

July 7, 1970

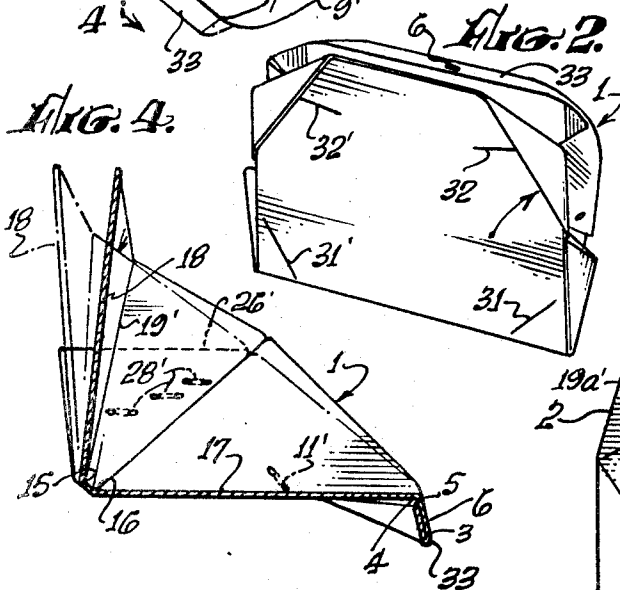
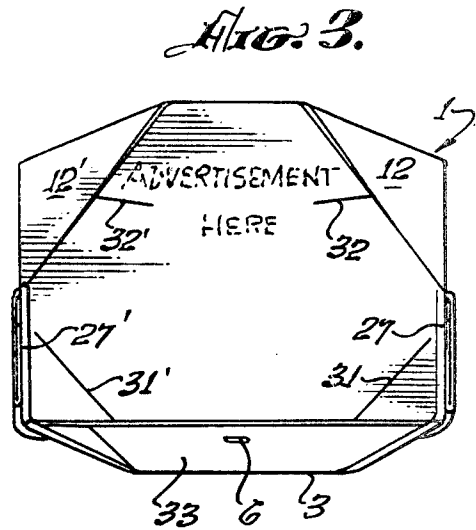
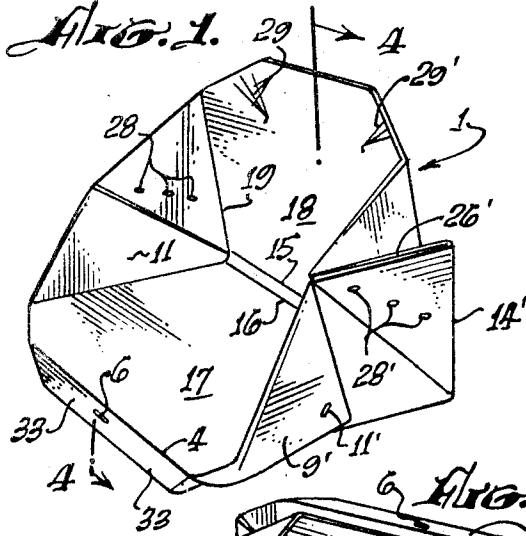
R. S. GITTINGS

3,519,307

DISPOSABLE STADIUM SEAT

Filed April 5, 1968

2 Sheets-Sheet 1



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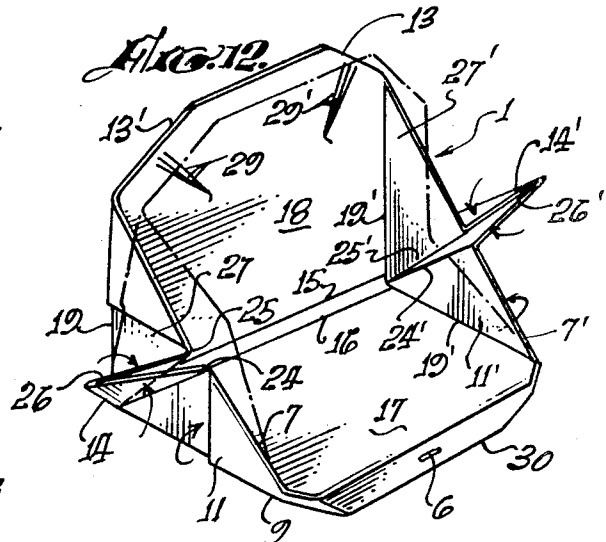
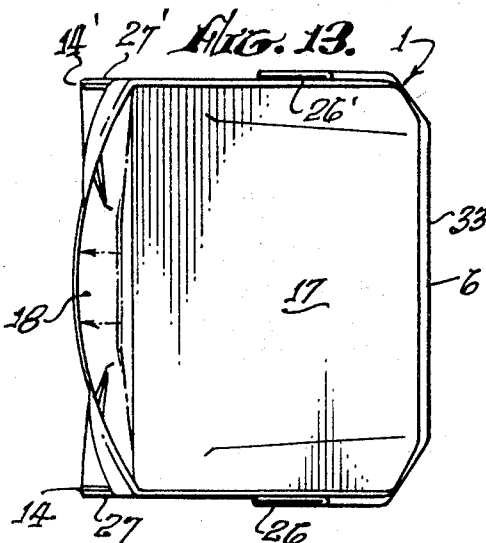
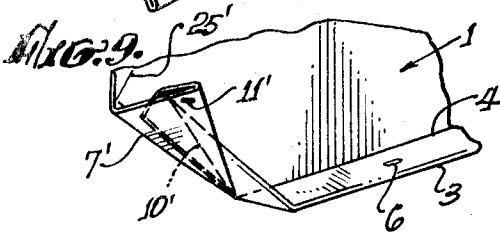
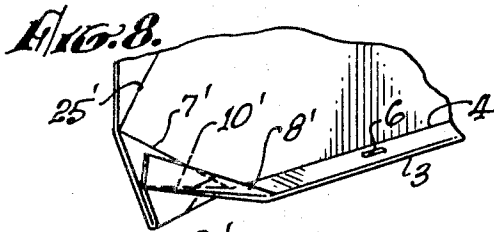
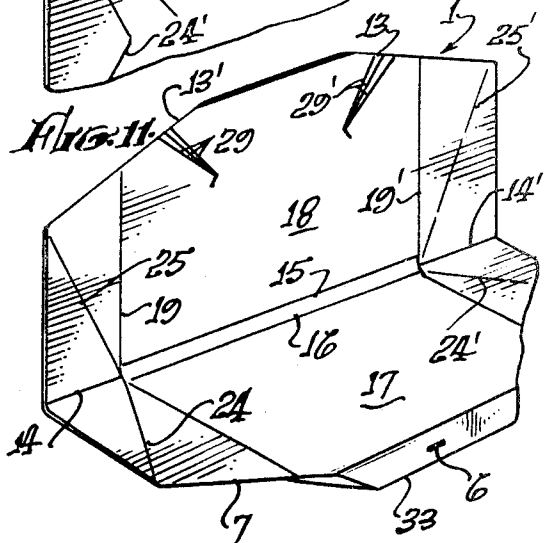
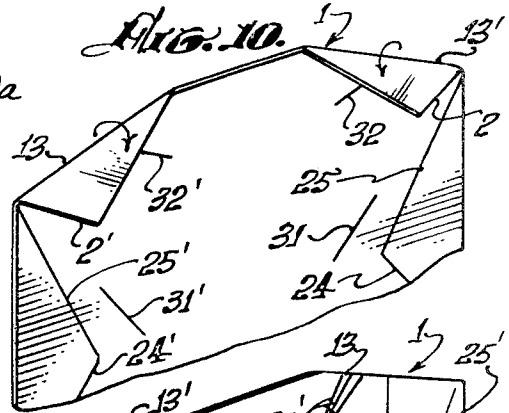
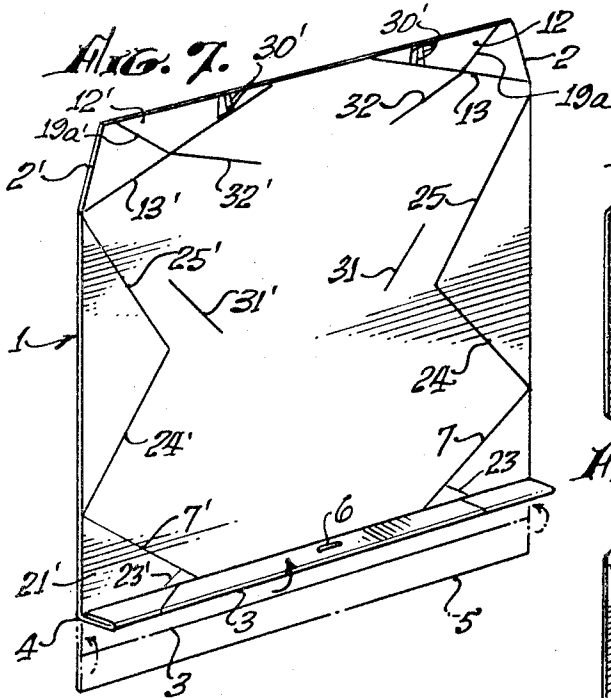
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DISPOSABLE STADIUM SEAT

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2 Sheets-Sheet 2



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3,519,307

DISPOSABLE STADIUM SEAT
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5 Claims

ABSTRACT OF THE DISCLOSURE

A foldable stadium seat formed of a single sheet of paperboard comprising a seat portion and a back portion connected by side gussets which form tension ties between the seat and the back and characterized by (a) the provision of certain score lines in the back forming portion which enable the back portion to comfortably conform to the back contour of the user and (b) to a series of reinforcing folds at the edge of the seat portion which resists breaking down of that edge with resultant better and more restful support for the thighs of the user.

BACKGROUND OF THE INVENTION

Field of the invention

The field of the invention is that of foldable seat devices classifiable in Class 297.

Prior art

The prior art known to applicant comprises Pat. Nos. 1,134,341; 1,140,987; 1,756,182; 1,831,428; and 2,759,527.

SUMMARY OF THE INVENTION

The formation of a disposable stadium seat has been the objective of numerous efforts. However, none of these has had any marked commercial success. In general, the principal defects which seem to have made them unsatisfactory were a failure to conform comfortably to and to provide support for the back of the user as well as an inherent weakness at the edge of the seat portion which caused that portion to break down and fail to afford proper support for the legs of a user. The present invention, recognizing the foregoing shortcomings of prior art efforts, has for its principal objectives the provision of a foldable disposable seat formed from a single sheet or blank of paperboard stock in which the portion forming the back of the seat is provided with scoring lines which enable the seat when put into use to conform comfortably to and afford support for the back of the user, in which other score lines facilitate the folding of the seat into its collapsed form, and in which the forward edge of the seat is formed with a self sustaining right angle fold that affords adequate support for the thighs of the user. Other objects and advantages will appear as the description of a presently preferred embodiment of the invention proceeds.

Brief description of the drawings

A presently preferred embodiment of the invention is illustrated in the drawings which form a part of the specification following describing the illustrated embodiment, and in said drawings;

FIG. 1 is a perspective view of a disposable stadium seat constituting a presently preferred embodiment of the invention as opened in position for use;

FIG. 2 is a perspective view of the seat shown in FIG. 1 as collapsed for carrying or storage;

FIG. 3 is a rear elevational view of the back of the seat;

FIG. 4 is a section of the seat showing the opened seat before occupancy in full lines and showing also in dotted

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lines the approximate extent of conforming movement of the center portion of the back of the seat when occupied by a user;

FIG. 5 is a front elevational view of a blank from which the seat is formed showing the score lines impressed on the face;

FIG. 6 is a rear elevational view of the blank showing the score lines impressed on that face;

FIG. 7 is a perspective view of the rear face of the blank showing the initial folds of the front edge portion thereof;

FIGS. 8 and 9 are fragmentary views of a corner of the seat edge showing the final folding and stapling thereof;

FIG. 10 is a fragmentary rear perspective view of the top edge of the blank showing the first folds formed therein;

FIG. 11 is a perspective front view of the blank showing the formation of the transverse fold defining the seat and back portions;

FIG. 12 is perspective front view showing the formation of the side gussets of the seat as a top plan view of the opened seat showing an approximation of the curvature assumed by the back of the seat in conforming itself to the back of the user; and

FIG. 13 is a top plan view of the seat in position of use, the top edge of the back being shown in full lines as conforming to the back of a person seated on the seat and in dotted lines the position of said top edge when initially opened for use.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to the drawings, the seat is formed from a single sheet of paperboard, hereinafter referred to as the "blank" and generally indicated by the number 1, the plan configuration thereof shown in FIGS. 5 and 6 as being generally rectangular, of greater length than width and having the upper corners forming the upper edge of the seat slightly beveled as at 2 and 2'. The blank, incident to the formation thereof is formed with certain fold facilitating and locating score lines and these will be described as well the stapling points as the description of the seat proceeds, it appearing that the structure thereof can be most readily understood by describing the folding thereof in a typical manufacturing procedure. For convenience, the terms "lower" or "upper" or any equivalent will be employed with respect to the position shown in the drawings and the terms "front" and "back" or "rear" will likewise be employed with reference to the position occupied in normal use.

The rear face of the lower edge of the blank 1 is provided with a pair of score lines 3 and 4 which extend between the side edges of the blank and are parallel to the bottom edge 5 thereof. The spacing of the line 3 to the edge and between the line 3 and 4 being substantially equal. The portion of the blank between the edge 5 and the score 3 is first bent rearwardly about the score line until it lies doubled against the rear face of the blank and may be secured at the midlength of the fold as, for example, by a staple 6. The doubled portion is then bent rearwardly about the score line 4 to substantially right angle position as shown in FIG. 7 in which position, among other functions, it affords a reinforcement for the front edge of the seat and a support for the thighs of the user.

The blank at each side thereof is provided with score lines and folds which are mirror images of folds and score lines at the opposite sides. Where such scores, folds and stapling are involved, those at the right hand side of the

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seat will be given the same numbers as at the left hand side of the seat with the addition of the exponent ('), it being remembered that in FIG. 6, or other rear views the right hand edge is the left hand edge in FIG. 5.

After the application of the staple 6, the doubled over edge at the left hand side thereof together with that portion of the body of the blank is bent rearwardly along the diagonal score line 7 which extends from the line 3 upwardly at about a 45° angle and is also bent along the score line 8 on the front face of the blank extending from the bottom edge diagonally upwardly and inwardly but which when the blank is doubled on itself on the score line 3 is coincident with the score line 7. At the same time, a diagonally extending tuck 9 is formed along the diagonal score line 10 which extends diagonally inwardly and upwardly from the juncture of the fold on the score line 3 with the edge of the blank to a point which is substantially coincident with the juncture of the score lines 7 and 4 on the rear face of the blank and doubled edge portions formed by this tuck are secured by a staple 11.

When both front lower corners have thus been formed and stapled, the two upper corners 12 and 12' are doubled back along the downwardly and outwardly diverging score lines 13 and 13' after which the center transverse folds between the seat and back portion defined by the gusset folds 14 and 14' are formed as well as the folds along the spaced parallel score lines 15 and 16 which give the juncture of the seat area 17 and back area 18 a spaced parallel relationship which assists the folding of the seat by providing space for the unfolded gussets as will hereinafter be described. The sides are then formed by right angle forward bends along the lines 19 and 19' and the angled score lines on both faces of the blank which are brought into alignment with the score lines 19 and 19' by reason of the folded corners 12 and 12' and the tucks 9 and 9' said angled score lines comprising score lines 20, 20', 21 and 21' on the front face of the blank and 19a, 19a', 22, 22', 23 and 23' on the rear face of the blank.

The final folds are the side gusset folds formed on the score lines 24 and 25 at one side and 24' and 25' at the opposite side with the resultant formation of the tucks 26 and 26' which are then folded back against the outside of the side section 27 and 27' defined by the folds on the score lines 19 and 25 on the one side and 19' and 25' on the other side and the tucks are then secured to the outer faces of the seat by a series of staples 28 and 28' after which the thus formed gussets are folded inwardly on the score lines 24 and 24' bringing the front and back into substantial parallelism for carrying and storage.

It will be noted particularly in FIGS. 2 and 4 that the side gussets folds are such that when the seat and back are opened as for use, the back portion is seemingly disposed at a considerably less than a right angle with respect to the seat portion. The purpose of this is to permit the user by sitting straight to cause the back portion to curve and conform to the back of the user, and, to control the yielding of the back, groups of diverging score lines 29 and 29' are formed in the front upper edge of the back slightly inwardly from the adjacent gussets with said score lines extending diagonally upwardly and outwardly with the upper end thereof terminating at the folds formed by the score lines 13 and 13'. The score lines 29 and 29' are continued by score lines 30 and 30' formed on the rear face of the blank and so positioned thereon as to be aligned with and complement the score lines 29 and 29' when the corner portions 12 and 12' are bent rearwardly as has already been described. To further assist the accommodation of the back portion to the user, score lines 31 and 31' formed on the rear face of the blank inwardly from the sides of the seat and thence diverging upwardly and outwardly are also provided. These score lines provide zones of weakness extending generally vertically at each side of the center of the back portion and when the seat is first opened up

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by a user, the back is about in the angular position best seen in full lines in FIG. 4, and when the user sits in it and leans back, the center section of the back assumes an almost vertical position with the upper ends of the sides being drawn slightly toward each other with some tendency to fold slightly inwardly along the inclined score lines 32 and 32' adjacent to the juncture of the upper portion of the back with gussets as best shown in FIG. 3 wherefore, the result is a firm but comfortable yielding support for the back of the user.

Attention is now directed to the rib formed by the folds along the front edge of the seat comprising the doubled and depending edge portion 33 extending between the folds formed on the score lines 7 and 7' which intersect the folds formed on the tuck forming score lines 8 and 8'. This reinforcement of the front edge of the seat gives a positive rigid transverse support under the thighs of a person sitting thereon and is particularly well supported adjacent the sides or gussets. In this connection it will be noted that the diagonal tucks 9 and 9' at each end of this rib serve as braces tending to hold the rib at right angles to the plane of the seat portion with resultant increased rigidity of the edge of the seat. Additionally, having reference particularly to FIG. 1, it will be noted that this depending front edge forms a stop against the front edge of a backless stadium bench and, by reason of the tuck folds at each end thereof heretofore described, it is sufficiently rigid to resist tendency of the user to push the seat backwardly beyond the edge of the stadium bench. Still further, the said rib and its juncture with the gussets effectually protect the clothing and person of the user from dirt, soil and splinters which are not uncommonly present in association with stadium and the like seating facilities. Moreover, by so forming the side gussets that the back of the seat when opened out for use is inclined slightly forwardly, the user by attempting to sit erect therein can lean against this back portion and cause it to shape itself to the back of the user while continuing to afford adequate support. Also, as best shown in FIG. 2, when the seat is collapsed, this rib portion forms a convenient handle means for grasping and carrying the seat.

While in the foregoing specification there has been described a presently preferred embodiment of the invention, the invention is not deemed to be limited to the precise details of construction thus disclosed by way of example and it will be understood that the invention includes as well all such changes and modifications in the parts, and in the construction, combination and arrangement of parts as shall come within the purview of the appended claims.

I claim:

1. A foldable, disposable seat formed from a blank of paper board capable of being folded along score lines formed in the surface thereof, said seat, when opened for use, comprising a seat portion and a back portion, gusset means at each side extending between and interconnecting the side edges of said seat and back portions, and a reinforcing rib depending from the front edge of said seat portion and comprising a rebent edge portion together with folds formed in said blank at each end of said rib portion operative to maintain said rib portion at substantially a right angle to the plane of the surface of said seat portion.

2. A foldable seat as claimed in claim 1 in which said rib portion serves as a carrying handle for said seat when said seat is folded.

3. A foldable seat as claimed in claim 1 in which at least the major portion of the upper edge of said back portion and the upper edges of said gussets are defined by rebent folds in said blank.

4. A foldable disposable seat for use on a backless stadium bench or similar support, said seat being formed from a scored blank of paper board and including an integrally formed reinforcing rib extending along the front

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edge thereof and folded portions at each end of said rib portion effective to maintain said rib portion depending from the front edge of the seal at substantially at right angle thereto, said rib and said folds a each end thereof serving to provide stiffness to the front edge of said seat and additionally both to prevent said seat from being pushed back on the bench or the like on which it is placed and occupied and to prevent the clothing of the occupant from contact with the bench surface.

5. A foldable seat as claimed in claim 1 in which said folds at said ends of said rib portion extend diagonally from said plane of said seat portion to the lower edge of said rib portion and afford brace-like support to hold said rib portion in said substantially right angle relation to said seat portion.

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