Aug. 26, 1969 B. E. GIEBEL 3,463,546

KNOCKDOWN PAPERBOARD CHAIR WITH STORAGE SPACE

Filed Aug. 28, 1967

FIG. 2

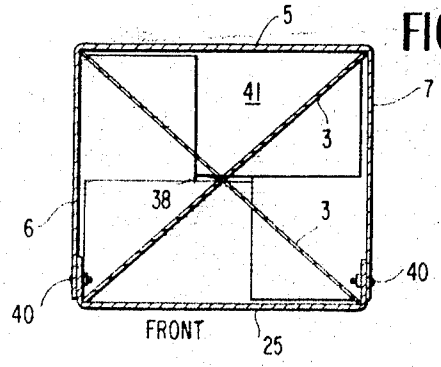


FIG. 1

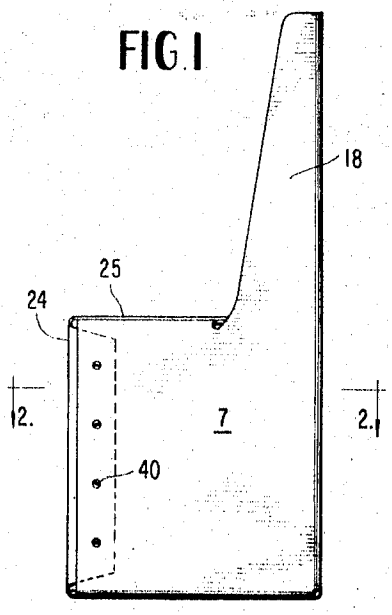
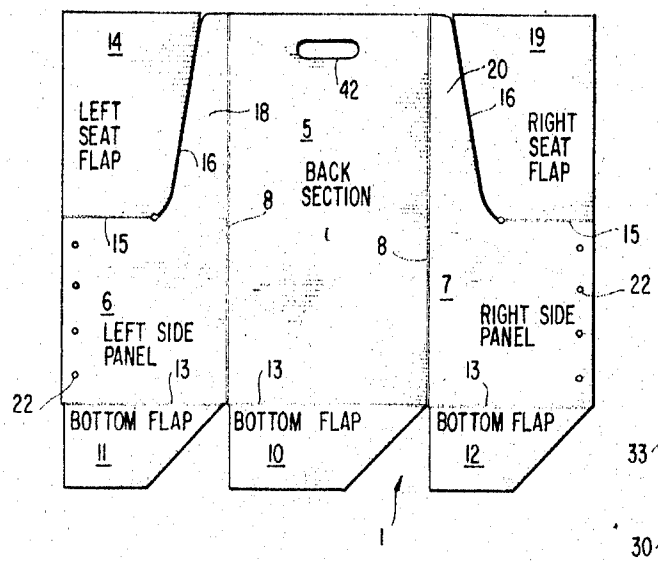


FIG. 3



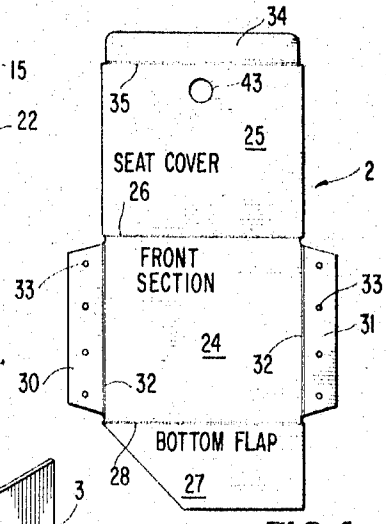


FIG. 4

FIG. 6

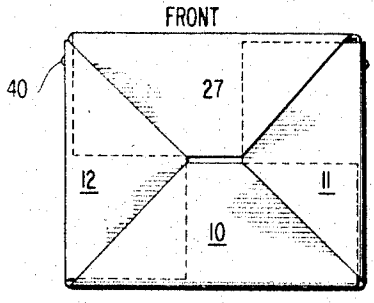
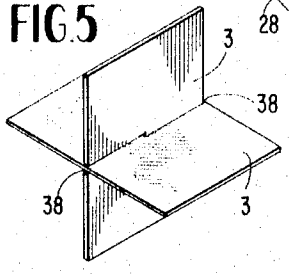


FIG. 5



United States Patent Office 3,463,546 Patented Aug. 26, 1969

3,463,546

KNOCKDOWN PAPERBOARD CHAIR WITH STORAGE SPACE

Buddy E. Giebel, Monroe, Mich., assignor to Union Camp Corporation, New York, N.Y. a corporation of Virginia

Filed Aug. 28, 1967, Ser. No. 663,659
Int. Cl. A47c 7/00, 4/00, 7/62
U.S. Cl. 297—440 5 Claims

ABSTRACT OF THE DISCLOSURE

A paperboard chair constructed from two blanks. One blank incorporates the back section, the side panels, seat flaps cut out from the side panels in such a manner that the assembled chair has the resemblance to a swing chair, and bottom flaps which are interfolded or secured together to form a base structure. A second blank forms a front section, a seat cover and a bottom flap. When the two blanks are properly folded and secured to each other, a wing chair with a storage space below the seat is formed. The space also houses a removable support for the seat.

This invention relates to furniture, particularly to chairs of the type constructed of low cost paperboard, fiberboard or similar light weight, high strength, relatively rigid material in sheet form, hereinafter referred to as "paperboard." This board is provided with a waterproof coating which makes the furniture resistant to damage by moisture and which adapts the furniture to be decorated with water or oil paints.

One object of this invention is to provide a chair which can be assembled from a few prepared and preformed blanks of paperboard which are of a size which can be easily shipped and mailed.

Another object is to provide a chair assembled from several paperboard blanks which incorporates a storage space under the seat, which space also serves to house the seat support assembly.

Another object is to provide blanks which are so simplified that even a young child can assemble them to form a chair, one of the blanks forming the front and seat to provide a replaceable seat means when the old one is worn out.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described, and the scope of the invention will be exemplified in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

FIG. 1 shows a side view of the assembled chair;

FIG. 2 shows a view of the assembled chair taken on line 2—2 of FIG. 1;

FIG. 3 shows the major chair blank which, when folded, forms the back section, the sides, the seat flaps and the bottom flaps of the chair;

FIG. 4 shows the other blank forming the front, the seat cover and a bottom flap of the chair;

FIG. 5 shows the seat support means assembly; and

FIG. 6 is a bottom view of the chair showing the preferred manner of interfolding the bottom flaps.

The paperboard chair in accordance with the invention is of sufficient strength to support the desired weight of the sitter, usually a young child or infant, yet it is light enough to be picked up by the child and moved. The

coating applied to the paperboard material is preferably a synthetic thermoplastic such as a vinyl chloride-vinyl acetate copolymer or an acrylic polymer. The board is coated on the outside and thereby is waterproofed to withstand normal usage.

As shown in FIG. 1, the chair resembles a wing chair with a hand hold at the top. It is assembled from a major blank **1** (FIG. 3) forming a frame-like structure for the chair, a smaller blank **2** (FIG. 4) and support blanks **3** which are partly slotted for the cruciform assembly (FIG. 5).

Major blank **1** comprises back section **5**, side panels **6** and **7** connected to the back section by score lines **8**, and bottom flaps **10**, **11** and **12** depending from the back section and side panels respectively, at score lines **13**. As will be noted in FIG. 3, side panel **6** has seat flap **14** secured thereto by a score line **15** intermediate the side panel. A curved cut line **16** extending from the top horizontal edge of blank **1** to the inner end of score line **15** permits longitudinal separation of flap **14** from the side panel. The configuration of cut line **16** forms a wing section **18** in the side panel which gives the finally assembled chair the resemblance to a wing chair, as shown in FIG. 1.

Similarly, side panel **7** is also provided with a score line **15** and cut line **16** whereby seat flap **19** and wing section **20** are formed.

Although cut lines **16** are shown shaped to provide wing type sides, other configurations may be used for the cut lines to provide other well known styles of chairs.

A series of holes **22** are located along the outer vertical edges of side panels **6** and **7**. As will be pointed out later the holes are utilized in securing the blanks in the final chair assembly.

The second blank **2**, shown in FIG. 4, comprises front section **24**, seat cover **25** connected thereto by score line **26** and bottom flap **27** connected thereto by score line **28**. Front section **24** has side attaching flaps **30** and **31** connected thereto by score lines **32**. Flaps **30** and **31** have a series of holes **33** along their length to cooperate with holes **22** in the side panels in the final chair assembly. Seat cover **25** has a fold flap **34** connected thereto by a score line **35**.

The support means comprise blanks **3**, each having a central slot **38** extending from an edge to about the center. The two slotted blanks are assembled as shown in FIG. 5 to present a cruciform or X cross-section.

To assemble the chair, blank **1** is bent along score lines **8—8** to bring side panels **6** and **7** at right angles with back section **5**. Seat flaps **14** and **19** are separated at cut lines **16** and bent along score lines **15—15** to form a part of the seat means. End flaps **10**, **11** and **12** are bent horizontally along their score lines **13** and, when secured together, form the base or bottom of the chair assembly. It is preferable that in assembly, the bottom flaps be folded counter-clockwise and be secured to each other by interfolding and locking each other or by using mold-resistant and weatherproof adhesive to form a strong multi-ply base structure if a permanent assembly is desired.

Blank **2** is then bent along score lines **26** and **28** to bring seat cover **25** and bottom flap **27** to their horizontal positions. Flaps **30** and **31** are bent along their score lines **32—32**. Flaps **30** and **31** are placed within the outer edges of side panels **6** and **7**, and the holes **22** in the side panels are aligned with holes **33** in the flaps. Bottom flaps **10**, **11** and **12** are then arranged horizontally and folded inwardly in the following order, reference being made to FIG. 6. Flap **11** is folded first, followed by the folding of flap **10** over it and then folding flap **12** over flap **10**. Thus, each flap is held by an edge of the adjacent flap; that is, flaps **11**, **10** and **12** are folded counter-clockwise.

To lock the assembly, flap **27** is folded and arranged so that one of its edges overlies flap **12** and its other edge is below flap **11**.

Seat cover **25** overlies horizontally arranged seat flaps **14** and **19** to provide a smooth seating surface. Seat cover **25** is held in its horizontal position by folding its flap **34** between the back section and the seat flaps, the flap of the seat cover serving to frictionally hold flap **34** in position.

The front section is finally fastened to the side panels by fastening means inserted through some or all of the aligned holes **22** and **23**. While any type of fastener may be used, screw-nut means **40** or other commercially available fasteners, such as metal or plastic, are preferable for the reason that they permit the assembly of the chair by a child as part of a program of nursery school education.

After the front section **24** is fastened to side panels **6** and **7**, an enclosed space **41** is formed which is bounded by the back and front sections, the side panels, the seat cover and the base. Access to this space is had by lifting seat cover **25** and flaps **14** and **19**.

Space or chamber **41** performs two functions. Firstly, it may be used for storage for toys or the like and secondly it houses the seat support assembly comprising blank means **3—3**. As shown in FIG. 2, the seat support assembly is placed within space **41** with the intersecting axis of blanks **3—3** vertically arranged so that the seat means comprises flaps **14** and **19** and cover **25** and rests upon the cruciform section. This arrangement provides a strong support for the seat and still provides for storage space. The support may be removed from chamber **41** so that the entire space **41** may be utilized for storage.

The lifting and seating forces and strains on the front section and seat cover **24** and **25** eventually wear them out before the rest of the chair structure is worn out. The worn out blank **2** may be easily replaced by a new one by merely removing fastening means **40** and changing the old unit for a new one and reinserting the fastening means in holes **22** and **33**. The use of screw-nut fastening means greatly facilitates the above change, as well as the original assembly. However, the two blanks may be secured by other fastening means, such as by stapling flaps **30** and **31** to the side panels with paper fasteners through holes **22** and **33**, or by using strong adhesive means, if a permanent bond between the parts is desired.

For convenience in handling and carrying the chair, a hand grip slot **42** is punched in back section **5** and a finger hole **43** may be cut in seat cover **25**. In lieu of hole **43**, a tab stapled to seat cover **25** may be utilized to lift the seat.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description (or shown in the accompanying drawing) shall be interpreted as illustrative and not in a limiting sense.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A paperboard chair assembly consisting essentially of flat paperboard blanks comprising: a first blank having a back section with projecting side panels connected by score lines to each vertical edge of said back section, each side panel having an intermediate, substantially horizontal score line starting from the outer vertical edge and terminating at an intermediate point on the panel, and a cut line starting from an intermediate point on the outer horizontal edge thereof which terminates at the inner end of said horizontal score line, thereby permitting a portion of each side panel to form a seat flap when bent to a horizontal position along its score line, and the remaining portion of the side panel along the cut line forming a wing section to give the final assembly a wing chair appearance; said side panels being foldable along their vertical score lines substantially perpendicular to said back panel; a second blank having a front section and a seat cover connected thereto along its upper horizontal edge foldable along a score line; and means for securing the vertical edges of the front section of the second blank to the vertical edges of the side panels of the first blank, with the seat cover arranged horizontally and overlying the horizontally bent seat flaps, whereby the back section, the side panels, and the front section form a chamber uncovered by lifting the seal flaps and cover.

2. A paperboard chair in accordance with claim **1**, wherein the second blank has attaching flaps connected to its front section along the vertical edges, which flaps are secured to the vertical edges of the side panels of the first blank.

3. A paperboard chair in accordance with claim **2**, wherein the securing means comprise aligned holes in the attaching flaps and side panels and fastening means insertable through the aligned holes.

4. A paperboard chair in accordance with claim **1**, wherein the back section and side panels of the first blank and the front section of the second blank have bottom flaps which overlap to form a base structure.

5. A paperboard chair in accordance with claim **1**, wherein there is a removable support means for the seat flaps located in the chamber.

References Cited

UNITED STATES PATENTS

2,100,979	11/1937	Rowe.	
2,313,362	3/1943	Rous.	
3,168,347	2/1965	Lyles	297—442
3,250,570	5/1966	Smith et al.	297—442
3,290,089	12/1966	Farrell	297—192 X
3,331,634	7/1967	Harrison	297—442

CASMIR A. NUNBERG, Primary Examiner

U.S. Cl. X.R.

297—192, 442