

April 30, 1957

H. POLLACK

2,790,484

COMBINATION HIGH CHAIR AND CARRIAGE

Filed Oct. 22, 1954

2 Sheets-Sheet 1

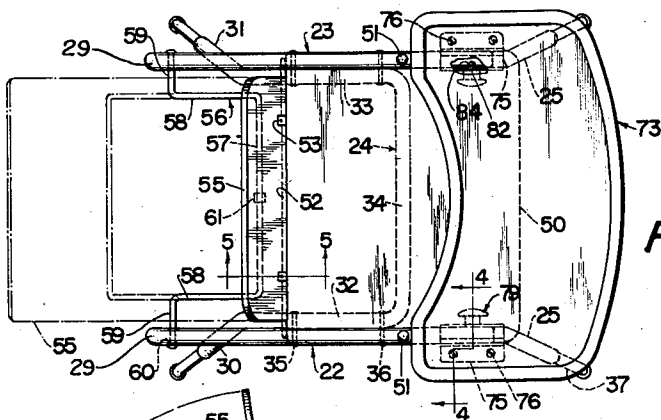


FIG. 2.

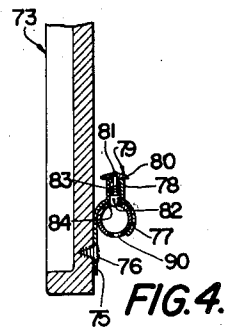


FIG. 4.

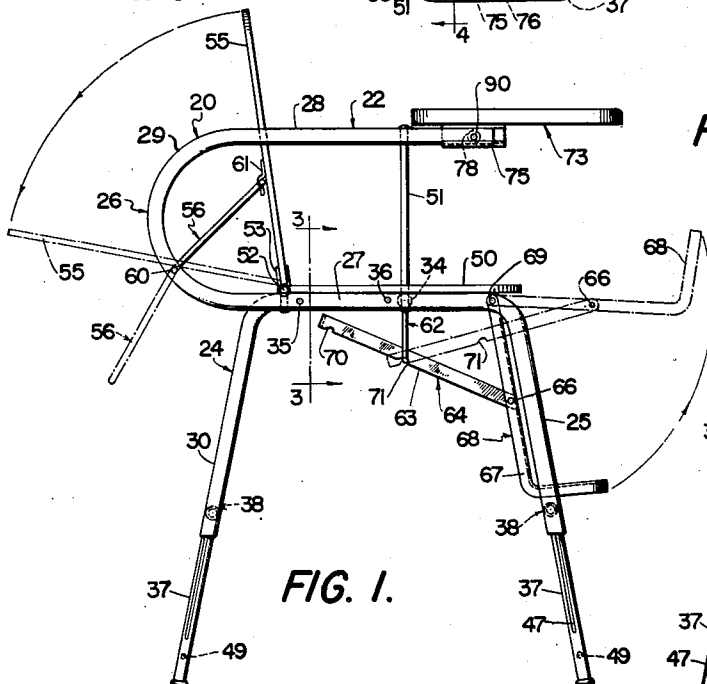


FIG. 1.

FIG. 5.

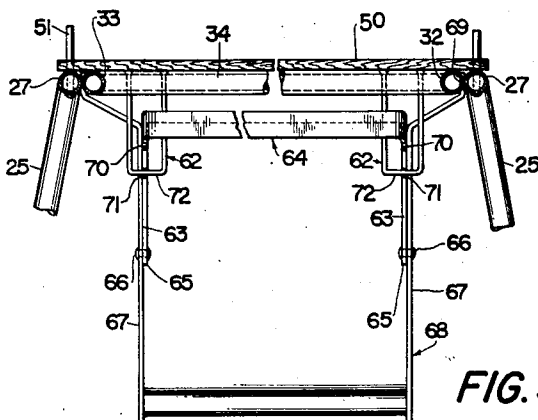
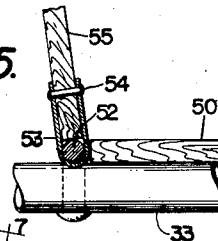


FIG. 3.

FIG. 6.

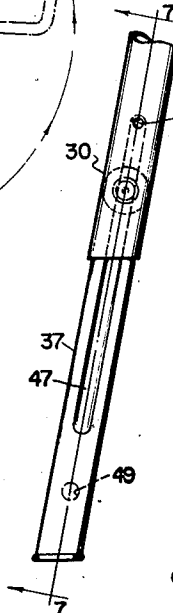
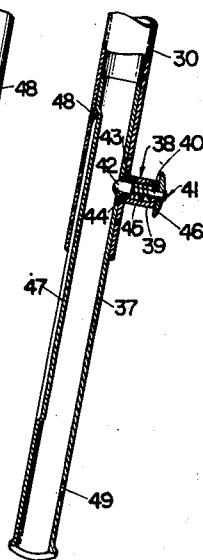


FIG. 7.



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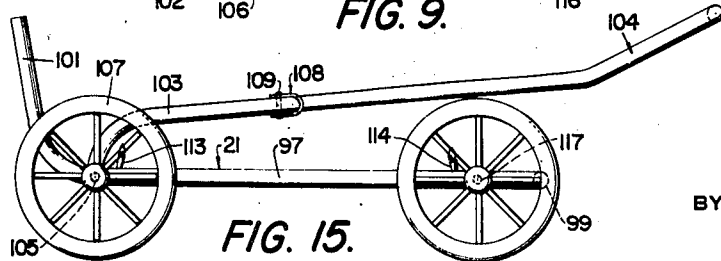
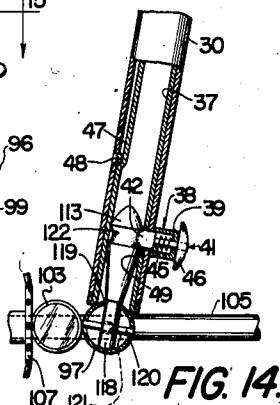
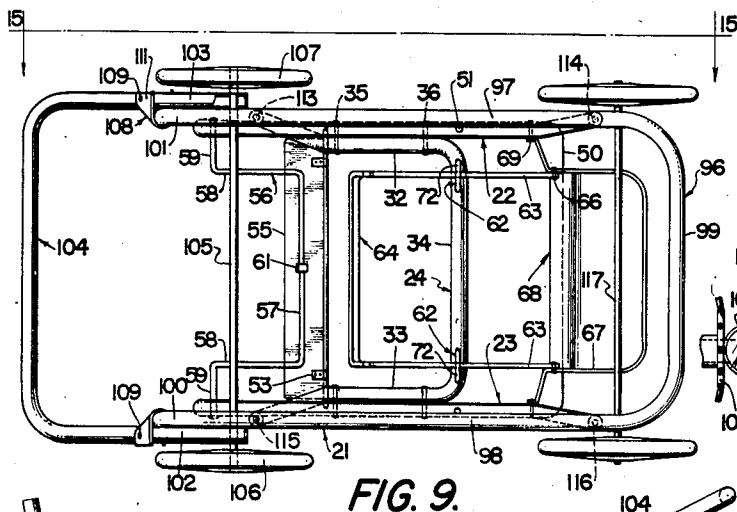
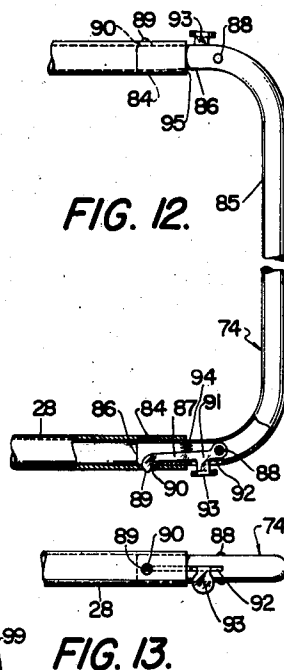
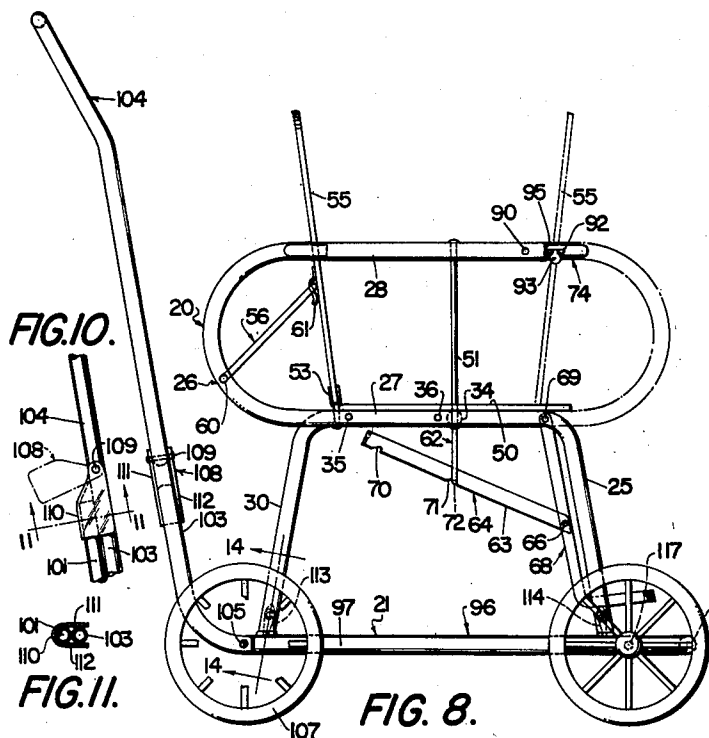
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COMBINATION HIGH CHAIR AND CARRIAGE

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2 Sheets-Sheet 2



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COMBINATION HIGH CHAIR AND CARRIAGE

Hyman Pollack, Brooklyn, N. Y.

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11 Claims. (Cl. 155—41)

This invention relates to convertible articles of furniture—more particularly to a combination of a carriage understructure and a removable superstructure capable of serving as a chair.

It is within the contemplation of my invention to provide a structure in which the chair component is capable of various uses, such as a seating member when operatively attached to the undercarriage, and as a stationary highchair when used as a separate independent unit.

With respect to that aspect of the invention which includes the combinative use of the undercarriage and the superstructure, it is my objective to provide a construction in which the chair and carriage components can be easily and quickly assembled and disassembled, in which the chair component is securely held in place when operatively attached to the understructure, in which the chair component can be reversibly positioned on the carriage, and in which the assembled structure can be manually pulled forwardly and rearwardly with facility and without the danger of tilting the assembled structure.

It is further within my contemplation to enable the chair component to be used independently of the undercarriage, either as a high or a low chair, and provided with means for selectively supporting a child in any of three positions—in a seated position with the child's legs downwardly disposed, in a position with his legs outstretched, or in a recumbent position. And in this aspect of my invention it is an object to provide separate supporting means for a footrest and a backrest in at least two operative positions, the support for the backrest serving the additional function of a spacer between the lateral wings of the chair component. Another objective, in this aspect of my invention, is to enable said lateral wings to releasably and selectively support a tray and a front protecting bar—said bar being so positioned and supported as also to serve as manual grasping means for pulling the assembled wheeled structure forwardly or rearwardly.

It is also an object of my invention to provide the said undercarriage with a releasably supported handle bar capable of being collapsed against the body of the carriage when it is not in operative use.

It is further within my contemplation to provide a simple and easily constructed device having the features above described.

Other objects, features and advantages will appear from the drawings and the description hereinafter given.

Referring to the drawings,

Figure 1 is a side elevation of the chair component of my invention shown in the form of a highchair, the device being shown operatively supporting a tray member, the footrest and backrest being shown in upright and substantially vertical positions, the dot-dash lines showing the foot and backrests in substantially horizontal positions.

Figure 2 is a plan view of Figure 1, the dot-dash lines showing the backrest when it is in its said substantially horizontal position.

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Figure 3 is a fragmentary section of Figure 1 taken along line 3—3.

Figure 4 is an enlarged fragmentary section of Figure 2 taken along line 4—4.

5 Figure 5 is an enlarged fragmentary section taken along line 5—5 of Figure 2.

Figure 6 is an enlarged fragmentary side view of a rear leg member of Figure 1.

Figure 7 is a section of Figure 6 taken along line 7—7.

10 Figure 8 is a side elevation of the assembly of the undercarriage and chair components of my invention, the dot-dash lines indicating the chair component in a reversed position on the undercarriage.

Figure 9 is a bottom view of the structure of Figure 8.

15 Figure 10 is a fragmentary rear view of the handle bar structure of Figure 8, the dot-dash lines representing the pivotal locking cowl in its inoperative position.

Figure 11 is a section of Figure 10 taken along line 11—11.

20 Figure 12 is a fragmentary top view of the upper front portion of the chair component of Figure 8, a fragment being shown in section for clarity.

Figure 13 is a fragmentary side view of Figure 12.

25 Figure 14 is an enlarged fragmentary view, partly taken in section along line 14—14 of Figure 8.

Figure 15 is a side elevation of the undercarriage structure of Figure 9, looking in the direction indicated by arrows 15—15, with the handle bar device shown in its collapsed position.

30 In the form of my invention illustrated in the drawings, the superstructure, generally designated by the reference numeral 20, is a chair member, and the understructure, generally designated by the reference numeral 21, is a wheeled carriage structure. (Figures 8 and 9).

35 The chair component 20 (see Figures 1—3) comprises two outer side members 22 and 23 and an inner member 24. Each of said outer side members is of tubular construction and comprises an inclined front leg 25 and a lateral portion generally designated 26, comprising a lower horizontal bar 27, an upper parallel horizontal bar 28 and an arcuate rear hand-grip loop 29 connecting said bars. The said inner member 24 comprises two inclined rear legs 30 and 31, two inner horizontal parallel bars 32 and 33 extending forwardly from said legs 30 and 31, respectively, and being connected by the transverse front bar 34. The said bars 32 and 33 are secured, by fasteners 35 and 36, to the adjacent contiguous bars 27 of member 20, to form one unitary structure.

50 Each of the legs 25 of said outer side members 22 and 23, and the legs 30 and 31 of said inner side member 24, contains an extension member 37 telescopically fitted within its corresponding leg. As illustrated in Figures 6 and 7, each of the legs, such as leg 30, carries thereon a locking device 38 comprising a hollow receptacle 39 through which extends the stem 40 of movable locking member 41, the inner terminal 42 of said member being enlarged and proportioned to extend through the aperture 43 of leg 30 and the similarly proportioned aperture 44 of the extension member 37. Disposed within said receptacle is the spring 45 urging said terminal 42 inwardly, the knob 46 attached to said stem being adapted for manual manipulation. The extension member 37 contains therein a longitudinal depression 47 adapted to slideably accommodate therein the detent 48 of said leg 30. The arrangement is hence such that upon an outward pull exerted upon knob 46 against the action of spring 45, the terminal 42 will be drawn outwardly to permit a slideable telescopic movement of said extension member 37 within leg 30. When said apertures 43 and 44 are in registry, spring 45 will urge the said terminal 42 inwardly, to enter aperture 44 and lock extension

member 37 to leg 30. In this position, with all the legs 37 extended as illustrated in Figure 1, the chair may be employed as a highchair. To convert the chair to a low chair, so that it may be operatively used in conjunction with undercarriage 21 (as will more clearly hereafter appear), the knob 46 is pulled outwardly, and the extension member 37 pushed upwardly into the corresponding leg. When the lower aperture 49 in extension member 37 is in registry with aperture 43, and the knob 46 released, the device will be locked so as to produce a short-legged chair, as illustrated in Figure 8.

Disposed over and resting upon said bars 27, 32 and 33 is the seat member 50. In the form illustrated two oppositely positioned vertical tie rods 51 extend through the bars 27, the seat member 50 and upper bars 28—thereby not only connecting the upper and lower bars of said lateral wings 26, but also maintaining the seat member 50 in position against displacement. Disposed behind said seat member 50 is the transverse rod 52 supported upon said bars 27, 32 and 33. Extending around the sides and underside of said rod 52 are the strap members 53, these being secured by fasteners 54 to the back rest 55. The arrangement is hence such that the strap members 53 constitute hinges to permit the operative pivotal movement of said backrest 55 from its substantially upright position (shown in full lines in Figure 1) rearwardly to its substantially horizontal position shown by dot-dash lines.

The backrest support 56 is of substantially U-shaped configuration, with an intermediate transverse section 57 connecting the two lateral arms 58 having the two end arms 59 extending outwardly through the aperture 60 in the opposite loop portions 29—the said intermediate portion 57 being adapted for operative engagement in known manner, with the spring clip 61 secured to the backrest 55. The arrangement is hence such that when backrest support 56 is in its forward position illustrated in Figure 1, with the intermediate portion 57 in engagement with said clip 61, the backrest is supported in its upright position; and when the said support 56 is released from said clip 61, and swung rearwardly substantially to the dot-dash position shown in Figure 1, the backrest 55 is free to swing rearwardly to its horizontal position also shown in dot-dash lines in said figure. In said horizontal position the said backrest 55 is disposed in resting engagement upon the two said end arms 59 of support 56. It is moreover to be noted that not only does said support 56 serve to maintain the backrest 55 in its said extreme limiting positions, as aforesaid, but it also serves as a spacer to maintain the said opposite looped portions 29 in mutually spaced relation.

Extending downwardly from said seat member 50 are the two U-shaped link supports 62; and extending through said supports are the opposite parallel legs 63 of the U-shaped link member 64, the opposite terminal portions 65 of which are pivotally connected at 66 to the opposite sides 67 of the footrest member 68 suspended at pivotal points 69. The underside of each of said arms 63 contains two notched portions 70 and 71 engageable with the bottom cross-bars 72 of the U-shaped supports 62. Said notched portions are so positioned that when notched portions 70 are in operative engagement with cross-bars 72, the footrest 68 is in its upper position, shown by dot-dash lines in Figure 1; and when the notched portions 71 are in engagement with said cross-bars 72, the footrest 68 is in its lower position.

It is thus apparent that by simple manual manipulations both the backrest 55 and the footrest 68 may be moved to opposite limiting positions and maintained at such positions until they are deliberately removed therefrom.

The said upper tubular bars 28 of the wing portions 26 are adapted to support either the tray 73 (Figures 1 and 2) or the front protecting bar 74 (Figures 8, 12 and 13). The connection with the tray 73 is effected by

means of two oppositely positioned brackets 75 attached by screws 76 to the underside of the tray. Each bracket contains a hollow partially open tubular portion 77 proportioned to slideably fit over one of the bars 28. Said tubular portion contains a receptacle 78 through which extends a locking member 79 having a knob 80, a stem 81, a terminal portion 82 and a spring 83 urging said terminal portion 82 inwardly. Said terminal portion is proportioned to extend through aperture 84 in said tubular bar 28 when the member 79 is in its locking position. The arrangement is such that the two said tubular portions 77 can be operatively slid over the inner surface of the forward portions of said tubular bars 28 until one of the terminal portions 82 reaches aperture 84, at which point it will be yieldably urged therein, in well-known manner. In this position the tray is locked in place until said knobs 80 are retracted and the tray slid forwardly to detach it from the structure.

The said front protecting bar 74 (see Figure 12) comprises a forward transverse portion 85 and two parallel lateral portions 86. A locking lever 87 is pivotally connected at 88 to the interior portion on each side of the tubular member 74, the rear terminal portion 89 of each of said levers being proportioned to extend through aperture 90, as illustrated in Figure 12. Each of said levers 87 contains a stem 91 extending through an adjacent aperture 92 in tubular member 74, a knob 93 being disposed at the end of said stem so that it may be manipulated against the action of spring 94 disposed within tubular member 74 and in pressing engagement with lever 37. It will be observed that the forward ends 95 of tubular bars 28 are open, these being apertured to receive therein the lateral portions 86 of said member 74. By merely inserting said lateral portions 86 into the bars 28 and pushing member 74 rearwardly the terminal portions 89 of said levers 87 will enter the apertures 90 under the action of springs 94 and thereby lock the protecting member 74 in place. To release said member 74, the knobs 93 are pressed inwardly, and the bar 74 removed.

The carriage understructure component comprises a substantially U-shaped tubular frame 96 consisting of two parallel side bars 97 and 98 connected by a front portion 99, each of said bars 98 extending from said front portion rearwardly and upwardly—the rear upwardly extending portions 100 and 101 being contiguous to the sides 102 and 103, respectively, of the handle bar member 104. The lower portion of said sides 102 and 103 of said handle bar are rotatably mounted over the rear axle 105 of the carriage, said axle supporting wheels 106 and 107.

Pivotally mounted over each of said sides 102 and 103 of the handle bar is a locking cowl 108 for securing said pivotally mounted sides in fixed relation to the rigid upwardly extending portions 100 and 101 of the frame. Specifically, each of said cowls is pivotally mounted at a point 109 of the handle bar device, and comprises a wall 110 and two lateral sides 111 and 112. When the cowl is in the full line position shown in Figure 10, the walls 111 and 112 are in embracing engagement with the upwardly extending portions 100 and 101 of the frame 96, and the sides 102 and 103 of the handle bar structure, and holding them against relative movement. When the cowl is raised to the dot-dash position of Figure 10, the handle bar member 104 is released for pivotal movement to the position shown in Figure 15.

The frame structure 96 of the undercarriage is provided with four upstanding pins 113, 114, 115 and 116 for receiving thereover the respective tubular legs of the chair component, whereby the latter will be maintained in assembled relation with the undercarriage. Specifically, the pins 113 and 114 are secured to the horizontal portion 97 of frame 96, and pins 115 and 116 are secured to the corresponding portion 98 of said frame, all of said pins being disposed at points inwardly of the axles 105 and 117.

As will be seen from Figure 14 (which is illustrative

of the structure and the connection of all of said pins), the pin 113 has a lower stem 118 of reduced proportions extending through upper aperture 119 in frame portion 97, said stem extending diametrically through the tubular portion 97 and being supported by a thin diametral rod 120 secured to opposite portions of member 97 said rod extending through aperture 121 in stem 118. The said aperture 119 is also somewhat larger than stem 118, the arrangement being such as to present a loosely mounted pin 113, whereby it will be adjustably movable, within limits, to the position of the tubular leg adapted to be fitted thereover.

As illustrated in Figure 14, the telescopically collapsed leg 30 contains the said releasable locking member 38, the terminal 42 thereof being proportioned for releasable locking engagement with the annular recessed portion 122 near the upper tip of said pin 113. Similar constructions and connections are provided for the other pins 114, 115 and 116.

The said pins 113, 114, 115 and 116 are spaced from each other and so located on the frame 96 as to correspond with the spacing and location of the lower portions of legs 30, 31 and 25 of the chair component, so that said pins will be adapted to receive thereover the said legs during the assembling operation. The loose mounting of said pins is designed to permit such adjustable movements of said pins as may be required during the assembling operation. It is thus apparent that all that need be done to effect an assembly is telescopically to collapse said legs by pushing the extension members 37 upwardly and then positioning said legs over the respective pins 113, 114, 115 and 116, and forcing them downwardly thereover. The spring action of the locking members 38 will cause the members to be locked in place until an operative retraction of said locking members, whereupon a disassembly can be readily effected. This assembly can be effectuated with the chair component 20 either facing forwardly or rearwardly, since the front and rear legs, respectively, are arranged in parallel pairs and at substantially equal inclinations. When the parts are assembled in their normal position with the chair component disposed forwardly, they are in the position illustrated in full lines in Figure 8; and when the chair component is assembled in a reverse position, its position is suggested by the dot-dash lines of said figure.

In order to facilitate a forward or rearward movement of the assembled carriage and chair component, without using the handle bar 104 (which might tend to cause a tilting of the carriage), the arcuate looped portions 29 or the front protecting bar 74 may be grasped to apply the required rearward or forward pulls. Said looped portions 29 also serve the additional purpose of constituting part of the lateral wings 26 which help to maintain a child seated on the chair component within the confines of the sides of the chair. Similarly, the front bar 74 serves the additional purpose of a protecting means in front of the child.

It is thus evident from the above description that I have devised a construction, made of tubular and easily fabricated stock, which provides many novel features not to be found in conventional devices of this category. The convertibility of the device can readily be effected by simple manual manipulations. The chair component is constructed of a few simple tubular elements to provide an independent unit that can be used either as a high or a low chair, with a footrest and backrest readily moveable into two limiting positions whereby the child can either be in a seated or recumbent position, and safely supported in any such selected position. The arrangement is such as to permit the wings of the chair selectively to accommodate either a tray or a front protecting bar. As can be gleaned from the description hereinabove given, the chair unit is readily assembled to the carriage unit in either a forward or reversed position, without in any way affecting the utility and operability of the chair com-

ponent. And when the device is disassembled, the collapsing of the carriage handle and the telescopic collapsing of the legs will provide a compact disassembled arrangement.

In the above description, the invention has been disclosed merely by way of example and in preferred manner; but obviously many variations and modifications may be made therein. It is to be understood, therefore, that the invention is not limited to any specific form or manner of practicing same, except insofar as such limitations are specified in the appended claims.

I claim:

1. In a convertible article of furniture, an understructure and a superstructure removably supported thereby, said understructure constituting a wheeled carriage component and said superstructure constituting a chair component; said carriage component comprising a frame, wheels supporting said frame, a handle bar member on the frame, and spaced chair-leg receiving means; said chair component comprising a seat, two outer side members and an inner member; each of said outer side members having a front leg and a lateral portion comprising a lower substantially horizontal bar secured to the seat, an upper substantially horizontal bar and a rear arcuate hand-grip loop connecting said bars; said inner member comprising two rear legs, two inner substantially horizontal bars extending forwardly from said rear legs, respectively, and a front transverse bar connecting said inner bars, said inner bars being disposed adjacent said lower bars, respectively, and secured thereto; and terminal portions on said legs spaced to correspond with said leg-receivable means, said terminal portions being removably secured to said leg-receivable means.

2. In a convertible article of furniture, the combination according to claim 1, the lower bars of said outer side members and the inner bars of said inner member being substantially at the same level, said seat being disposed over said bars.

3. In a convertible article of furniture, the combination according to claim 1, said front legs being correspondingly inclined forwardly and downwardly, and said rear legs being correspondingly inclined rearwardly and downwardly, the inclination of the front legs being equal to that of the rear legs, whereby said chair component may be reversibly positioned upon said carriage component.

4. In a convertible article of furniture, the combination according to claim 1, said leg receivable means comprising upwardly extending pins secured to the frame of said carriage component, the terminal portions of said legs being of tubular construction open at the bottom and proportioned to receive therein said pins.

5. In a convertible article of furniture, the combination according to claim 1, said front legs being correspondingly inclined forwardly and downwardly, and said rear legs being correspondingly inclined rearwardly and downwardly, the inclination of the front legs being equal to that of the rear legs, said leg receivable means comprising two rear and two front upwardly extending pins, the terminal portions of said legs being of tubular construction open at the bottom and proportioned to receive therein said pins, said pins being inclined substantially in the direction of the corresponding legs of said chair component, whereby said chair component may be reversibly positioned upon said carriage component.

6. In a convertible article of furniture, the combination according to claim 1, the lateral distance between the said terminal portions of the front legs being substantially equal to the lateral distance between the terminal portions of said rear legs, said leg receivable means comprising two rear and two front generally upwardly extending pins, the respective distances between said two rear and said two front pins being substantially equal to said lateral distance between said terminal portions of the legs, said pins being loosely mounted on the frame

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of said carriage component, whereby said chair component may be reversibly positioned upon said carriage component.

7. In a convertible article of furniture, the combination according to claim 1, further provided with a backrest pivotally connected to the rear of said chair component, and disposed between said rear hand-grip loops, a substantially U-shaped backrest support having two end arms extending outwardly in opposite directions and pivotally mounted on the respective opposite loops, support retaining means on the rear of said backrest, said support having an intermediate portion positioned and proportioned for removable engagement with the rear of said backrest and said retaining means when said backrest is in an operative upright position, said support being swingable rearwardly out of its said engaging position to permit the backrest to be operatively swung rearwardly into resting engagement upon said two end arms.

8. In a convertible article of furniture, an understructure and a superstructure removably supported thereby, said understructure constituting a wheeled carriage component and said superstructure constituting a chair component; said carriage component comprising a frame, wheels supporting said frame, a handle-bar member on the frame, and spaced chair-leg receivable means; said chair component comprising a seat, two outer side members and an inner member; each of said outer side members having a front leg and a lateral portion comprising a lower substantially horizontal bar secured to the seat, and an upper substantially horizontal tubular bar; said inner member comprising two rear legs, two inner substantially horizontal bars secured to lower bars and extending forwardly from said rear legs, respectively, and a front transverse bar connecting said inner bars, and terminal portions on said legs spaced to correspond with said

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leg-receivable means, said terminal portions being removably secured to said leg-receivable means; and an upper front protecting member releasably secured to the forward portions of said upper horizontal bars.

9. In a convertible article of furniture, the combination according to claim 8, said front protecting member being a tray proportioned to extend transversely across said upper horizontal bars, a bracket secured to the underside of said tray including a tubular slide member and proportioned for slidable embracing engagement with the forward portion of the adjacent one of said upper horizontal bars.

10. In a convertible article of furniture, the combination according to claim 8, said upper tubular bars being open at their respective front ends, said front protecting member comprising a substantially U-shaped bar, the rear terminals of the opposite arms of said U-shaped bar being proportioned and positioned for entry within the open ends of said upper tubular bars.

11. In a convertible article of furniture, the combination according to claim 8, said handle-bar member being pivotally mounted on said frame and movable between a substantially upright position and a forward limiting position, and releasable means holding said member in said upright position.

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