

United States Patent

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a fraction part interest to each**

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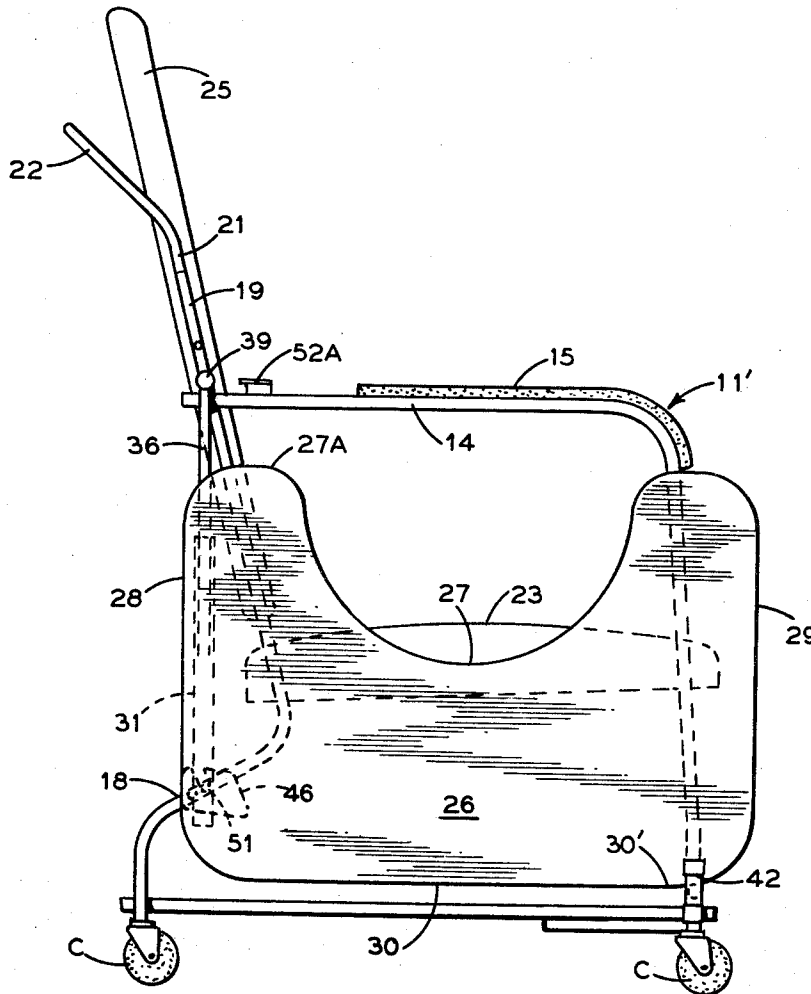
[54] **GERIATRIC CHAIR**
9 Claims, 12 Drawing Figs.

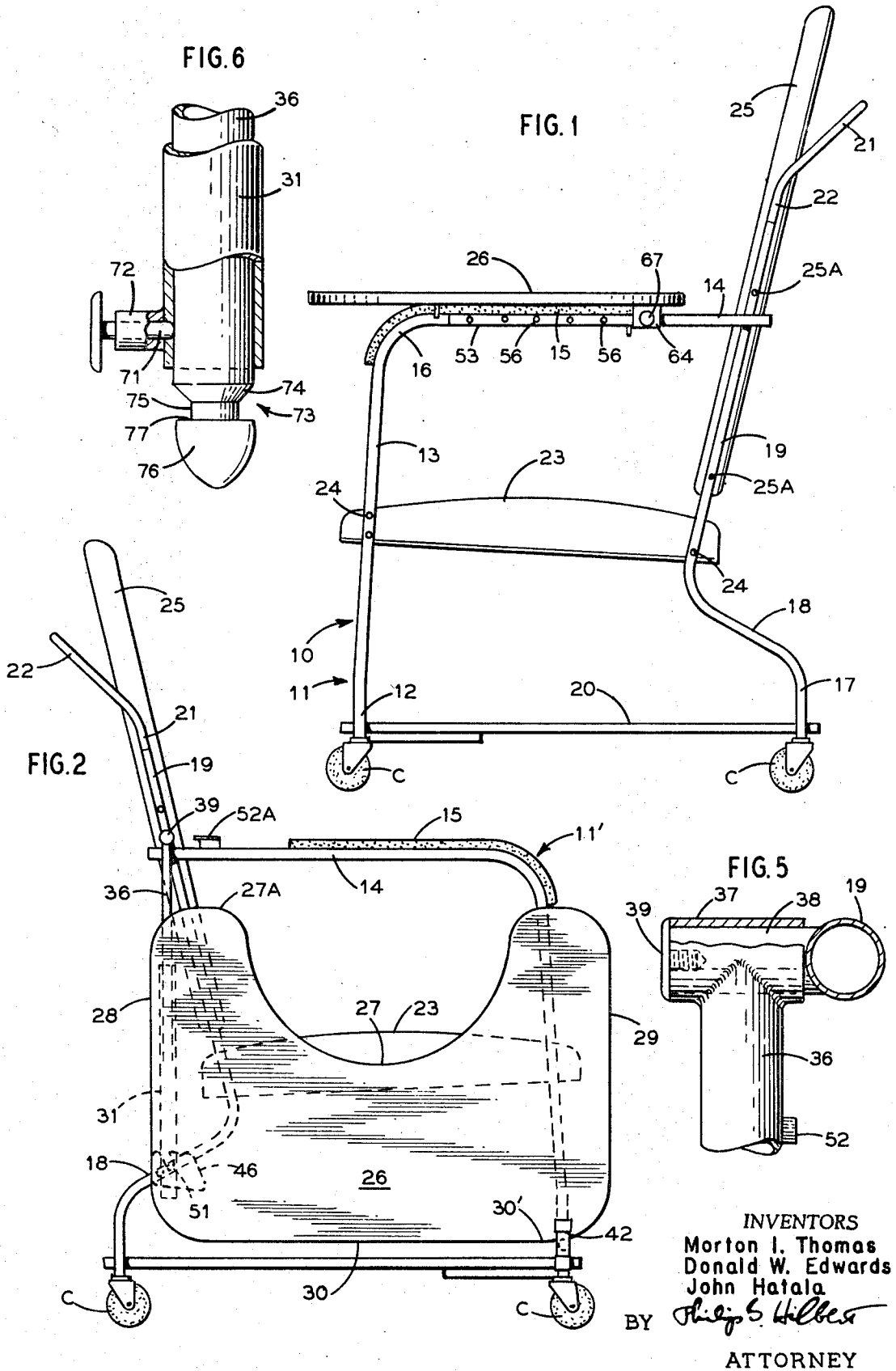
[52] U.S. Cl..... **297/155,
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[51] Int. Cl..... **A47c 7/02**

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154, 148, 149, 150, 162**

ABSTRACT: A chair construction particularly adapted for use by invalids or elderly people and including a table member which is movable between a storage position and a position for normal use; the chair having features of construction which increase the efficiency thereof while markedly reducing possibilities of injury to the occupant of the chair.





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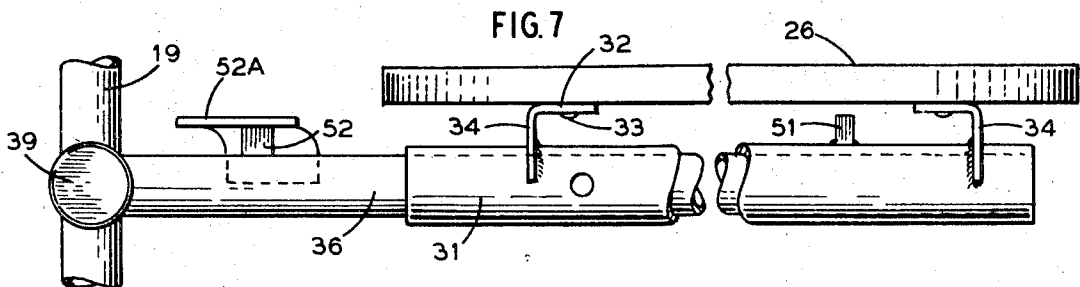
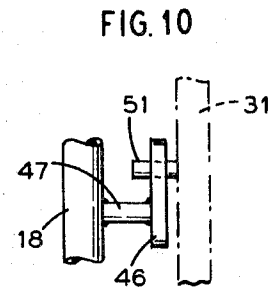
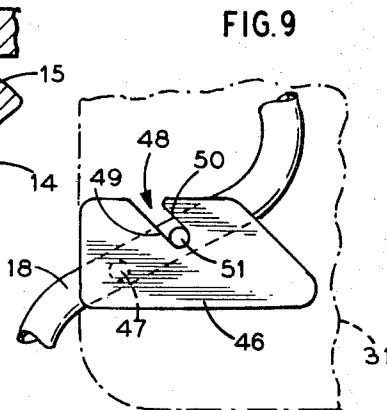
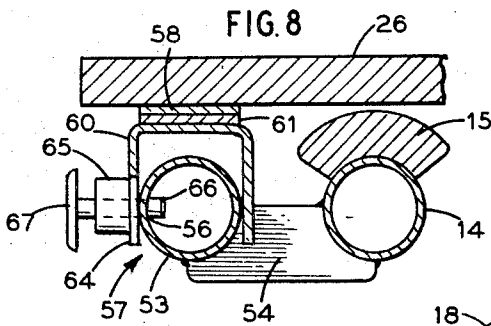
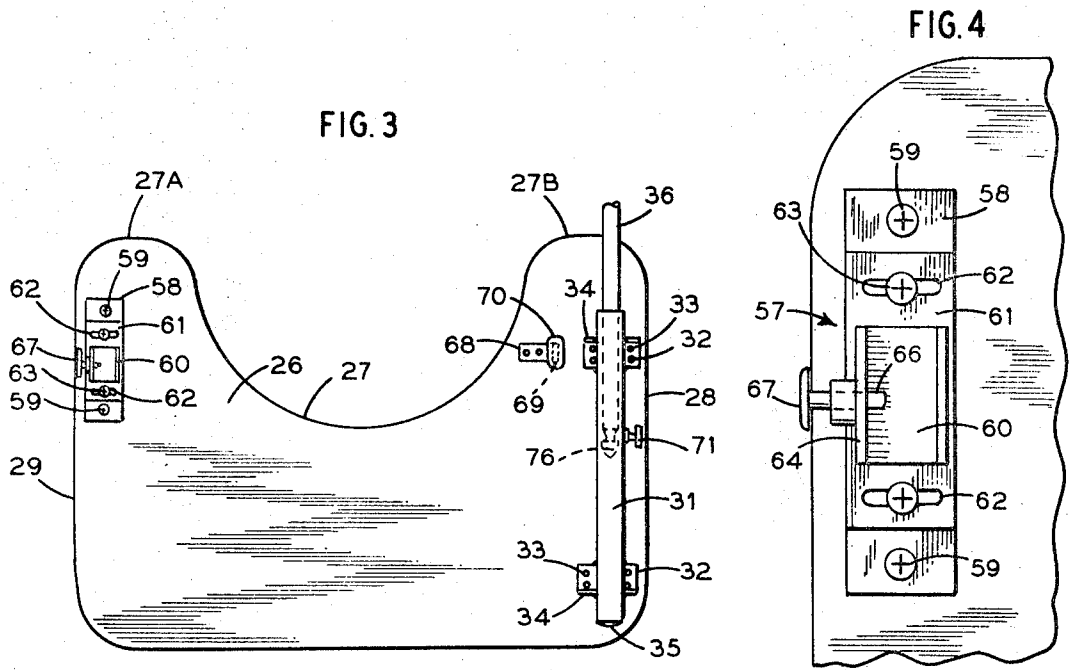


FIG.12

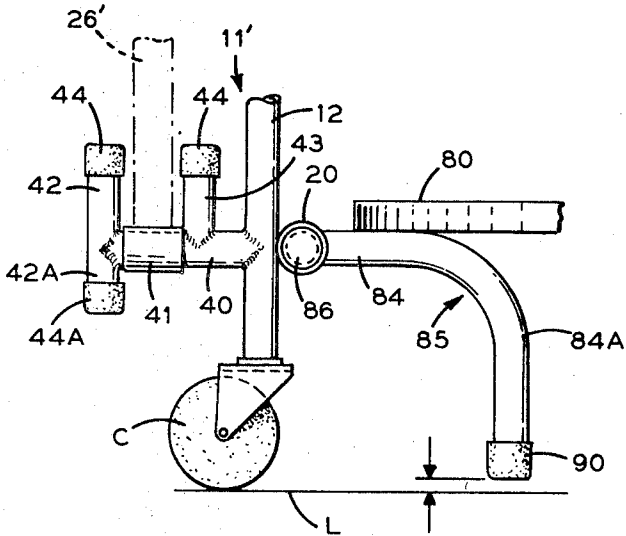
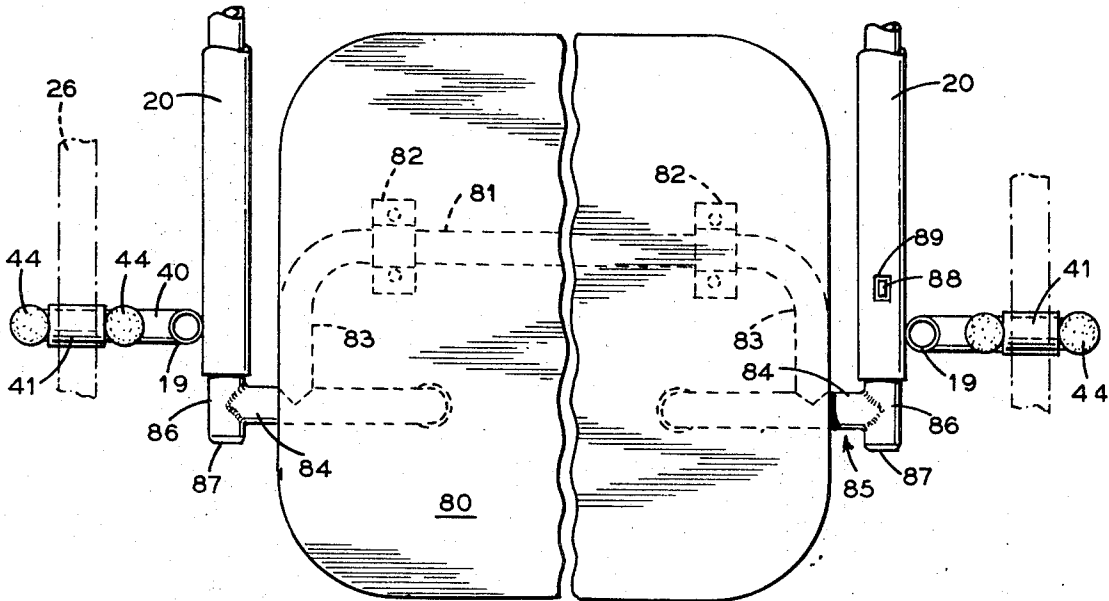


FIG.11



GERIATRIC CHAIR

BACKGROUND OF THE INVENTION

Chair constructions have been suggested which are designed for use by invalids and elderly people. However, it has been found that such known constructions have somewhat limited efficiency in use and the manner of manipulation of movable parts thereof may be such as to lead to possible injury to the occupant of the chair.

Accordingly, an object of this invention is to provide an improved chair construction which includes a movable table member and an adjustable footrest, wherein the elements of the construction are such as to substantially prevent misuse by and possible injury to the occupant of the chair.

Another object of this invention is to provide in a chair of the character described, improved means for mounting the table member for movement between storage and use positions; such mounting means being simplified in design, involving a small number of parts and allowing for more efficient manipulation of the table member.

A further object of this invention is to provide in a chair of the character described, improved footrest means which is adjustably mounted on the chair for extended and retracted movements, together with improved means for stabilizing the footrest means in its extended positions.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, FIG. 1 is a side elevational view of a geriatric chair embodying the invention; the table member being in its normal use position;

FIG. 2 is a view similar to that of FIG. 1, and showing the table member in its storage position;

FIG. 3 is a bottom plan view of the table member;

FIG. 4 is a partial, enlarged plan view showing details of the lock member for the table member;

FIG. 5 is a partial plan view, with parts broken away and parts in section, showing the swinging connection for the table member to the frame;

FIG. 6 is a plan view, with parts broken away and parts in section, showing combination locking and separation means for said swinging connection;

FIG. 7 is a side elevational view showing the table member in mounted relation to its swinging support;

FIG. 8 is a transverse sectional view showing means for locking the table member in adjusted positions thereof;

FIG. 9 is a side elevational view showing locking means for the table member in its stored position;

FIG. 10 is a side elevational view thereof;

FIG. 11 is a top plan view showing the footrest member of the chair;

FIG. 12 is a partial front elevational view thereof.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIGS. 1 and 2, 10 designates a geriatric chair embodying the invention. The same comprises similar side frames 11, 11' formed of light metal alloy in tubular form. The frame 11 comprises a forwardly disposed lower leg portion 12 carrying conventional casters C at the lower ends thereof. An upper leg portion 13 extends from leg portion 12 and is angled somewhat to the rear. A horizontal arm portion 14 carrying arm rest means 15 is connected to leg portion 13 by a curved portion 16.

The frame 11 further includes a rearwardly disposed short leg portion 17 having caster C mounted thereon, with a forwardly and upwardly inclined portion 18 extending therefrom which merges with a back supporting portion 19. A horizontal tubular member 20 connects the lower ends of leg portions 12, 17, being located inwardly thereof.

It is understood that frame 11' has similar elements as pointed out in connection with frame 11, except as hereinafter indicated. Frames 11, 11' are interconnected by an inverted

U-shaped member 21 having sidearm portions 22 which are telescopically related to tubular back portions 19 and may be separably connected thereto for disassembly to facilitate shipping and storage.

A seat pad 23 is fixed between frames 11, 11' by screws 24 connecting the same to frame portions 13, 19. A back supporting pad 25 is located between frame portions 19 and secured in place by screws 25A.

Chair 10 is provided with a flat table member arranged for movement between a storage position outwardly of frame 11' and a normal use position spanning arm portions 14 of frames 11, 11'. Table member 26 has a concavely curved inner edge 27, side edges 28, 29 and a front edge 30.

Means is provided for swinging and pivoting table member 26 in simple motions, directly and quickly between the storage and use positions thereof. To this end, a tubular member 31 is fixed to the underside of table member 26 adjacent side edge 28 thereof by angle brackets 32 fixed to the table member 26 by screws 33. Vertical flanges 34 on brackets 32 are welded to tube 31 at longitudinally spaced points thereof, said tube being closed at its forward end by a cap 35.

A tubular pivot member 36 is telescopically disposed in tube 31 and has a short sleeve 37 secured to the free end thereof and in transverse relation thereto, FIG. 5. Sleeve 37 is rotatably mounted on a stud 38 which is welded at its inner end to frame portion 19 of frame 11' and a cap 39 fixed to the outer end of stud 38 keeps sleeve 37 in place.

With table member 26 in its stored position adjacent outer portions of frame 11', FIG. 2; the telescoped members 31, 36 are in a substantially vertical position. Means is provided for supporting the forward end 30' of front edge 30 of table member 26, in its stored position. Accordingly, as shown in FIGS. 11, 12, such supporting means comprises a short tubular member 40, extending horizontally and outwardly of leg portion 12 of frame 11'. A roller 41 is rotatably mounted on the outer end of member 40 between short vertical members 42, 43 fixed in displaced relation to each other on member 40, thereby forming a channeled support for edge 30' of table member 26.

Resilient caps 44 are fixed to the upper ends of members 42, 43 to prevent marring the surface portions of the table member 26 during its movements toward and away from supporting roller 41. The outer member 42 includes a downwardly projecting portion 42A terminating in a resilient cap 44A.

Means is provided for locking the table member 26 in its stored position, against inadvertent displacement. To this end a substantially triangular-shaped locking plate 46 is fixed to the outer surface of frame portion 18 of frame 11' by means of a spacer member 47 welded at its opposite ends to said plate and the frame portion. Plate 46 is formed with an upwardly opening slot 48 defined by a long side edge 49 inclined rearwardly and upwardly and a short side edge 50 similarly inclined.

A short stud 51 is welded to tube 31, extending toward the underside of table member 26, FIG. 7. Said stud 51 is located to be received in slot 48 of locking plate 46 when the table member 26 is in its stored position. Since slot edges 49, 50 are inclined from the vertical, attempts to lift the table member 26 upwardly along frame 11' for movement from its stored position toward its normal use position, as by grasping the wing portions 27A or 27B, will be unsuccessful and the table member 26 will remain locked in place.

However, if table member 26 is grasped at the central edge portion 27 or at both wing portions 27A, 27B; the upward movement will be in cammed relation to the slot 48 in locking plate 46, allowing for release of the table member 26 therefrom, followed by a swinging movement of telescoped members 31, 36 about stud 38 until frame portions 14 are cleared. At this time, table member 26 and its tube 31 will be revolved about member 36 in a clockwise direction to overlie the armrest portions 15 on frame portions 14, in a horizontal position.

Thus, such locking arrangement of table member 26 in its stored position, makes it difficult, if not impossible for the occupant of chair 10 to manipulate the table member with possible consequent injury to said chair occupant. It follows, that the manipulation of the table member 26 is left to a nurse, attendant or one other than the chair occupant.

A stop member 52 fixed to the member 36 limits the lifting movement of table member 26 by abutting a stop plate 52A affixed to arm portion 14 of frame 11' and overlying stop member 52 when tube 36 is in its horizontal position.

Table member 26 is slidably adjusted for movement to selected positions relative to back pad 25 and to be locked in the selected position. To this end, a tubular member 53 is fixed outwardly of arm portion 14 of frame 11, as by cross plates 54, member 53 being capped at the opposite ends thereof as at 55. Member 53 is formed with longitudinally spaced openings 56 on the outer surface thereof, for engagement by latch means 57 mounted on the underside of table member 26 adjacent edge 29 thereof.

Latch means 57 comprises a base plate 58 secured to table member 26 by screws 59. A channel member 60 has its web portion fixed to a slide plate 61 having transverse slots 62 for receiving studs 63 extending from base plate 60. The outermost flange 64 of channel member 60 carries a sleeve 65 in which is mounted a spring-pressed pin 66 having an operating head 67.

It will be apparent that with table member 26 in its horizontal position, channel member 60 will straddle member 53, FIG. 8, and with pin 66 retracted by head 67, the table member 26 may be advanced or retracted by way of telescoped members 31, 36 until it is in a desired position relative to back pad 25 and pin 66 will be released to snap into the nearest opening 56 in member 53 to lock the table member 26 in such selected position. The channel member 60 is movable by way of slots 62 to compensate for any misalignment, etc. of table top 26 and member 53.

An angle bracket 68 fixed to the underside of table member 26 adjacent edge 27 thereof has a depending vertical arm 69 carrying a resilient cap 70 and is so located as to abut armrest portion 15 when table member 26 is in its horizontal position, to prevent abrasion of the armrest portion.

While table member 26 may be slidably adjusted by way of telescoped members 31, 36 and retained in selected positions by member 53 as described above, the members 31, 36 can not be inadvertently separated. However, for the purpose of shipping or storage, it may be desirable to separate table member 26 from chair 10. To this end a spring-loaded detent pin 71 is mounted in a sleeve 72 projecting from member 31. The forward end of member 36 is provided with a cam head 73 having a conical rear portion 74, a neck portion 75 and a forwardly extending conical nose portion 76 providing a shoulder 77.

Normally, pin 71 abuts the outer surface of member 36 telescoped within member 31 and does not interfere with relative slidable movements of members 31, 36. If table member 26 is pulled to its extreme forward position, pin 71 will enter the groove formed by neck 75 in member 36 and will abut shoulder 77 to prevent separation of members 31, 36. However, upon retracting pin 71 to clear shoulder 77, the tubes 31, 36 may be separated to leave table member 26 clear of chair 10.

Chair 10 is also provided with a footrest generally indicated at 80. Footrest plate 80 is pivotally mounted on a U-shaped member 81 by means of brackets 82, secured to the underside thereof. The short arms 83 of member 81 are welded to horizontal arm portions 84 of angle members 85. The outer ends of arm portions 84 are welded to outer ends of tubes 86 and extending transversely thereof. Tubes 86 are telescopically mounted in the outer ends of tubular members 20 on frames 11, 11', with caps 87 on the forward ends of tubes 86. Thus, footrest plate 80 may be advanced or retracted to selected positions by way of telescopically related members 20, 86. Further, the plate 80 may be rotated on

member 81 by way of brackets 82 to a retracted, inoperative position, when not in use.

A spring-pressed detent 88 projecting upwardly from tubes 86 at the outer end thereof, is receivable in a slot 89 formed in the outer end of tubes 20, to thereby prevent separation of the footrest assembly from chair 10. The angle members 85 include inwardly located, downwardly extending vertical leg portions 84A terminating in resilient caps 90. As indicated in FIG. 12, the bottom of caps 90 is slightly above the level L over which casters C travel. Thus, casters C are free to swivel, yet leg portions 84A limit any forward tilt of chair 10 during movement thereof or while the same is stationary.

We claim:

1. A chair comprising a pair of side frames having sidearm portions, back frame means interconnecting said side frames, seat means extending between said side frames, a table member, and a of elongated coacting members having combined relative slidable and rotary movement, one of said pair of members being pivotally mounted at one thereof to a rear portion of one of said side frames, means for mounting said table member on the other of said pair of members, whereby said table member may be swung upwardly in a vertical plane from a vertical storage position adjacent said one frame to a position above the sidearm portions of said side frames, thence rotated about the axes of said pair of members to a horizontal position overlying and supported by the sidearm portions of said side frames and movable in a horizontal plane to selected positions relative to said sidearm portions of the side frames.

2. A chair as in claim 1 wherein said pair of members are in telescopic relation, one of said telescopically related members being pivotally mounted at the outer end thereof on said one side frame.

3. A chair as in claim 2, wherein the other of said telescopically related members is mounted on the underside of said table member adjacent one side edge thereof.

4. A chair as in claim 1, and further including means for preventing inadvertent swinging movement of said table member relative to said one side frame, said means comprising separable, interengaging coacting members respectively mounted on said one side frame and said table member and operative to prevent swinging movement of said table member when said table member is subjected to one mode of movement thereof, and to allow for swinging movement of said table member when said table member is subjected to another mode of movement thereof.

5. A chair as in claim 4 wherein said separable coacting members include a locking plate affixed to said one side frame, said plate having an inclined, upwardly opening slot, and a pin member projecting from the movable member mounted on said table member, said pin member being receivable in the slot of said plate when said table member is in its storage position.

6. A chair as in claim 3 wherein said telescopically related members are longitudinally adjustable to locate said table member in selected positions relative to said back frame means, and coacting movable means on the sidearm portion of one of said side frames and said table member for locking said table member in selected positions thereof.

7. A chair as in claim 1 and further including footrest means, a pair of horizontally disposed tubular members fixed to the lower ends of the respective side frames, members telescopically mounted in said pair of tubular members, bracket means interconnecting the forward ends of the telescopically mounted members, means for movably mounting said footrest means on said bracket means for movement between operative and inoperative positions thereof.

8. A chair as in claim 7 and further including caster means mounted on the lower ends of said side frames, said bracket means including depending stabilizer means in inwardly offset relation to said caster means, the stabilizer means terminating in a plane slightly above the plane of movement of said caster means.

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9. A chair as in claim 6 and further including coaxing means respectively mounted on said telescopically related members to (1) limit the longitudinal displacement of the

telescopically related members, and (2) to allow said telescopically related members to be separated.

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