

Oct. 26, 1965

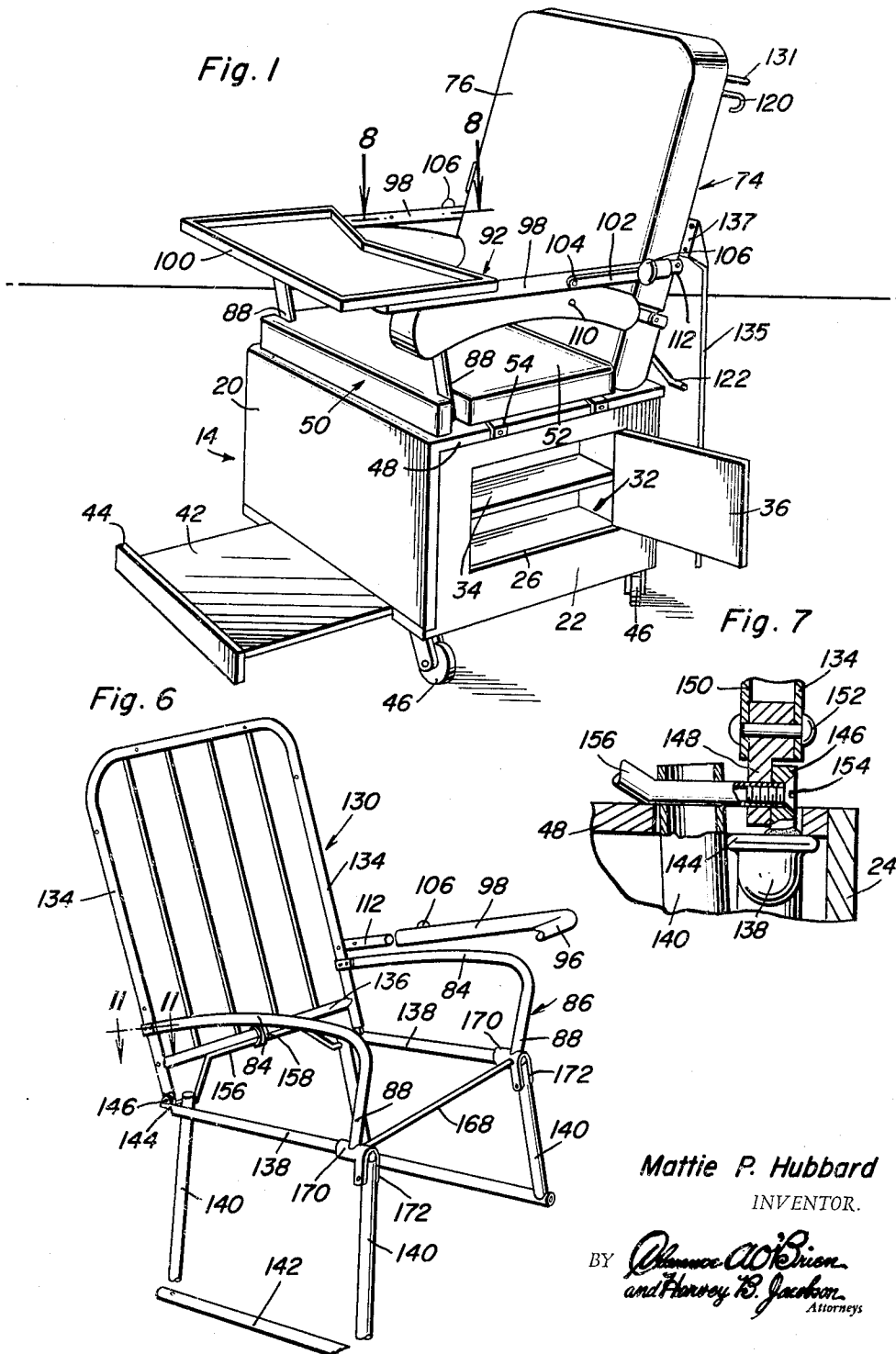
M. P. HUBBARD

3,213,467

MULTIPURPOSE INVALID CHAIR

Filed Nov. 26, 1962

4 Sheets-Sheet 1



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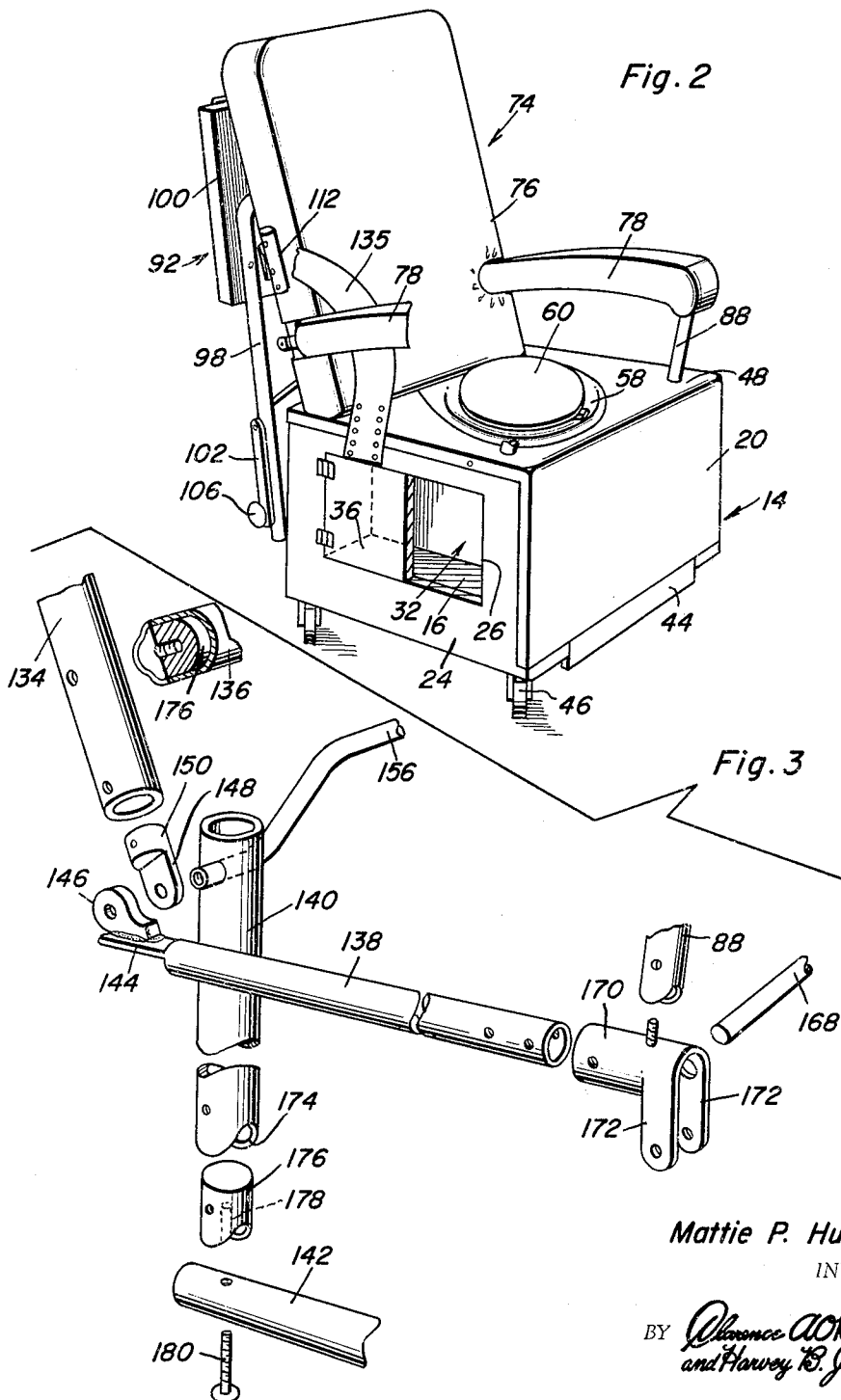
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Fig. 4

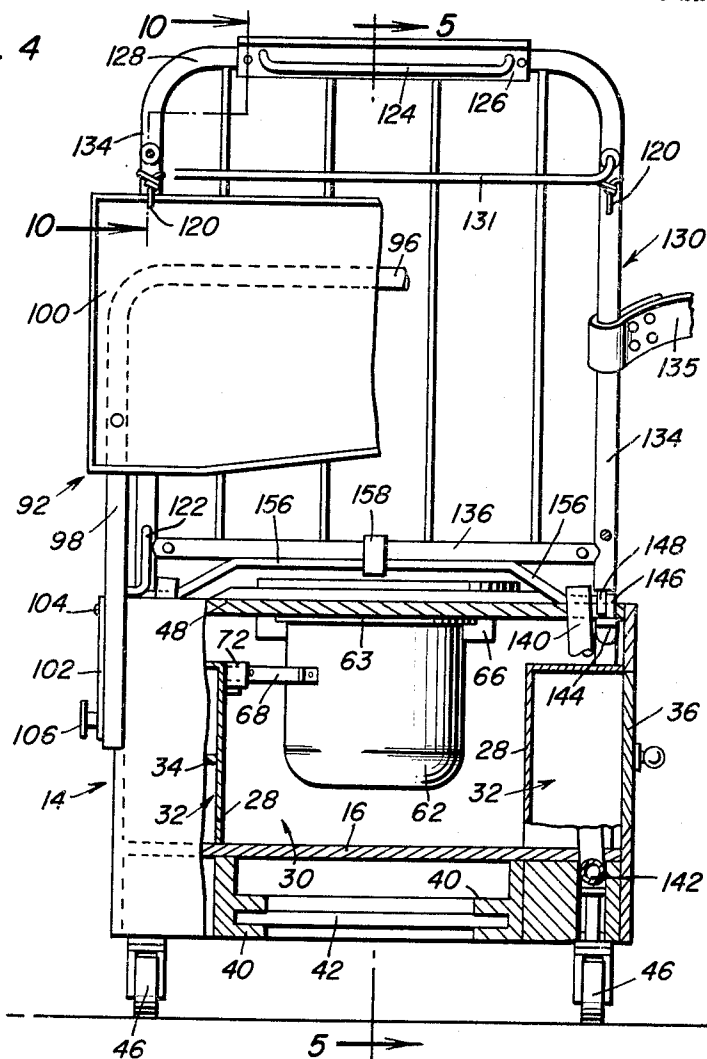


Fig. 8

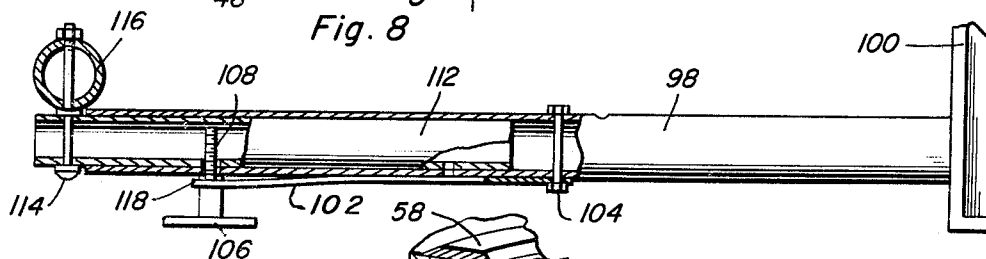
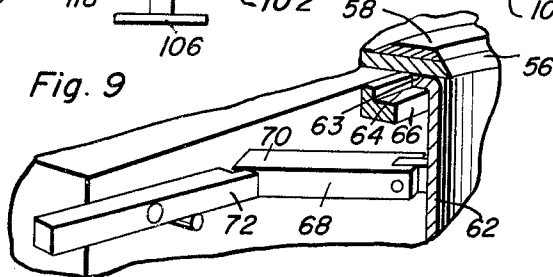


Fig. 9



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Fig. 5

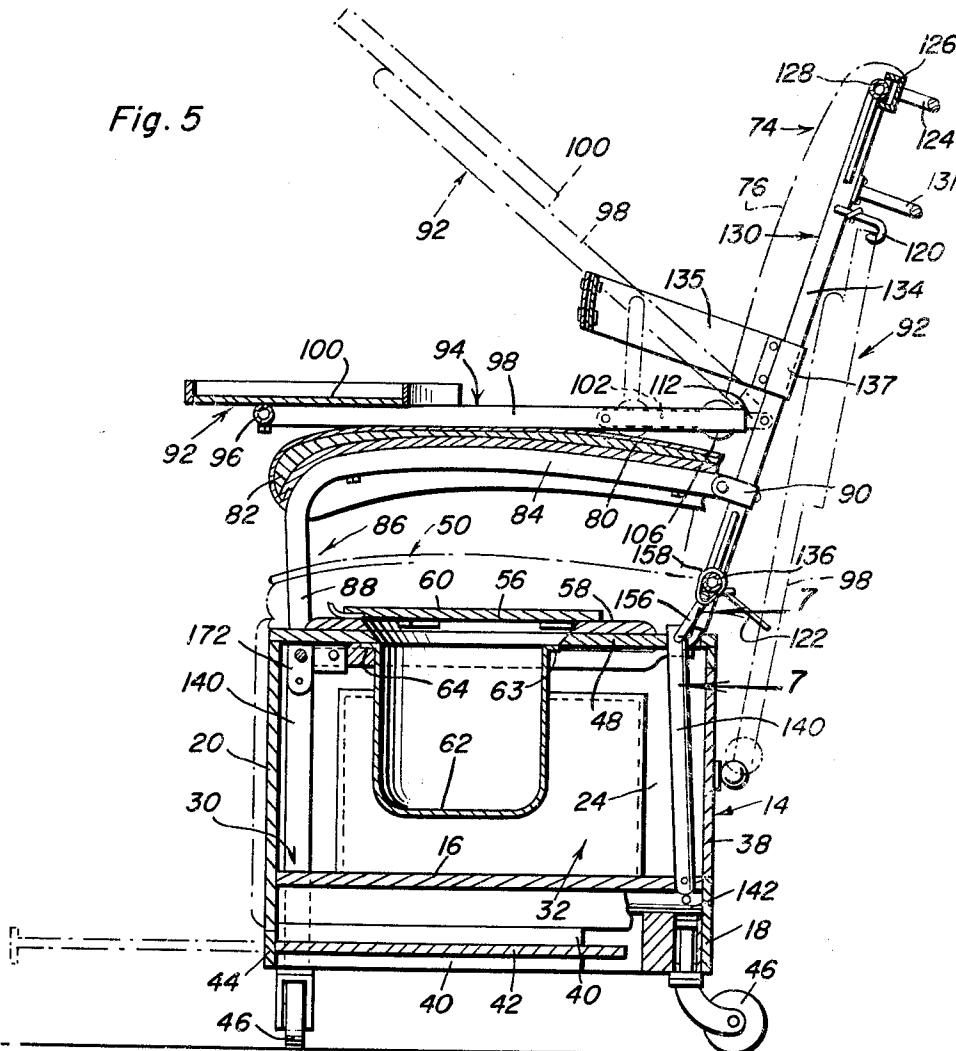


Fig. 10

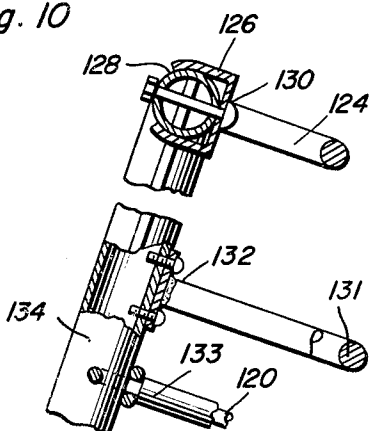
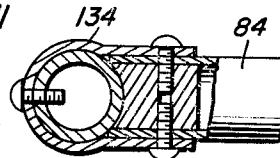


Fig. 11



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3,213,467

MULTIPURPOSE INVALID CHAIR

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2 Claims. (Cl. 4—135)

The present invention relates to an improved multipurpose invalid chair expressly designed and constructed to effectually fulfill the needs, preferences and abilities of the sick or aged occupant and which is appropriately adapted for use in a hospital, a nursing home or one's private home.

One objective is to take full advantage of limited available space when, as in the hospital or nursing home, space may be and often is at a premium. As will be hereinafter made clearly apparent the chair herein disclosed and despite the many facilities available therein is nevertheless compact and practical and well serves the purposes for which it is intended.

In order that the patient may enjoy the maximum use of the chair and its readily available facilities the latter are so constructed and arranged that compactness and convenience is ideally achieved. To this end, all of the component parts are systematically and efficiently coordinated for the individual needs of the patient and for optimum comfort and acceptability to the patient.

Another significant factor has to do with the adoption and use of carefully planned easy-to-use appliances which serve to make the patient more independent and effectually geared to his or her needs. Maximum function therefore means being able to embody in a single successful chair construction the ready-to-use needs of the patient, not overlooking, of course, insured safety and practical conveniences for the nurse or other person assisting the patient.

It will also be appreciated that the improved chair is capable of being acceptably used by a guest when it is not needed by the patient. The construction is such that a compressibly resilient upholstered seat cushion is provided, said cushion serving to cover over and conceal a commode opening, seat ring and lid for the latter when not necessary for use by the patient. In this connection it is to be pointed out that the chair also has an upholstered backrest and armrests. Consequently, it constitutes ideal upholstered furniture for the user and, inasmuch as the upholstering material is waterproof (washable plastic material) it contributes further to the usefulness of the chair in that it facilitates washing, cleaning and drying.

Another improvement resides in a highly serviceable invalid or equivalent chair which not only offers restroom service but includes and features a detachably and swingably mounted tray which is such in construction and location that it enables the occupant of the chair to use it as a table when partaking of a meal and which, in addition, is usable as a desk for reading and writing purposes.

A further improvement resides in the adoption and use in a multipurpose invalid-type chair having a rack on the back for a towel or a washcloth. Further, a handlebar is also provided on the back so that the nurse or other attendant may handle and move the chair and occupant from place to place.

Then, too, the cabinet-type base means of the chair is augmented by the incorporation therein of side cabinets which are shelved or otherwise constructed and provided with doors and which provide practical available space for storage of readily accessible body and face powder, toilet

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tissue, soap, toothpaste, toothbrush, medicines, and the like.

It is also within the purview of the concept to provide a projectible and retractable slide at the bottom of the base which is so constructed and arranged that it constitutes a highly satisfactory footrest.

In carrying out a preferred embodiment of the unique chair a correspondingly unique frame structure characterized by rigid aluminum or equivalent tubing is utilized with a view toward expediting the manufacture and assembling of the component parts which go to make up the finished chair.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a view in perspective of an invalid chair constructed in accordance with the present invention and showing the featured improvements; namely, the tray, one auxiliary side compartment and the footrest extended to a useful position;

FIGURE 2 is a view also in perspective and similar to FIGURE 1 but observing the opposite or lefthand side thereof (left in relation to FIGURE 1) and which illustrates the footboard retracted, the seat cushion removed and the table-forming tray detached and suspended in an out-of-the-way position on the back of the chair, parts being broken away and other parts appearing in section;

FIGURE 3 is an exploded perspective view with the illustrated parts on an enlarged scale and showing the particular form and construction thereof;

FIGURE 4 is a view on a larger scale (compared to FIGURES 1 and 2) of the chair observing the same in a direction from the back thereof (left to right in FIGURE 2) and wherein parts are broken away for convenience of illustration and other parts are shown in section to emphasize the construction and the availability of the waste jar or receptacle;

FIGURE 5 is a section at right angles to FIGURE 4 with parts appearing in section and elevation taken on the plane of the vertical section line 5—5 of FIGURE 4;

FIGURE 6 is a view in perspective of the light weight skeleton aluminum frame structure which in the finished structure is completely enclosed and concealed;

FIGURE 7 is an enlarged fragmentary detail sectional and elevational view taken on the plane of the line 7—7 of FIGURE 5;

FIGURE 8 is an enlarged sectional and elevational detail view taken on the plane of the line 8—8 of FIGURE 1;

FIGURE 9 is an enlarged view in elevation and section and shown in perspective and which serves to show the structural details supporting and retaining the waste jar;

FIGURE 10 is an enlarged detail section taken on the plane of the irregular section line 10—10 of FIGURE 4; and

FIGURE 11 is a section on the line 11—11 of FIGURE 6.

Considering the chair first as a finished ready-to-use article of furniture it will be noted that the base means, construed as a unit, is denoted by the numeral 14 and is of rectangular hollow box-like form. By using appropriate panels and joining the same together in a unified manner it will be noted that there is a horizontal bottom wall 16 (see FIGS. 4 and 5 in particular) and this has its marginal edges joined with a vertical rear or back wall

18, a vertical front wall 20, side walls 22 (at the right in FIGURE 1) and 24 (at the left in FIGURE 2). These side walls are provided with suitably enlarged openings 26 which in conjunction with the built-in walls 28 define the main commode compartment 30 and the side auxiliary compartments both denoted by the numeral 32. These side compartments are provided with suitable interior shelves 34 (FIG. 1) and hingedly mounted closing doors 36. The side compartments or auxiliary compartments serve for convenient storage of small toilet articles and the like, for example, face and body powder, toilet tissue, soap, toothpaste, toothbrush, medicines and so on (not shown). The main commode compartment is accessible by way of a hinged panel or an equivalent openable and closable door 38 in the manner illustrated in FIG. 5. Suitable spaced guide members 40 (FIGS. 4 and 5) provide supporting tracks for an extensible and retractable panel 42 having a strip of molding 44 across the front edge and which functions as a convenient footrest or shelf as shown in full lines in FIG. 1 and in full and dotted lines in FIG. 5.

In a plane below the level of the guide tracks or rails 40 and footrest 42 swivelly mounted fixtures serve to accommodatngly support casters or rollers 46.

Referring now with greater particularity to the top wall 48, this wall is fixed to the walls therebeneath and constitutes a seat member. As such it constitutes a foundation for the attachable and detachable seat cushion 50 which fits thereon and covers the top surface thereof in the manner shown best in FIG. 1. This cushion is of appropriate compressibly resilient construction (not detailed) and is covered with waterproof washable upholstery material 52. To assist in holding the cushion in place it is provided on marginal portions with hold-down tabs 54 having snap fasteners which are secured to appropriate snap fasteners (not detailed) on the panel or wall 48. When the cushion is removed it serves to uncover and expose component parts of the toilet or commode facilities. An opening 56 (FIG. 5) is provided in the seat board or member 48 and is encircled or surrounded by a fixed annular member 58 which constitutes a toilet seat, and the central opening of which is normally covered by an appropriate lid or cover 60. The waste jar or receptacle, which is readily insertable and removable in relation to the main compartment 30, is denoted by the numeral 62 and is provided at its open upper end with a supporting flange 63 which is slidably suspended on ledge means 64 (FIG. 9) provided therefor in the supporting cleats or rails 66. The jar 62 may be put in position or removed conveniently by way of the closure panel or door 38. It will be noted in FIG. 9 that on one side wall the jar is provided with a radial outstanding handle 68 the free end 70 of which may be engaged behind a pivoted retaining latch 72 whereby to insure that the jar when lined up with the opening 56 will remain in this position until the user desires to have it removed by an attendant.

With reference now to the rearward portion of the base unit or means 14 it will be noted that the numeral 74 designates, generally speaking, an inclined backrest. The backrest is appropriately padded or otherwise upholstered and has its lower end resting atop the base unit, the upholstery material or covering 76 being waterproof and of appropriate color. With this backrest and seat cushion supported on and in conjunction with base means 14 the overall chair resembles a conventional-type upholstered chair. If desired, horizontal spaced parallel armrests 78 are provided. The armrests are of composite construction and, for example, the waterproof plastic covering is denoted at 80 (FIG. 5), the padding at 82 and the armrest proper is denoted at 84, this being a component of the L-shaped tubular metal unit 86. The vertical leg 88 is appropriately fixed to the base unit and the rearward end of the armrest 84 is connected by a clevis

90 to the backrest, more particularly, to the frame means which is embodied in the backrest.

Before describing the specially fabricated aluminum frame means (FIG. 6) other facilities will be set forth. To this end attention is directed to the numeral 92 which designates an attachable and detachable component part which is convertible in that it serves as a temporary table, also a desk. To accomplish this a U-shaped member 94 (FIG. 5) is provided, said member including a bight portion 96 and limbs 98 which are suitably attached to the bottom of a rim-equipped tray 100. The tray spans the limbs and is attached to the bight portion in any appropriate manner and it is of a width and length proportional with the parts of the overall chair with which it is cooperable. This tray when in the horizontal position seen, for example, in FIG. 1 is employed, at least primarily so at mealtime. At other times the tray or means 92 can be tilted (FIGURE 5) or to an intervening position (not shown) to serve as a bookrest or to function as a desk. It should be noted that the side limbs 98 are provided exteriorly with stays. Each stay 102 is pivoted at 104 and is made of springy metal, the free end thereof being provided with a knob 106 which has a detent which is engageable in a keeper hole provided therefor in the limb when the stay is not being employed for elevating and retaining the tray. When not in use the stays may be swung down and the detent 108 (see FIG. 8) may be engaged in the keeper hole 110 provided therefore. In other words, these stays serve as props and as a matter of fact they also have the additional function of retainers in the manner illustrated in FIGURE 8. With reference to this figure it will be seen that the tubular limb is fitted telescopically over a short adapter tube 112 which is pivotally mounted at 114 on a frame member 134 provided therefor as at 116. In other words the detent in this arrangement extends through the keeper hole 118 and consequently the sleeve-like limb is fitted over and retained on the adapter 112. When it is desired to bodily detach and store the tray means in an out-of-the-way position this can be done by releasing the detent 108 by way of the grip or knob 106. It should be noted that FIGURE 2 compared to FIGURE 1 shows the tray means 92 stored in an out-of-the-way position on the back of the chair. This is accomplished by bodily detaching the tray means 92 from the adapter members 112 and then hanging or suspending the tray on hanger hooks 120 which are paired and provided therefor on the rear of the backrest. FIGURE 4 brings out the manner in which the rim of the tray is hung on the hook at the left. It is also desirable to provide safety latches 122 which are so constructed and arranged that they may be engaged with the depending limbs 98 in the manner illustrated in FIG. 4. The limbs have keeper holes to accommodate the laterally directed end portions of the respective latches 122.

The numeral 124 designates a U-shaped handle bar which is connected at its end portions to a channel member 126 fitted over the bight portion 128 of the inverted U-shaped frame member 130 of the interior frame structure illustrated in FIGURE 6. Below this handle (which is used by the attendant to push the chair from place to place) there is a similar but larger U-shaped bar member 131 which constitutes a towel rack and which has its end portions 132 suitably fastened to the depending tubular legs 134 of the U-shaped frame member 130. These same legs carry the aforementioned tray hanger hooks 120. If desired the hooks 120 may be provided with plastic sleeves 133 which function as protectors and which facilitate ready and retained suspension of the tray 100 when stored. A further facility is offered, for example, the safety belt, one portion of which is denoted at 135 and is anchored in place at 137. This belt may be of any suitable construction and the ends may be appropriately attached to frame components in any practical or desired manner.

As is perhaps evident from the preceding description the base and backrest means can best be utilized if employed in conjunction with the tubular metal (aluminum tubing) frame structure illustrated in FIG. 6. With reference to this figure it will be evident that the aforementioned legs 134 are connected with a horizontal cross brace 136 spaced above the level of the horizontal seat panel supporting members 138. These members 138 in turn are connected to depending vertical legs 140 which are in turn joined with horizontal reinforcing tubes 142. To be more specific the rearward or lefthand end portion of each horizontal tube is flattened as at 144 (FIG. 3) and this flattened end is provided with a bracket 146 which is opposed to and bolted to an ear 148 on a plug 150 which is fitted telescopically into the lower end of the leg 134, the latter being bolted in place as denoted at 152 in FIG. 7. The means for connecting the lugs or ears 146 and 148 together preferably comprises a headed screw-threaded fastener 154 (FIG. 7) which is threaded into a socket provided therefor in a cooperating end portion of a rigidifying brace 156. This brace is horizontally disposed and is secured by a clip 158 to the frame member 136, (see FIGURES 4, 5 and 6 in particular). A suitable front or cross member 168 is arranged between the depending front legs 140 to substantially complete the frame part of the base unit. It should be noted in FIGURE 6 that the forward end portions of the frame members 138 are provided with sleeves 170 having depending fingers 172 which straddle diametrically opposite sides of the upper ends of the legs 140 and are fastened thereto. With further reference to the lower end portions of the vertical legs 140 (see FIG. 3) it will be noted that the terminal end is suitably recessed or shaped as at 174 to accommodate a plug 176 which has a screw-threaded socket 178 to accommodate the screw-threaded headed fastener 180. This type of connecting means is employed in several situations as illustrated, for example, in FIGURES 7 and 11.

The improved chair is practical and constitutes an aid in caring for the semi-convalescent patient. It offers mobility when walking has become a problem and yet is not as heavy and unwieldy as a wheel-chair. In the adjustable tray the patient has immediately available facilities for eating, writing and reading in the three adjustable positions of the tray.

The comfort of an adjustable footrest is an attractive feature and will mean much to one who must spend long hours in a sitting position. To avoid the possibility of the patient falling from the chair an adjustable seat belt is provided. The belt will also prevent one from leaving the chair when the mentality is impaired.

Sanitary facilities are provided in the removable waste jar stored in the base of the chair in a ready position. The foam rubber cushion is easily removed thus making ready use of the jar underneath. The jar may be removed through door in back of chair base. For added comfort the foam rubber padding in chair back is form fitting deepening from top to bottom of back.

It is believed that a careful consideration of the statement of the invention, the specifically enumerated objectives and description of the details in conjunction with the views of the drawings will enable the reader to obtain a clear and comprehensive understanding of the invention, the features and advantages and the preferred manner of using the same. Accordingly, a more extended description is regarded as unnecessary.

What is claimed as new is as follows:

1. A multipurpose chair comprising base means embodying a cabinet including horizontal spaced parallel top and bottom walls having coordinating marginal portions connected to and oriented with cooperating front, back and side walls, said walls and the resulting cabinet providing a hollow compartment, said back wall being provided with an entrance opening, a closure therefor, said top wall being provided centrally with an opening in

communication with said compartment, a pair of coplanar spaced parallel cleats affixed to the underneath side of said top wall on diametrically opposite sides of said opening, cooperating edge portions of said cleats being rabbeted and providing jar-positioning and supporting ledges, a waste jar insertable into and removable from said compartment by way of the aforementioned entrance opening, said jar having an open top provided with an outstanding marginal flange, said flange being slidably and removably seated on the cooperating supporting ledges, said jar being provided on a vertical side with a horizontal fixedly attached radially disposed outstanding handle with a free end portion located in a plane below the cooperating ledge, a latch pivotally mounted within the confines of said compartment and normally having an end portion thereof releasably engaging a cooperating end portion of said handle in a manner to positively maintain the jar in a stay-put position directly beneath the aforementioned top wall opening when the jar is readied for use, an annular member fixedly mounted atop said top wall and constituting a toilet seat, a lid normally covering and closing the opening in said toilet seat and also the opening in the aforementioned top wall, a backrest connected to and rising vertically from a rear marginal edge portion of said cabinet, said backrest being cushioned and upholstered, cushioned armrests disposed opposite each other in a plane above the level of said top wall and cooperating therewith and with said backrest, and a readily applicable and removable seat cushion mounted atop said top wall and normally covering the lid and toilet seat.

2. A multipurpose invalid's chair comprising, in combination, a prefabricated enclosable and concealable rigid frame structure embodying a pair of coplanar spaced parallel horizontal frame members, depending legs attached at upper ends to the respective forward and rearward ends of said frame members, braces connecting said frame members and also connecting lower end portions of said depending legs, an inverted U-shaped backrest frame having depending legs joined to rearward ends of said frame members, armrests having forward end portions connected to forward ones of said first-named legs and having rearward ends rigidly connected to lower end portions of the legs of said inverted U-shaped backrest frame, adapters pivotally mounted on said last-named legs, a second U-shaped member adapted to support a multipurpose tray and having tubular limbs detachably and adjustably connected to their respective adapters, a hollow box-like cabinet built around and wholly enclosing cooperating components of said prefabricated frame structure, said cabinet embodying horizontal spaced parallel top and bottom walls and cooperating front, back and side walls, said back wall provided with an entrance opening having closure means, said top wall provided centrally with a commode opening, a pair of coplanar spaced parallel cleats affixed to the underneath side of said top wall on diametrically opposite sides of said opening, cooperating edge portions of said cleats having jar-positioning and supporting ledges, a waste jar having an open top provided with an outstanding marginal flange slidably and removably seated on said supporting ledges, said jar being provided on a vertical side with a horizontal fixedly attached outstanding handle with a free end portion located in a plane below the plane of the ledge, a manually actuable jar retaining latch pivotally mounted within the confines of said compartment and normally and releasably engaging the free end portion of said handle, cover means for said commode opening mounted atop said top wall, the aforementioned backrest frame being cushioned and upholstered, the aforementioned armrests being also cushioned and upholstered, and a readily applicable and removable seat cushion mounted atop said top wall and normally covering and concealing said seat and cover means.

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