United States Patent [19]

Johnson

[11] **3,909,061**

[45] **Sept. 30, 1975**

[54] **PORTABLE COLLAPSIBLE HIGH CHAIR**

[76] Inventor: **Michael J. Johnson,** 37 Highland Ter., Gloversville, N.Y. 12078

[22] Filed: **Mar. 5, 1974**

[21] Appl. No.: **448,307**

[52] **U.S. Cl.** **297/17**

[51] **Int. Cl.²** **A47C 4/00**

[58] **Field of Search** 297/17, 139, 153, 353

[56] **References Cited**

UNITED STATES PATENTS

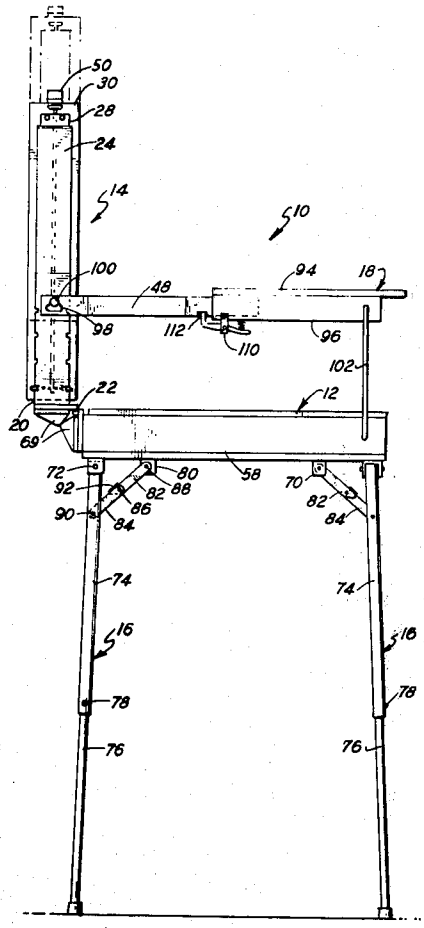
1,673,988	6/1928	Nitti	297/17 X
2,091,733	8/1937	Hemminger et al.	297/353
2,971,570	2/1961	Vander Bush	297/17
3,516,709	6/1970	Nader	297/153

Primary Examiner—James C. Mitchell
Attorney, Agent, or Firm—Dayton R. Stemple, Jr.; James L. Bean

[57] **ABSTRACT**

A portable collapsible chair structure which, when erected, provides a full sized high chair for a small child, and when collapsed, folds into a compact, case-like package for handling and for storage. The enclosure of the case-like structure is useful for carrying articles normally required for the care of a child. The structure includes means permitting the chair back to be adjusted in height, and the tray and armrests may be retained in their stored position in the seat back when not required as when the seat is used by a larger child.

11 Claims, 10 Drawing Figures



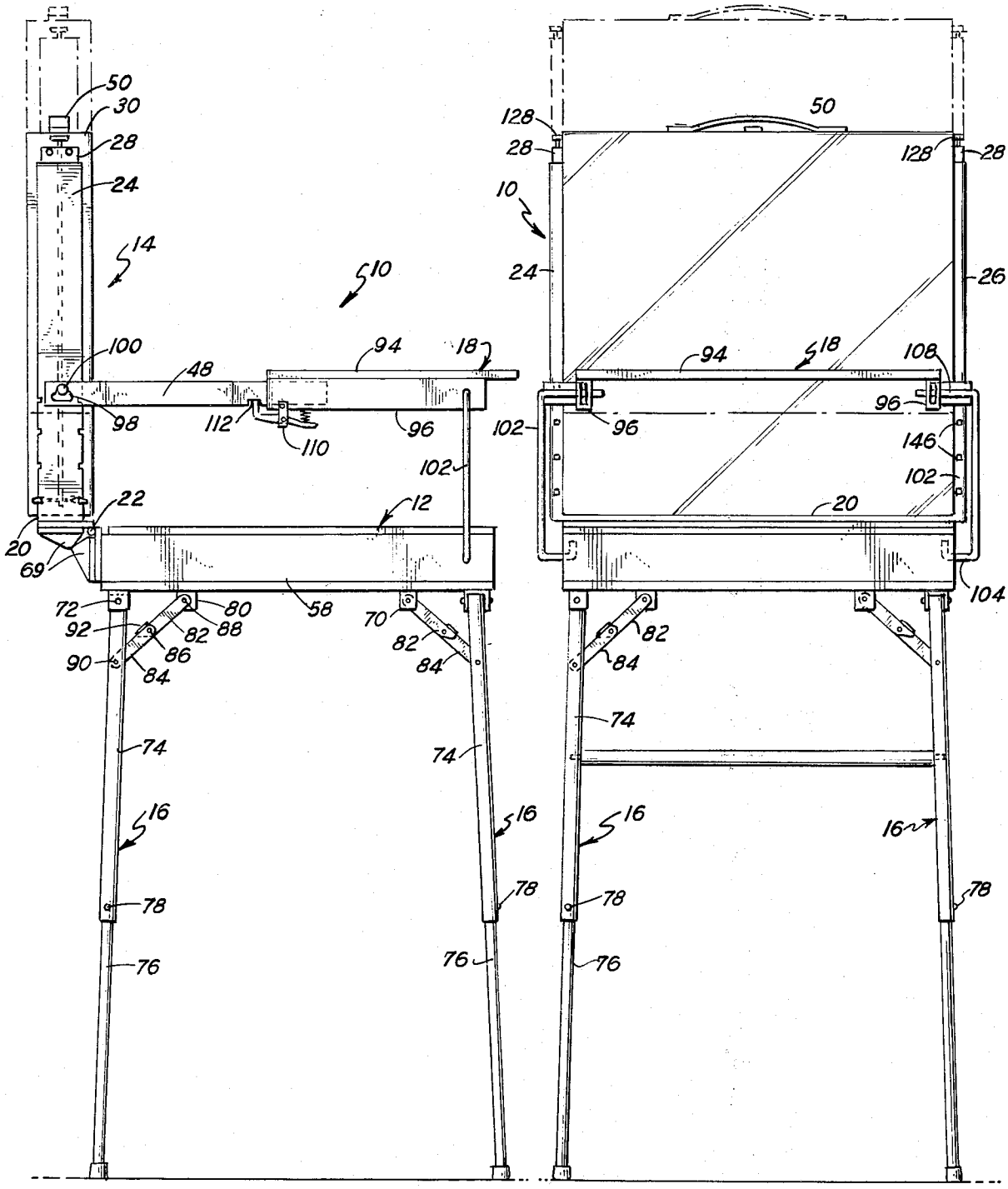

50
30
28
24
14
10
100
48
94
18
98
112
110
96
102
22
12
20
69
72
92
90
80
88
82
86
84
58
70
74
16
78
76
128
28
10
24
50
128
28
26
94
18
108
96
102
96
146
102
20
104
82
84
74
16
78
76

FIG-1 FIG-2

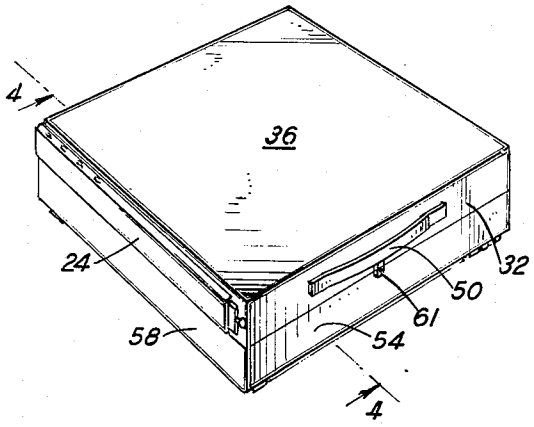


FIG. 3

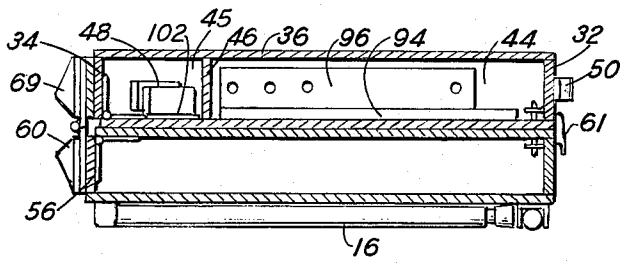


FIG. 4

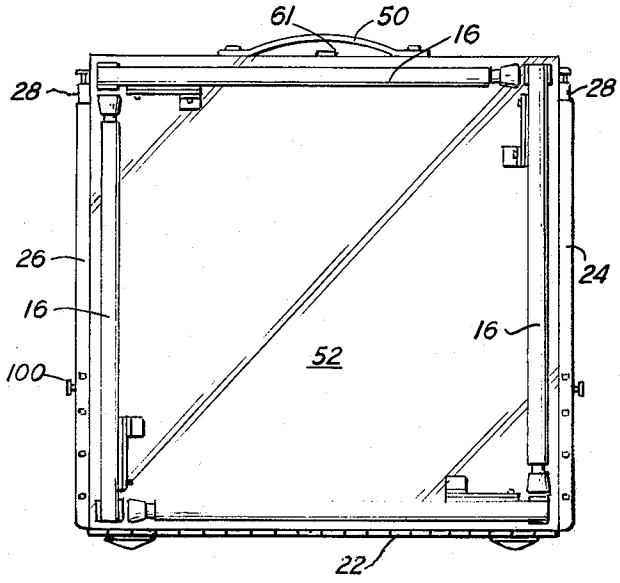


FIG. 6

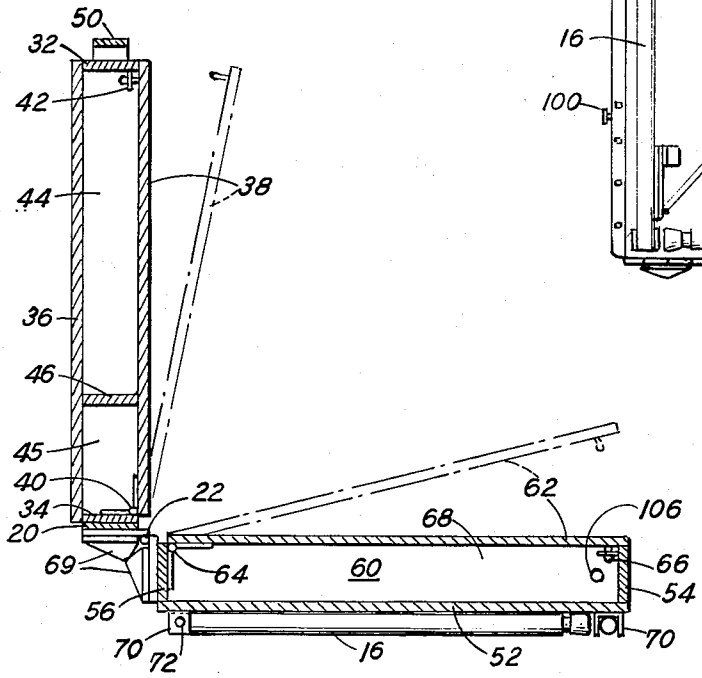


FIG. 5

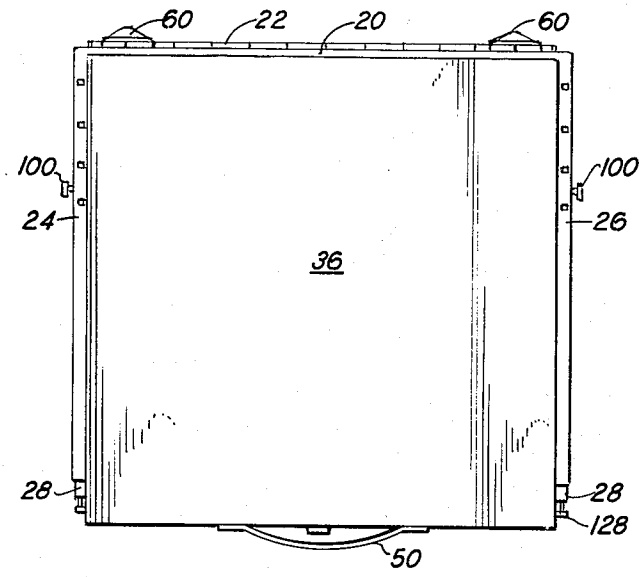


FIG. 7

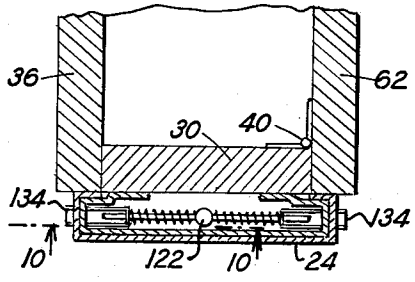


FIG. 9

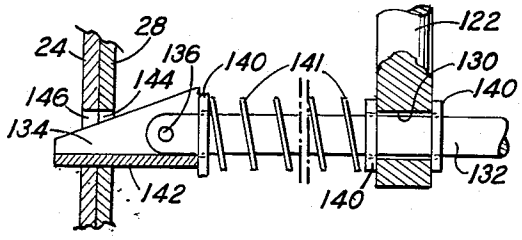


FIG. 10

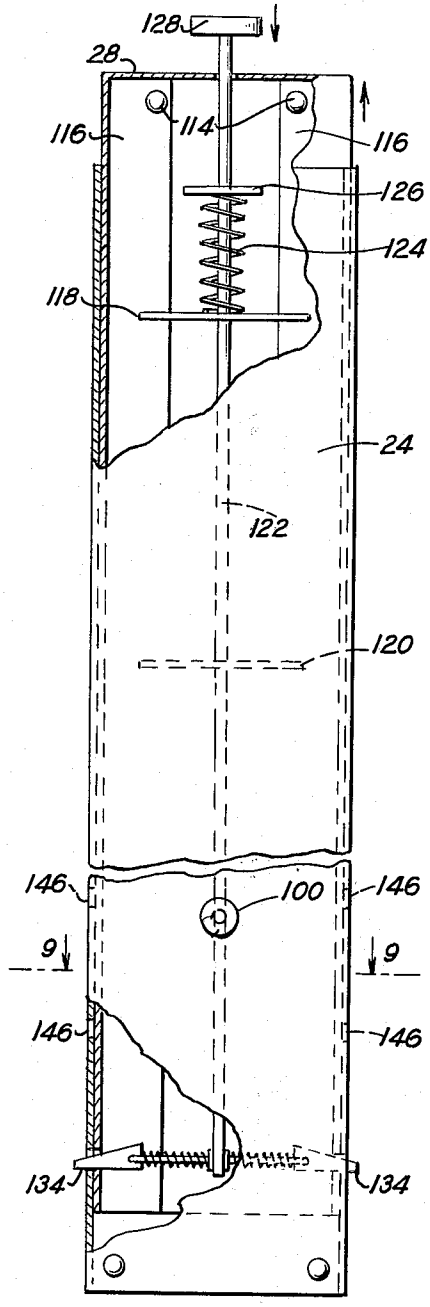


FIG. 8

PORTABLE COLLAPSIBLE HIGH CHAIR

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to collapsible portable chairs, and more particularly to an improved collapsible portable high chair structure for children.

2. Description of the Prior Art

Collapsible and folding chairs are well-known and widely used, the most common of these being of the type having a seat portion which pivots up either from the front or rear, thereby folding the entire chair into a flattened condition having a height substantially equal to or greater than the chair in its unfolded condition. Folding high chairs for use by small children are also known, an example of such a prior art device being found, for example, in U.S. Pat. No. 2,971,570. A collapsible baby seat adapted to be positioned on a conventional chair for use is found in U.S. Pat. No. 2,089,090. The prior art collapsible high chairs, however, have not met with widespread acceptance for various reasons. For example, the complete chairs have generally not been capable of folding into a neat, compact package which is convenient to carry, pack for travelling, or to store when not in use. Further, they have been relatively complicated and difficult to manipulate between the unfolded and folded conditions, and generally have not won the confidence of parents.

SUMMARY OF THE INVENTION

The foregoing and other disadvantages of the prior art are overcome by the high chair of the present invention in which the seat portion and the back portion are constructed as opposed complimentary halves of a generally rectangular case similar to an attache case or a small suitcase having a handle to facilitate carrying. The back portion is mounted in a generally U-shaped bracket which, in turn, is hingedly mounted on the back edge of the seat portion. In the erected position, the back may be adjusted vertically between the arms of its supporting bracket to adjust the height of the chair back.

The seat and back portions are each constructed as shallow drawer-like box structures both of which are normally closed by hinged closure panels to form closed storage compartments in the chair seat and back. The closure panel which is hingedly mounted on the seat portion forms the seating surface of the chair, while the panel hinged on the back portion forms the backrest surface. A foldable tray and armrest assembly is normally stored in the back storage compartment, and may be removed and quickly assembled onto the U-shaped bracket and supported on the sides of the seat assembly. A folding, telescoping leg is mounted at each corner of the seat assembly, with the legs being adapted to fold along the respective side edges of the seat bottom when not in use.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other features and advantages of the invention will become apparent from the detailed description contained herein, taken in conjunction with the drawings in which:

FIG. 1 is a side elevation view of a high chair according to the present invention, shown in the erect condition and with the chair back illustrated in an alternate position in phantom lines;

FIG. 2 is a front elevation view of the structure shown in FIG. 1;

FIG. 3 is a perspective view of the chair in the fully collapsed condition;

FIG. 4 is a sectional view taken on line 4—4 of FIG. 3;

FIG. 5 is a view of the structure of FIG. 4 shown in the partially erected position;

FIG. 6 is a bottom plan view of the collapsed chair;

FIG. 7 is a top plan view of the collapsed chair;

FIG. 8 is a side view, on an enlarged scale of the collapsed chair, with certain portions broken away to more clearly illustrate other parts;

FIG. 9 is a fragmentary sectional view taken on line 9—9 of FIG. 8; and

FIG. 10 is a fragmentary sectional view taken on line 10—10 of FIG. 9.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail, a collapsible, portable high chair according to the present invention is indicated generally by the reference numeral **10** and includes a seat assembly **12** and a backrest assembly **14** supported on a plurality of foldable, telescoping legs **16** mounted on the bottom of seat assembly **12.** A folding tray assembly **18** is mounted on the chair and may be removed and collapsed for storage in the backrest assembly **14.** The backrest **14** includes a generally U-shaped mounting bracket having a bottom beam portion **20** mounted, by hinge **22** on the back edge of the seat assembly **12.** The bracket also includes a pair of parallel side arms **24, 26** which are generally C-shaped in cross section forming a track which slidably supports an elongated guide member **28** mounted one on each side wall **30** of the backrest assembly **14.**

The backrest assembly **14** consists of a shallow drawerlike box structure made up of the two side walls **30,** end walls **32, 34,** and a bottom wall **36** which defines the top surface of the chair in the collapsed condition shown in FIGS. **3** and **7,** and forms the rearmost surface of the chair back in the erected position. The open end of the box is normally closed by a panel **38** mounted, by hinge **40** on the bottom wall **34,** which panel is normally retained in a closed position by a spring catch indicated generally at **42.** The panel **38** normally forms the backrest surface of the chair, and cooperates with a divider **46** to divide the interior of the backrest assembly into an upper storage compartment **44** which houses the tray **18** and a lower compartment **45** for storing the tray support arms **48** and **102,** as well as other articles normally required for the care of a small child. A flexible carrying strap **50** mounted on the top wall **32** is provided for carrying the collapsed chair.

The seat assembly **12** also consists of a shallow drawer-like box structure having a bottom wall **52** with front and back walls **54, 56** and side walls **58, 60** projecting upwardly from the side edges of the bottom wall to define a structure substantially complimentary to the box structure of the backrest assembly. Also, the seat assembly is provided with a top panel **62** mounted along its rear edge by a hinge **64** to the back wall **56** and normally retained in position closing the open top of the structure by the spring clip assembly **66.** The panel **62** defines the seating surface of the high chair and forms a closure cover for the storage compartment **68** in the seat assembly **12.** A plurality of feet **69** are mounted on

the wall **56** and the bracket portion **20** to support the chair on a surface when the chair is in the collapsed condition. The feet **69** are arranged in opposing pairs, one on member **20** and one on wall **54**, and engage one another to act as stops to limit relative movement of the seat and back portions of the chair as best seen in FIG. **5**. A conventional luggage latch, or lock **61** may be employed to releasably retain the chain in the collapsed condition.

Four U-shaped brackets **70** are mounted on the bottom panel **52**, one adjacent each corner thereof, and a pin **72** extending through the downwardly depending legs of the brackets **70** pivotally support the upper ends of the telescoping leg assemblies **16**. The respective legs **16** each comprise an upper larger tubular portion **74** and a smaller lower portion **76** telescoping into the portion **74**. A spring loaded detent pin **78** releasably retains the two portions **74, 76** in the expanded position shown in FIGS. **1** and **2**, and may be manually depressed to permit the legs to be telescoped together to the position shown in FIGS. **4-6** for storage and transportation.

As best seen in FIGS. **1** and **2**, the respective legs **16** are retained in the erected position by an over-center linkage assembly consisting of a angle bracket **80** mounted on the bottom surface of panel **52** and a pair of arms **82, 84** having one end pivotally connected by a pin **86**. The arm **82** has its other end pivotally connected by a pin **88** to the angle bracket **80**, and the arm **84** has its other end pivotally connected by a pin **90** to the tubular leg portion **74**. A tab **92** integrally formed on the arm **82** permits the linkage to be forced over-center before stopping further pivotal movement between the two arms, thereby retaining the legs against collapse until the linkage is again forceably moved back through the over-center position to permit the linkage to collapse. This structure, per se, is conventional and various modifications and alternate constructions will be apparent.

Referring again to FIGS. **1** and **2**, the tray assembly **18** consists of a substantially flat panel **94** having a pair of open-ended channel members **96** mounted on its bottom surface, one along each end thereof. Each of the channels **96** support one end of the sliding support arms **48**, and the arms **48** each have a contoured opening **98** formed in the opposite ends thereof for receiving the englarged head of a tray support pin **100**. The forward end of the tray assembly is supported by a pair of elongated rod members **102** each having a hook-shaped portion **104** on one end adapted to be passed through and aperture **106** in the wall members **58, 60** and having its other end adapted to extend horizontally through an aperture in the forward end of the tubular channel members **96**. If desired, the arms **102** may be permanently attached to the tubular members **96**, in which case the hook portion **104** might consist of a simple inwardly turned horizontal portion adapted to be fit through the aperture **106**.

The arms **48** are preferably adapted to be completely removed from the channels **96** for storage, and a spring biased detent button **110** mounted on the side of channel **96** is adapted to cooperate with openings **112** in the forward end of the arms **48** to permit adjustment of the panel **94** toward and away from the backrest assembly **14**. Arms **48** may be completely withdrawn from the channels **96** for storage within the lower compartment **45** of the backrest assembly. Arms **102** are also stored within the chamber **45** when not permanently attached to the channels **96**.

Referring now to FIGS. **8–10**, the structure for adjusting the height of the backrest assembly will be described. The sliding guide member **28** is mounted on the wall **30** by suitable fasteners such as rivets **114** extending through the inwardly turned flange portion **116** of the guide. A pair of brackets **118, 120** are mounted, as by spot welding, within the hollow interior of the channel-shaped guide **28**, with the brackets **118, 120** supporting and acting as guides for an elongated rod **122**. The rod **122** is resiliently urged in the upward direction as seen in FIG. **8** by a spring **124** positioned between the bracket **118** and a washer **126** mounted on and fixed against upward movement on the rod **122**. A button **128** is provided on the end of rod **122** projecting above the guide **28** in position to be manually depressed, against the force of spring **124**.

The bottom end of rod **122** has a horizontal opening **130** extending therethrough for receiving a laterally extending rod **132**. A latch member **134** is mounted for limited pivotal movement on each end of the rod **132** by a pin **136**. A pair of washers **140** are mounted on each end of the rod **132**, one adjacent the rod **122** and one adjacent the bracket **134**, and a coil spring positioned therebetween urges the two washers away from one another to resiliently bias the bracket so that its bottom surface **142** is in the horizontal position as seen in FIG. **10** when the chair back is in the upright position. In this position, the ends of the brackets **134** project through an opening **144** in the side wall of guide member **28** and into one of a plurality of vertically spaced openings **146** of the respective arms **24, 26** of the U-shaped bracket **20**.

Again referring to FIG. **8**, it is seen that, by depressing the button **128** to thereby force the rod **122** downward, the brackets **134** will be cammed upward about their respective pivots **136** by contact of the bottom surface **142** with the opening **144**. This pivotal movement withdraws the brackets **134** from the openings **146**, thereby permitting relative sliding movement between the respective guide members **28** and the cooperating arms **24, 26**, and permitting the height of the backrest to be adjusted as desired. Release of the button **128** will permit the rod **122** to be returned by spring **124** to its fully raised position, thereby permitting the springs **141** to pivot the brackets **134** about the pins **136** to project the brackets into an opening **146** as soon as such an opening is aligned with the opening **144**.

It is also contemplated that the general mode of operation of this backrest adjustment assembly may be reversed so as to operate when the button **128** is lifted to pivot the brackets downward. This latter arrangement may be preferred when the backrest assembly is constructed of relatively heavy material, the weight of which would tend to force the brackets **134** downward in the embodiment just described, which tendence could result in unintentional lowering of the backrest.

While I have disclosed and described a preferred embodiment of my invention, I wish it understood that I do not intend to be restricted solely thereto, but that I do intend to include all embodiments thereof which would be apparent to one skilled in the art and which come within the spirit and scope of my invention.

What is claimed is:

1. A collapsible portable high chair structure comprising, in combination, first and second shallow open

topped box members each including a generally rectangular bottom panel and side walls mounted on and extending upwardly from the side edges of the bottom panel, hinge means joining said boxes together along one side edge adjacent the open tops thereof for movement between a closed position in side-by-side relation with the two open tops overlying one another and an open position extending at substantially right angles to one another, a first closure panel hingedly mounted on said first box for closing the open top thereof and defining a seating surface, said first closure panel and said first box cooperating to define a seat assembly having a storage compartment under the seating surface, a second closure panel hingedly mounted on said second box and defining a backrest surface for the chair, said second tray and said second closure panel cooperating to define a chair back assembly having a storage compartment therein, a removable tray, means mounting said tray on said back assembly and said seat assembly, said tray being adapted to be stored in one of said storage compartments, and foldable legs mounted on said seat assembly for movement between a collapsed position lying along said seat assembly and an erected position projecting downwardly from the corners thereof.

2. A high chair as defined in claim **1** further comprising means for adjusting the height of said back assembly when said back and said seat are in the open position.

3. The high chair as defined in claim **2** wherein said means adjusting said back comprises a generally U-shaped bracket having its base portion hingedly mounted on said seat assembly and having its opposed arm portions extending along the side walls of said back assembly, and guide means mounted on said back assembly and slidably engaging said arms for supporting said back on said bracket.

4. The high chair as defined in claim **4** further comprising releasable latching means normally interlocking said guide means at said arms, said latching means being operable to release said guide and said arms to permit relative movement therebetween.

5. The high chair as defined in claim **2** wherein said folding legs each comprise a pair of telescoping tubular members, and releasable detent means for interlocking said tubular member against telescoping movement relative to one another.

6. A collapsible portable high chair comprising, in combination, generally rectangular back and seat portions, hinge means joining said seat and back portions together adjacent the back of the seat and the bottom of the back for movement between a collapsed position wherein said seat and back are disposed in generally parallel overlying relation and an erected position wherein they extend at substantially right angles to one another, at least one of said portions being in the form of a shallow box-like structure having rigidly joined bottom and side panels and a closure panel hingedly joined to and normally closing the open top thereof to form a closed storage compartment in said at least one portion, a removable tray assembly, means removably mounting said tray assembly on said back and said seat, said tray assembly being adapted to be stored in said storage compartment, and folding, longitudinally telescoping legs mounted on said seat one at each corner thereof.

7. The high chair as defined in claim **6** wherein said telescoping legs are mounted for pivotal movement between an erected position extending downwardly from said seat to support the chair and a collapsed position extending along the bottom of said seat.

8. The collapsible portable high chair as defined in claim **6** further comprising adjusting means joining said hinge means and said back, said adjusting means being operable to permit adjustment of the height of said back.

9. The collapsible portable high chair as defined in claim **6** wherein both said back and said seat comprise shallow box-like structures having a closure panel hingedly mounted thereon whereby a storage compartment is formed in both said seat and said back.

10. The collapsible portable high chair as defined in claim **9** wherein the closure panel on said seat defines the seating surface of the chair and the closure panel on said back defines the backrest surface of the chair.

11. The collapsible portable high chair as defined in claim **6** wherein said hinge means comprises a generally U-shaped bracket having generally parallel arm portions extending along the side edges of said back, said arm portions having their lower ends joined by a generally straight portion hingedly joined to said seat along the back edge thereof, guide means mounted on the side edges of said back and slidably engaging said arms, and releasable latch means for releasably joining said guide means to said arms at selected positions therealong.

* * * * *