April 23, 1968 D. R. DALZIEL 3,379,471

PORTABLE, CONVERTIBLE CHAIR AND LOUNGE

Filed Feb. 16, 1967 2 Sheets-Sheet 1

FIG. 1.

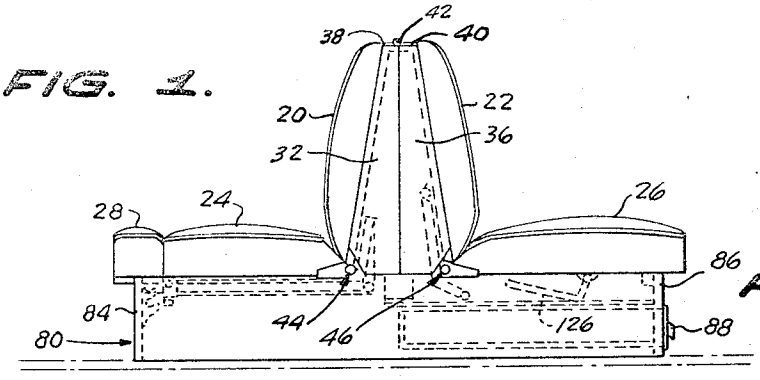


FIG. 2.

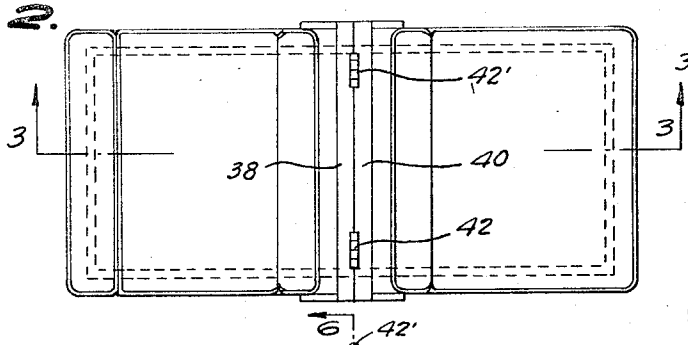


FIG. 5.

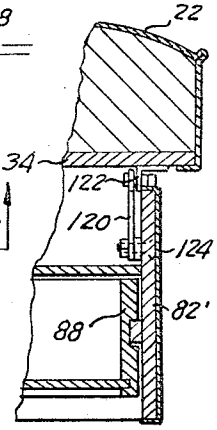


FIG. 3.

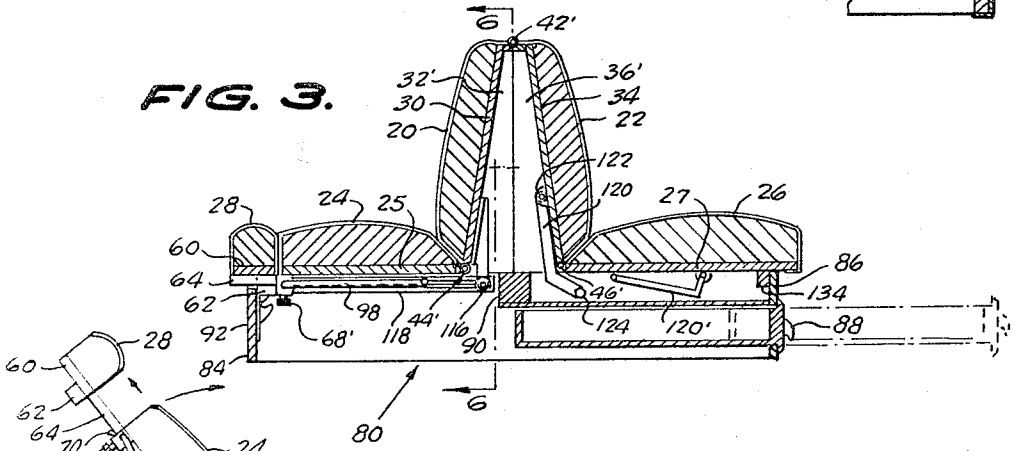
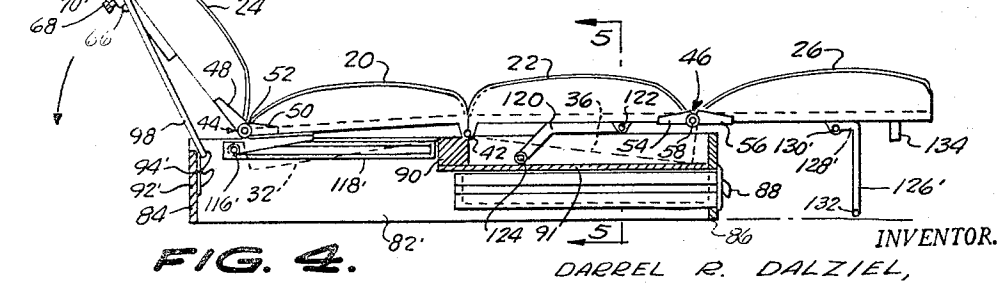


FIG. 4.



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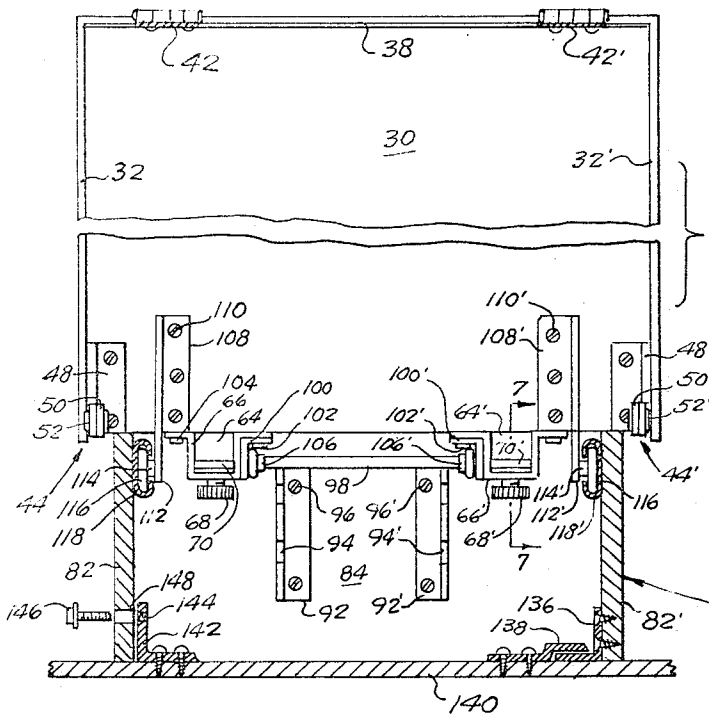


FIG. 6.

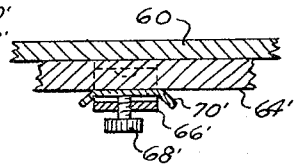


FIG. 7.

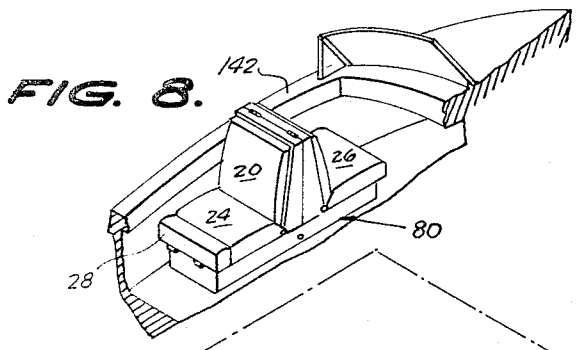


FIG. 8.

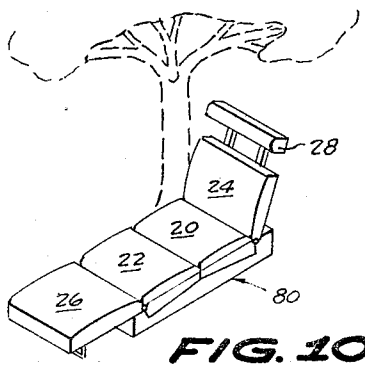


FIG. 10.

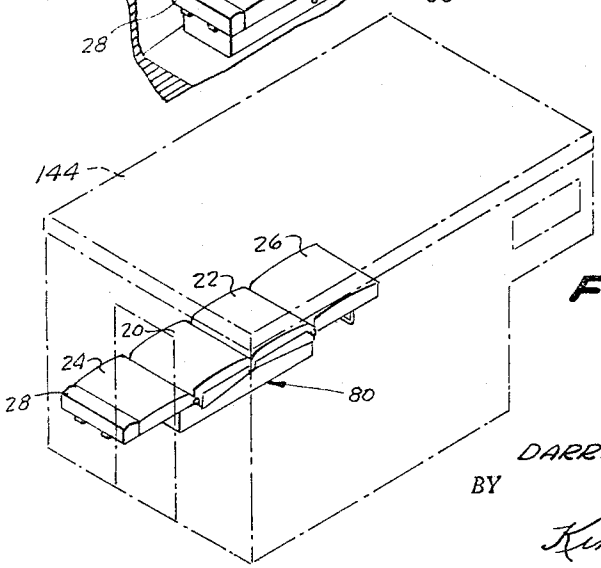


FIG. 9.

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PORTABLE, CONVERTIBLE CHAIR AND LOUNGE

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14 Claims. (Cl. 297—92)

ABSTRACT OF THE DISCLOSURE

A pair of oppositely facing chair seats and backs are integrally interconnected, one of said seats being provided with an extensible member, and mounted on a support base and means are provided for linearly moving a lower end of one of the back members and pivotally moving the other of the back members to form a lounge from the seat and back members.

BACKGROUND OF THE INVENTION

Field of the invention.—This invention relates to chairs in general and more particularly to chairs of the type which are portable and convertible for use in boats, campers, as lawn furniture, and mobile homes.

Description of the prior art.—Oppositely facing chairs which are convertible to couches or lounges are well known in the prior art. Reference is made to Patent No. 2,971,568, issued to Rorie et al. on Feb. 14, 1961; Patent No. 2,993,529, issued to Brown on July 25, 1961, Patent No. 3,095,234, issued June 25, 1963, and Patent No. 3,107,940, issued Oct. 22, 1963, to Brooks et al., for convertible seats of the type disclosed herein. Some of these seats have no facilities at all to permit conversion from a seat to a lounge or couch, see, for example, the Rorie patent. Double arm pivoting devices are known for permitting conversion from a pair of oppositely facing chairs to a couch, as shown in the Brown patent, and various other means for permitting this conversion, such as telescoping members as disclosed in the Brooks et al. patents, have been disclosed. This invention is an improvement over the chairs as disclosed in the prior art and more particularly an improvement in the means for permitting conversion of the oppositely facing chairs to a couch and for extending the length of the couch to provide a headrest.

SUMMARY

While chairs of this general type have been disclosed in the prior art, the means for converting the chairs from a pair of oppositely facing chairs to a couch or lounge have not been entirely satisfactory. Frequently, total rearrangement of the elements manually is required and frequently the mechanisms for permitting rearrangement are difficult to handle. In addition, generally speaking, the lounge or couch formed by the converted chair is of insufficient length, particularly if it is intended to use the lounge in the form of a chaise lounge. Accordingly, the following are objects of the present invention:

The provision of a convertible chair having a slidable guide for moving a first seat and back combination linerly in one direction and a pivoted arm for moving the other back and chair combination in the other direction to provide a generally horizontal couch;

The provision of means for supporting one of the seat members at an angle from the horizontal to provide a chaise lounge arrangement;

The provision of a seat extension to provide a headrest when the chairs are in the position of a chaise lounge;

The provision of a novel and advantageous combination of elements including a support base, a linear guide member, a pivotal guide arm, a support for selectively positioning a seat member at an angle from the horizontal, and a seat extension which forms a headrest.

The particular details of construction and combinational features also comprise objects of the invention.

Brief description of the drawing

FIGURE 1 is a side view of the seat of this invention shown in its first position, as a pair of oppositely facing seats.

FIGURE 2 is a top view of the seats of this invention shown looking down as in FIGURE 1.

FIGURE 3 is a side cross-sectional view taken substantially along lines 3—3 in the direction of the arrows as shown in FIGURE 2.

FIGURE 4 is a side view, showing the base support in cross section, of the convertible chair of this invention, shown in the extended position forming a chaise lounge.

FIGURE 5 is a partial cross-sectional view longitudinally of the lounge of FIGURE 4 taken substantially in the direction of the arrows.

FIGURE 6 is an end view taken along lines 6—6 of FIGURE 3 in the direction of the arrows showing the rear of the first seat and back unit and the slidable guide means of the invention.

FIGURE 7 is a detail cross-sectional view showing means for selectively permitting extension of the seat extension member taken substantially along lines 7—7 in the direction of the arrows as shown in FIGURE 6.

FIGURE 8 is an exemplary utilization of the seat of this invention in a boat.

FIGURE 9 is an exemplary utilization of the seat of this invention in a camper.

FIGURE 10 is an exemplary utilization of the seat of this invention as lawn furniture.

Description of the preferred embodiment

Referring now first to FIGURES 1, 2, 3 and 4, the convertible seat of this invention comprises first and second back members **20** and **22** and a first seat member **24**, which includes a seat board **25**, and a second seat member **26** which includes a seat board **27**. An important feature of the invention is the inclusion of a first seat extension **28**.

These back and seat members are hingably and extensibly interconnected as will be described to move from the position as shown in FIGURE 1 to the position as shown in FIGURE 4. As best shown in FIGURE 3, back member **20** includes a back board **30** and back side members **32** and back member **22** includes a back board **34** and back side members **36**. Top plates **38** and **40** are provided on the upper edges of the seat members **20** and **22** and are hingably interconnected by a pair of hinges **42**. Hinge means **44** and **46** hingably connect, respectively, the first seat member **24** with the first back member **20** and the second seat member **26** with the second back member **22**. In the preferred form, the hinge means **44** comprises a hinge bracket **48** which may be secured by any convenient means to the rear edge of the seat member **24** and a seat bracket **50** which may be secured by any convenient means to the lower edge of back member **20**. Hinge pin **52** provides the hingable

relationship. In a similar manner, hinge bracket **54** is connected to the lower edge of back member **22** and hinge bracket **56** is connected to the rear edge of seat member **26** and the hinge brackets are pivotally interconnected by hinge pin **58**.

Extension member **28** includes a backboard **60** and a stop block **62** secured thereto, the function of which will be described, and a pair of slidable support rods **64** secured to and extending in parallel relation from back board **60**. The support rods are slidably received in clamp **66** which are provided with thumb screws **68** and clamping plate **70** to selectively clamp the support bars in a desired position, as best shown in FIGURE 7. A support base **80**, which preferably includes a pair of opposed sides **82** and opposed ends **84** and **86**, is shown in which the second end **86** may include a drawer which is slidably received in the conventional manner therein and may include a conventional lock for securing the drawer in a closed position, as is well known in the art.

A cross support **90** is centrally located in the support base and supports a panel **91** between the second end of the support base and the support member **90** to prevent access to drawer **88** from the top.

As best shown in FIGURES 3, 4 and 6, a pair of notched brackets **92** which include a plurality of receiving notches **94** therein may be secured by any conventional means, such as screws **96**, to the first end **84** of the support base **80** and selectively receive a U-shaped support bar **98** which, as shown in FIGURE 6, is pivotally supported to brackets **100** which may be secured by bolts **102**, which in conjunction with bolts **104**, also secure brackets **66** to the first seat member **24**. The ends of U-shaped support member **98** are pivotally connected by pivot pins **106** to brackets **102**. As shown in FIGURE 6 also, a pair of glide brackets **108** may be secured, as by screws **110**, to the first back member and include extensions **112** from which pins **114** extend supporting glide rollers **116** which are received in glide tracks **118**, said glide tracks being secured to the opposed side walls **82** of base support **80** adjacent one end thereof, as best shown in FIGURES 3 and 4. Movement of the second back member is arcuately directed by pivot arm **120**, which preferably comprises two generally straight portions which intersect in an obtuse angle, which is secured by pivot means **122** to the back member **22** intermediate the upper and lower edges thereof and pivotally secured by pivot means **124** to the opposed side walls **82**, as shown best in FIGURE 5. These pivot means may be conventional brackets and bolts or bolts received in apertures for rotatable movement.

As best shown in FIGURES 3 and 4, the second seat member when in the extended position is supported by a U-shaped member which includes legs **126** having seat engaging portions **128** pivotally mounted by pivot means **130** and interconnected by a base member **132**. A stop block **134** is provided proximate the front edge of the second seat member **26**.

As best shown in FIGURE 6, an L cleat **136** may be secured, such as by screws or glue, to side wall **82'** for selective engagement under floor cleat **138** which may be secured to the floor **140** by any desired means as may be L cleat **142** which is provided with a threaded aperture **144** for receiving a threaded bolt **146** through aperture **148** in side wall **82**.

This arrangement of cleats permits the seat to be removably connected to the deck of a boat **142** as shown in FIGURE 8 or to the floor of a camper **144** as shown in FIGURE 9, or simply placed on a lawn as shown in FIGURE 10.

In use, in a first position, the back members **20** and **22** are held in a substantially vertical relation to each other, facing oppositely, by the hinged arrangements at the upper edges thereof by the hinged arrangements between the lower edges thereof and the rear edges of the seat members **24** and **26** and by stop blocks **62** and **134** which engage the opposed ends **84** and **86** of the support base **80**. When it is desired to extend the double chair to form a couch or a chaise lounge, it is necessary only to lift the front edge of the second seat member **26** to disengage the stop block **134** from the end **86** and permit arcuate movement about pivot member **124** as controlled and directed by pivot arm **120** and to lift the seat member extension **28** to disengage stop block **62** from end **84** of support base **80** and permit the lower edge of the first back member **20** to move in a substantially linear path in a horizontal plane. The first seat member **24** may then be left in the horizontal position, or raised to a desired position at an angle with respect to the horizontal and supported in that position by means of U-shaped support member **98** which may be received in notches **94** of bracket **92**. A headrest is formed by the extension of seating section member **28** to a desired position. As seen in FIGURE 4, the second seat member **26** is supported in a horizontal position by legs **126** and seat engaging portions **128** in conjunction with pivot means **130**.

To return the seat to the first position, as shown in FIGURE 1, from the second position, as shown in FIGURE 4, it is necessary only to lift the center of the seat and to disengage support member **98** from bracket **92**. Stop blocks **62** and **134** are then engaged by the ends **84** and **86** of the support base **80**.

Only those features considered to be novel and important have been described in detail, such as the motion directing means, the extensible means, etc.; therefore, it will be understood that conventional seat construction, such as foam rubber covered with a flexible material, spring and padding or other known seat constructions may be used. Other variations will become apparent to those skilled in the art from the foregoing description.

It will be seen then, that a convertible chair has been disclosed which has utility in boats, campers, as lawn furniture, and for other applications not specifically stated.

While this invention has been abstracted, summarized, and disclosed with reference to a specific embodiment, it will be realized that the specific embodiment is merely exemplary and that the abstract, summary, and disclosure is not intended in a limiting sense. Accordingly, it is expected that the scope of the invention will be limited only by the appended claims.

I claim:

1. In a portable convertible chair of the type having first and second back members which are hingably interconnected at upper edges thereof, and first and second seat members which are individually hingably interconnected at rear edges thereof respectively to lower edges of said first and second back members, said back members in a first position being generally vertically disposed in oppositely facing directions and in a second position being generally horizontally disposed to form a couch-like surface in cooperation with said seat members, the improvement in combination, which comprises:

guide means, including slidable means secured adjacent to the lower edge of said first back member and at least one guide track receiving said slidable means, for directing movement of said lower edge generally horizontally from said first position to said second position in a substantially linear path, said slidable means being received in said track and said track being so constructed as to prevent removal of said slidable means therefrom and to limit reciprocable motion of the slidable means therein; and

pivot means, including at least one pivot are pivotally secured at one end to the second back member intermediate said upper and lower edges, the other end of said pivot arm being pivotally secured below the second seat member, for directing movement of said back member pivotally in a generally arcuate path from said first position to said second position such that the upper edge of the second back member moves only in a direction toward the second seat member.

2. The invention of claim 1 further comprising:
in a portable convertible chair of the type having first and second back members which are hingably interconnected at upper edges thereof, and first and second seat members which are individually hingeably interconnected at rear edges thereof respectively to lower edges of said first and second back members, said back members in a first position being generally vertically disposed in oppositely facing directions and in a second position being generally horizontally disposed to form a couch-like surface in cooperation with said seat members, the improvement, in combination, which comprises:
guide means, including slidable means secured adjacent to the lower edge of said first back member and at least one guide track receiving said slidable means, for directing movement of said lower edge generally horizontally from said first position to said second position in a substantially linear path;
pivot means, including at least one pivot arm secured at one end to the second back member intermediate said upper and lower edges, for directing movement of said back member pivotally in a generally arcuate path from said first position to said second position;
a seat extension member; and
means securing the seat extension member extensibly to a seat member for relative movement therefrom.

3. The invention of claim 2 further comprising:
support means pivotally connected to said seat member for selectively supporting said seat member at an angle from the horizontal.

4. The invention of claim 3 further comprising:
a support base, which includes at least one side wall and at least one end wall, for supporting said back members and seat members in said first and second positions;
means securing said guide track to said side wall; and
means pivotally securing the other end of said pivot arm to a side wall.

5. The invention of claim 4 further comprising:
bracket means having means therein for receiving and supporting said support means at selected positions.

6. The invention of claim 1 further comprising:
a generally rectangular support base for supporting said seat and back members in said first and second positions, said support base having a pair of opposed side walls and a pair of opposed end walls;
means securing a pair of said guide tracks on each of the opposing side walls adjacent a first end of the support base, each of said guide tracks receiving one of said slidable means slidable therein; and
means pivotally securing a pair of said pivot arms at the other ends thereof to the respective side walls intermediate the ends of the support base.

7. The invention of claim 6 further comprising:
a seat extension member;
a pair of support rods secured to said seat extension member and extending, in parallel relation, therefrom;
a pair of selectively clampable brackets receiving said support rods, said brackets being secured to said first seat member to permit extensible movement therefrom;
a U-shaped support member pivotally mounted at the ends thereof to said first seat member; and
bracket means secured to a first end wall of said support base for selectively receiving said U-shaped support member for supporting said first seat member at an angle from the horizontal.

8. The invention of claim 7 wherein:
the pivot arms each comprise an elongate member having two generally straight portions intersecting to form an obtuse angle intermediate the center and the other end thereof.

9. The invention of claim 8 further comprising:
cleats on one of said walls for selectively engaging floor cleats; and
apertures through an opposite wall for receiving a bolt for securing said opposite wall to a floor cleat, to thereby permit said seat to be removably secured to a floor.

10. The invention of claim 9 wherein the support base further includes:
a drawer slidably received in the second end thereof.

11. In a portable convertible chair of the type having first and second back member which are hingably interconnected at upper edges thereof, and first and second seat members which are individually hingably interconnected at rear edges thereof respectively to lower edges of said first and second back members, said back members in a first position being generally vertically disposed in oppositely facing directions and in a second position being generally horizontally disposed to form a couch-like surface in cooperation with said seat members, the improvement in combination, which comprises:
guide means, including slidable means secured adjacent to the lower edge of said first back member and at least one guide track receiving said slidable means, for directing movement of said lower edge generally horizontally from said first position to said second position in a substantially linear path:
pivot means, including at least one pivot arm secured at one end to the second back member intermediate said upper and lower edges, for directing movement of said back member pivotally in a generally arcuate path from said first position to said second position;
a generally rectangular support base for supporting said seat and back members in said first and second positions, said support base having a pair of opposed side walls and a pair of opposed end walls;
means securing a pair of said guide tracks on each of the opposing side walls adjacent a first end of the support base, each of said guide tracks receiving one of said slidable means slidable therein;
means pivotally securing a pair of said pivot arms at the other ends thereof to the respective side walls intermediate the ends of the support base;
a seat extension member;
a pair of support rods secured to said seat extension member and extending, in parallel relation, therefrom;
a pair of selectively clampable brackets receiving said support rods, said brackets being secured to said first seat member to permit extensible movement therefrom;
a U-shaped support member pivotally mounted at the ends thereof to said first seat member; and
bracket means secured to a first end wall of said support base for selectively receiving said U-shaped support member for supporting said first seat member at an angle from the horizontal.

12. The invention of claim 11 wherein:
the pivot arms each comprise an elongate member having two generally straight portions intersecting to form an obtuse angle intermediate the center and the other end thereof.

13. The invention of claim 12 further comprising:
cleats on one of said walls for selectively engaging floor cleats; and
apertures through an opposite wall for receiving a bolt for securing said opposite wall to a floor cleat, to thereby permit said seat to be removably secured to a floor.

14. The invention of claim 13 wherein the support base further includes:
a drawer slidably received in the second end thereof.

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