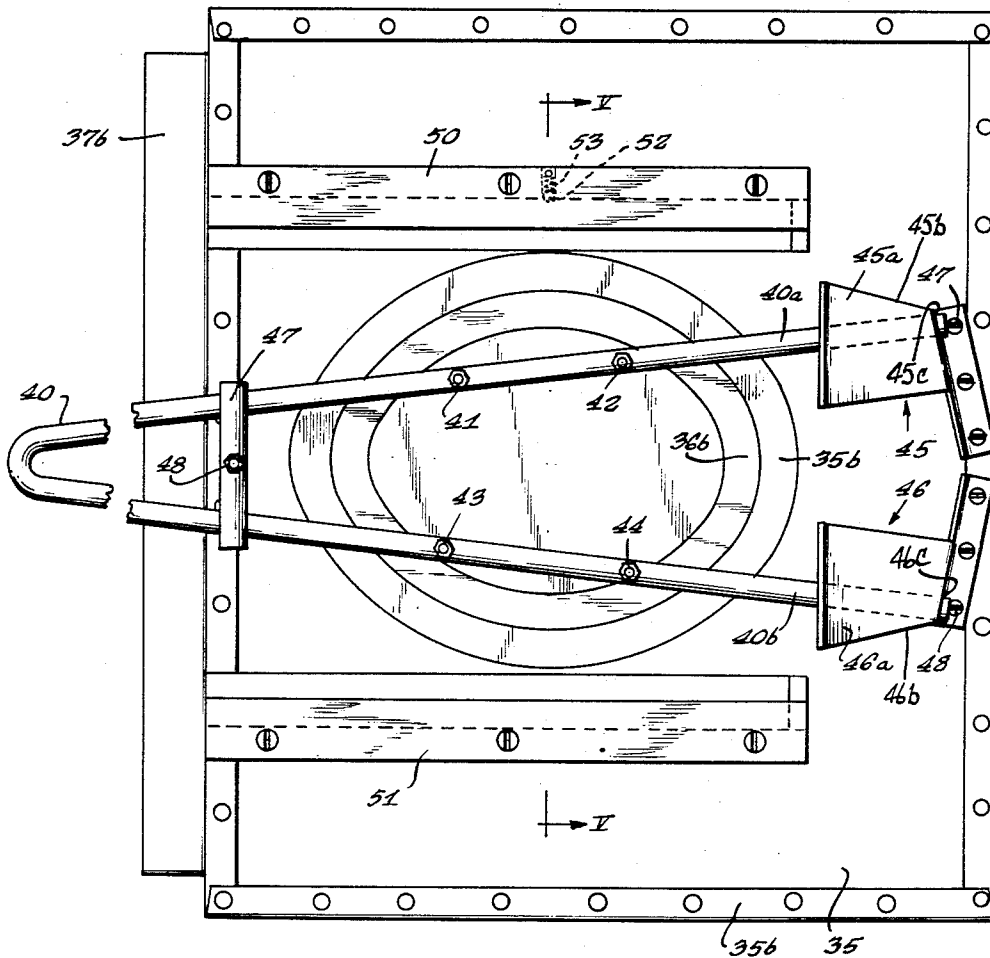


FIG. 4

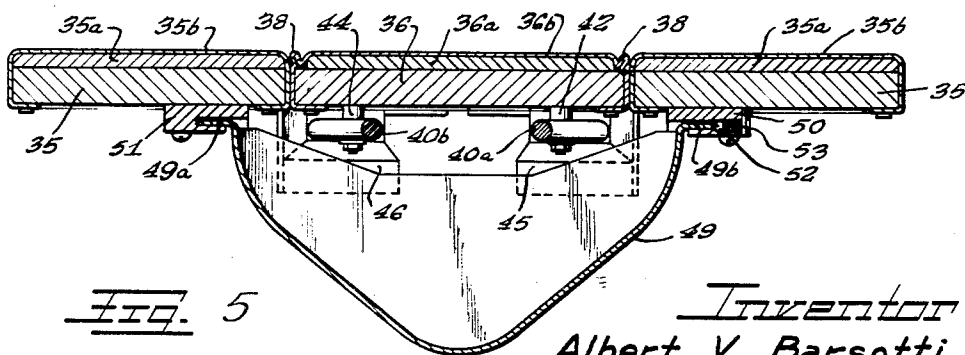


FIG. 5

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INVALID'S COMMODE

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3 Claims. (Cl. 155—31)

This invention relates to an invalid's commode. More particularly, this invention relates to a wheel-chair or the like construction wherein a portion of the seat is removable from beneath and either in back or in front of the chair so that a receptacle may be positioned under the resulting opening in the seat in order to accommodate the bodily functions of the patient in the chair without requiring the patient to be moved with respect to the chair.

There are numerous diseases such as multiple sclerosis, and various other forms of muscular atrophy and paralysis which render it extremely undesirable or often impossible to move a wheel-chair patient with respect to the wheel-chair in order to permit the use of an ordinary bedpan or other receptacle designed to accommodate the bodily functions of the patient. The length of time during which patients having such diseases can safely and comfortably remain in a wheel-chair has in the past been adversely affected by the necessity of moving the patient in order to make provision to accommodate his bodily functions.

It is therefore an object of this invention to provide a wheel-chair or similar means for supporting the patient wherein a portion of the seat thereof is removable from an opening therein in order that a receptacle may be positioned beneath the opening to accommodate the bodily functions of the patient without the necessity of moving the patient in the chair.

It is a more general object of this invention to provide a wheel-chair having a commode as a built-in feature of the structure thereof.

It is a further object of this invention to provide such a wheel-chair wherein the removable portion of the seat is normally firmly supported in position to form a continuous top seat surface with the rest of the seat but may be removed from beneath or in back of the seat without disturbing the patient in the chair.

Other objects, features and advantages of the present invention will be more fully apparent from the following detailed description of a preferred exemplary embodiment thereof when taken in connection with the accompanying drawings in which like reference characters are used to refer to like parts throughout and wherein:

Figure 1 is a perspective view looking upwardly from the back of a wheel-chair constructed in accordance with the present invention.

Figure 2 is a plan view of the top of the seat of the chair of the present invention.

Figure 3 is a sectional view taken on the line III—III of Figure 2.

Figure 4 is a plan view with parts in elevation showing the bottom surface of the seat of the chair of Figure 1 and the manner in which the removable portion thereof is detachably secured in place.

Figure 5 is a sectional view taken on the line V—V of Figure 4.

Turning now to the drawings and in particular to

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Figure 1 thereof, there is shown a wheel-chair 10 incorporating an invalid's commode in accordance with the present invention. The general manner of construction of the wheel-chair may be of any convenient or well-known type and as illustrated comprises spoked wheels 11 and 12 which are respectively attached by stub axles 13 and 14 to the rear vertical frame members 15 and 16 (a portion of the member 16 being broken away for clarity of illustration). Frame members 15 and 16 are in turn attached to generally horizontal seat supporting frame members 17 and 18 which extend forwardly from the rear vertical support members 15 and 16 and continue downwardly near the front of the chair to support a foot rest 19. Lower horizontal frame members 21 and 22 are connected between the lower portions of the rear frame members 15 and 16 and the forward downward extension of the frame members 17 and 18 in order to afford structural rigidity and to provide a support for the front wheels 23 and 24 which are mounted by means of yokes 25 and 26 to the frame members 21 and 22. Frame members 27 and 28 are preferably welded to the frame members 21, 17 and 22, 18 respectively in order to provide further rigidity and may continue upwardly and rearwardly to be joined to the vertical rear frame members 15 and 16 thereby affording arm rest members 29 and 30. Any suitable back support member 31 is attached to the rear vertical frame members 15 and 16 as shown and these frame members may terminate in handles 32 and 33 by which the chair may be conveniently wheeled.

Considering now in particular Figures 1, 2, and 3, it will be noted that a first seat member 35 is attached to the frame of the chair and supported thereby. Member 35 may, for example, be attached to or removably mounted on horizontal frame work members 17 and 18 in any convenient manner and may further be held more firmly in position by abutment with upright frame members 27 and 28 as well as to members 15 and 16. The outer edge or perimeter of the first seat member 35 is shaped to be received by the above-noted framework members and to thereby provide a seat for a human patient in said chair.

To accommodate sidewise folding of the chair, the rigid seat member 35 can be removed from the frame or can have one side hinged to a frame 17 or 18. The first seat member 35 is further provided with a centrally positioned generally elliptically shaped opening in which a second seat member 36 of generally the same shape as the opening is adapted to be removably secured so that the first and second seat members will mate to form a continuous top seat surface. To this end, padding 35a and a covering 35b may be provided on the first seat member and similar padding 36a and covering material 36b may be provided on the second seat member. A third seat member or extension 37 may also be attached to the back or rear edge of the first seat member 35 in order to prevent the clothing of the patient from slipping down over the rear edge of seat 35. Extension member 37 may similarly be provided with padding 37a and covering material 37b. The covering material may conveniently extend across the entire top surface of each of the seat members and may conveniently be folded down around the edges thereof and tacked or otherwise attached to the bottom surfaces of the seat members as seen most clearly in Figure 4. It will be noted from Figure 2 that when the seat members 35 and 36 are in assembled relationship a substantially continuous top seat surface is afforded, there being only a slight separation 38 at the point where the two seat members join and wherein the covering material normally will become gathered.

The central or removable seat member 36 has attached to the undersurface thereof a supporting member 40

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preferably in the form of a V-shaped bar. V bar 40 has legs 40a and 40b which are rigidly attached to the underside of seat member 36 by bolts 41, 42, 43 and 44. If desired, spacers such as shown at 43a and 44a in Figure 3, may be provided to hold the V bar rigidly at a predetermined distance from the seat member 36. Although other supporting means may be used, the advantage of the V bar arrangement lies in the fact that it affords support at the two sides of the central seat member 36 thereby lending greater stability to this seat member when it is in position in the chair.

The arm 40a of the V bar 40 rests in a flange member 45 whereas the arm 40b rests in a flange member 46. Flange member 45 is secured through the underside of the first seat member 35 as by screws or lag bolts 47 and flange member 46 is similarly attached by screws or lag bolts 48. It will be noted that the flange members are provided with upwardly sloping bottom surfaces 45a and 46a and inwardly sloping outer surfaces 45b and 46b serving to guide the arms 40a and 40b into holes or recesses 45c and 46c of the flange members. The V bar arms are thus easily positioned into their supporting sockets when the seat is being pushed into position. When the V bar is pushed all the way back in the flange members, the spacing of the seat member 36 on the V bar assembly is such that the seat member will then fit into the central opening in seat member 35 when the V bar is lifted upwardly from the back of the chair 10.

A latch or retaining member 47 is then rotated to the position shown in Figures 1 and 4 in order to hold the V bar assembly and seat member 36 in position. Latch arm 47 is rotatably mounted on a bolt or other supporting means 48 which secures the latch to the underside of the first seat member 35. When it is desired to remove the second or central seat portion 36 from the chair, the latch member 47 is rotated permitting the V bar to be lowered and slid down the sloping surfaces of the flange members 45 and 46 so that the seat portion 36 may be withdrawn from beneath and behind the chair 10.

In order to support a receptacle or bed-pan 49 under the opening in the first seat member when the central seat member 36 is removed, a pair of generally U-shaped channel members 50 and 51 are rigidly attached to the underside of the seat member 35 by any convenient means such as screws or lag bolts. The channel members 50 and 51 are positioned adjacent the central opening in seat member 35 and extend rearwardly to the back of the chair 10 so that receptacle 49, having flanges 49a and 49b which are adapted to ride in the U channels may be slid into position under the seat opening.

The U channel 50 is preferably provided with a ball or other retaining means 52 biased by spring 53 to urge the ball against the flange 49b of receptacle 49 so as to hold the receptacle firmly against sliding movement within the channels when it is once positioned therein and thus avoid any possibility of dropping the receptacle when the chair 10 is tilted.

It will be apparent that in operation, a nurse or attendant may readily have access from the rear of the chair 10 or from beneath the chair 10 to the latch 47 which may be turned to release the V bar assembly 40 supporting the removable seat portion 36. Seat portion 36 may thus be lowered and withdrawn from the flange supporting members 45 and 46 without in any way moving or disturbing a patient in the chair 10. The receptacle 49 may then readily be slid into the U channels 50 and 51 in order to accommodate the bodily functions of the patient in the chair 10. It is, of course, assumed that the patient will be so clothed when originally placed in the chair 10 that the bodily functions may be carried out without interference from the clothing. The extension member 37 at the rear of the chair serves to prevent excess folds of clothing from slipping down over the back of the chair. The receptacle 49 may then be removed and the central seat portion 36 placed back in

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position without in any way disturbing the patient. The last operation of placing the seat back in position is of course accomplished by placing the ends of the V bar in the flange members provided therefore and sliding the assembly upwardly and forwardly to seat the central seat member 36 in the opening in the first or other seat member 35, and thereafter rotating the latch member 47 to the position shown in the drawings in order to hold the seat assembly in position.

If it is desired to provide a commode wherein the patient himself can operate the device, the relative positions of flanges 45 and 46 and latch 47 could, of course, be reversed so that the V bar supporting member 40 projects toward the front of the chair. In such a construction the V bar 40 should preferably extend up to but not beyond the front of seat member 35. Of course, channels 50 and 51, in this type of construction, would also extend to the front of seat member 35.

It will further be apparent that although the invalid's commode has been described in connection with a wheel-chair, it could readily be incorporated in any other suitable means for supporting the human body, and that the term "chair means" as used herein is to be construed broadly in that sense.

While a particular exemplary embodiment of the invention has thus been described in detail above, it will be understood that modifications and variations may be effected therein without departing from the spirit and scope of the novel concepts of the present invention as defined by the following claims:

I claim as my invention:

1. An invalid's wheel-chair commode of the character described herein comprising movable chair means to support and transport a human being in a fixed position relative to said chair, a first seat member carried by the frame of said chair and shaped to define a central elliptically shaped opening therein, a second seat member having the same shape as said opening and adapted to fit into said opening to form with said first seat member a continuous top seat surface, V-shaped supporting bar means rigidly attached to the bottom surface of said second seat member so that the apex of said V protrudes beyond the back of said first seat member when said second seat member is positioned in said opening, first and second flange means rigidly attached to the bottom surface of said first seat member and each being positioned and shaped to receive respectively one end of said V-shaped supporting bar means when said second seat member is positioned in said opening, latch means attached to the bottom surface of said first seat member and positioned between said opening and the back of said first seat member, said latch means being rotatable from a first position in which said supporting bar means is held securely against said first seat member thereby to a position in which said supporting bar means is permitted to be separated from said first seat member, said latch means cooperating with said flange means and said supporting bar means to detachably secure said second seat member in said opening in said first seat member, first and second parallelly disposed channel bar supports rigidly attached to the bottom surface of said first seat member adjacent said opening therein and extending to the back of said first seat member, said channel means being shaped and positioned to detachably support a receptacle beneath said opening when said second seat member is removed therefrom, and spring biased means to securely position said receptacle in said channels.

2. A foldable invalid's wheel-chair which comprises side frame members each carrying wheels and movable from a folded adjacent position to a spaced apart use position, a first seat member detachably connected to said frame members for accommodating folding together of the frame members and for spanning the space between the frame members in a substantially horizontal plane, said first seat member having an opening through the

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central portion thereof, a second seat member detachably cooperating with said first seat member and having a seat portion of the same shape as said opening to be received in said opening to cooperate with the first seat member and form a substantially continuous top seat surface, support means secured to the underside of said second seat member having a pair of laterally spaced forwardly projecting legs and a rearwardly projecting handle, receptacle means mounted on the underside of said first seat member for receiving said forwardly projecting legs, a manually shiftable retaining member on the underside of said first seat member selectively engageable with said handle to cooperate with the leg receptacle means for securing said second seat member in said opening, said handle projecting beyond the rear end of said second seat member for manipulating said second seat member into and out of said opening in the first seat member without pinching the body of a user seated on said first seat member, and means on the underside of said first seat member adapted to selectively receive a commode when the second seat member is removed from the first seat member.

3. An invalid's wheel-chair commode comprising wheeled frame means, a first seat member carried by said frame means adapted to support an invalid in seated position, said first seat member having a central opening there-through, a removable second seat member shaped to fit in said opening and cooperate with the first seat member to form a substantially continuous seating surface, said

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second seat member having support means mounted on the underside thereof and including leg portions projecting forwardly and rearwardly from the second seat member, rearwardly opening socket means on the underside of the first seat member adapted to receive the forwardly projecting leg portions of the support means for the second seat member, latch means on the underside of the first seat member for cooperating with the rearwardly projecting leg portions on the second seat member to detachably lock the second seat member to the first seat member with the forwardly projecting leg portions in said socket means, and commode support means on the underside of said first seat member adapted to receive a commode when the second seat member is removed from the first seat member, and said second seat member being manipulated into and out of locked relation with said first seat member from the rear end of said wheel-chair without any possible discomfort to the occupant.

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