Feb. 1, 1944. F. O. AYLOR 2,340,790

CHILD'S FOLDING SEAT

Filed June 19, 1942 2 Sheets-Sheet 1

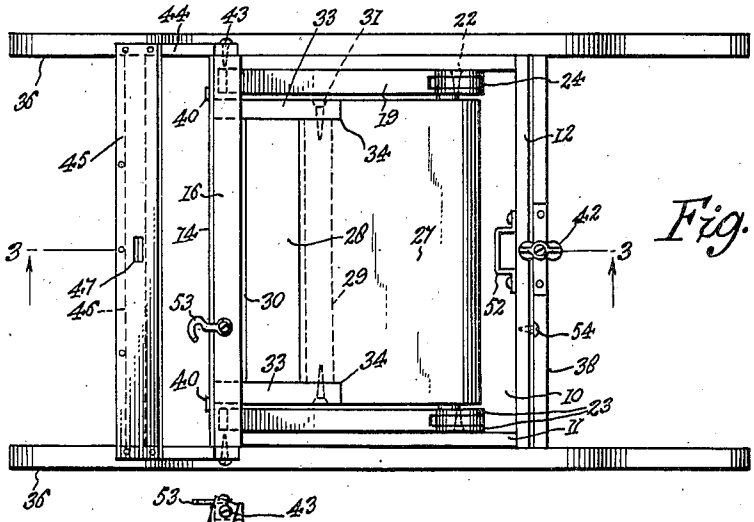


Fig. 1.

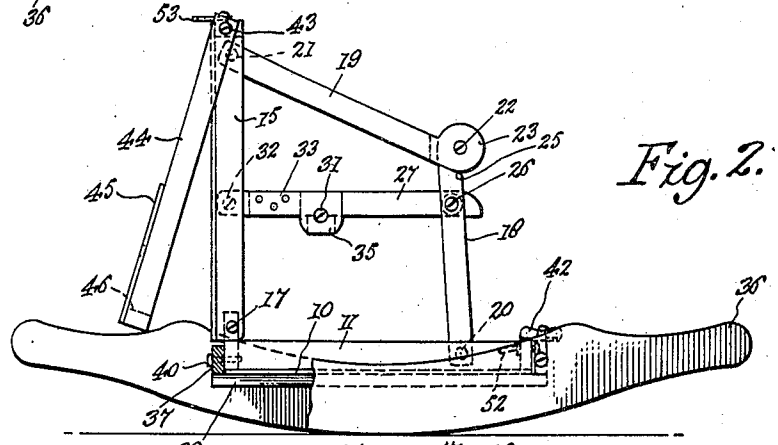


Fig. 2.

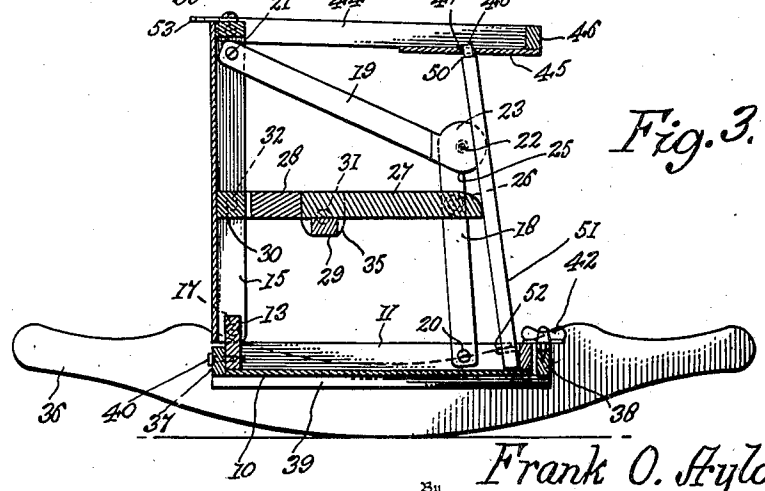


Fig. 3.

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Feb. 1, 1944. F. O. AYLOR 2,340,790

CHILD'S FOLDING SEAT

Filed June 19, 1942 2 Sheets-Sheet 2

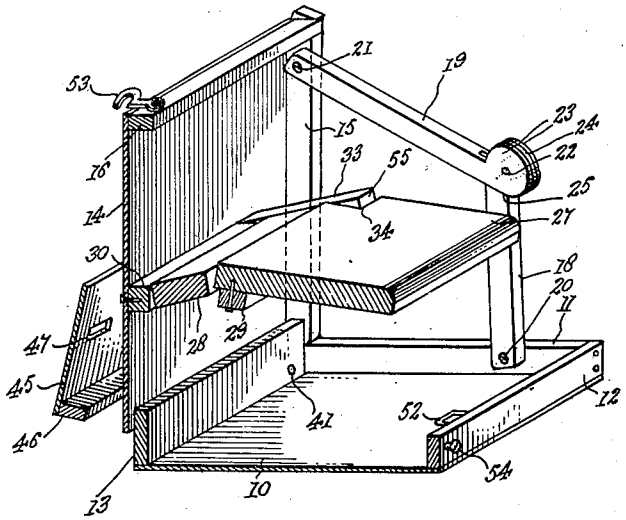


Fig. 4.

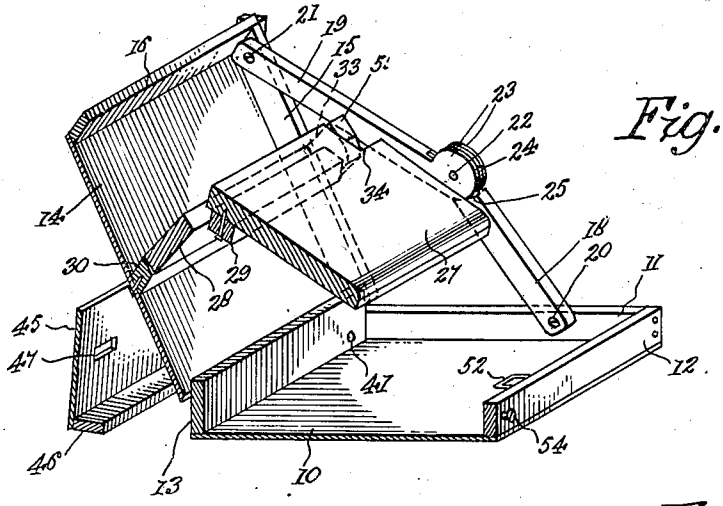
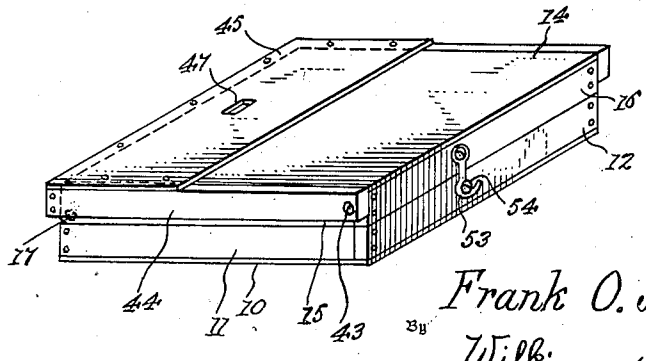


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE

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CHILD'S FOLDING SEAT

Frank O. Aylor, Miami, Fla.

Application June 19, 1942, Serial No. 447,703

11 Claims. (Cl. 155—74)

The present invention relates to child's folding seat and consitutes certain improvements over my prior similarly-entitled invention as illustrated, described and claimed in application filed February 11, 1942, Serial No. 430,469.

In common with the objects as stated in that application this invention aims to provide a collapsible or folding chair useful in the home or abroad in lieu of a high chair and foldable into small compass for ease in transportation.

The principal object of the present invention is to dispense with the use of metal as far as practicable, more particularly in the hinges, and to cause wood or some other material to serve the same purpose without complicating the structure, burdening it with increased weight or revising its simple mode of operation.

Other objects are to include a foldable tray and rockers, either of which are optional equipment and may be applied or removed quickly and easily.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended thereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views,

Figure 1 is a top plan view of an improved child's folding seat constructed in accordance with the present invention with the rockers applied and the tray thrown back.

Figure 2 is a side view of the same with parts broken away and parts shown in section.

Figure 3 is a central vertical section taken on the line 3—3 of Figure 1 with the tray swung over to operative position and propped.

Figures 4 and 5 are fragmentary perspective views showing subsequent phases in the folding movements of the parts, and

Figure 6 is a perspective view with the rockers removed and the seat and tray folded.

Referring more particularly to the drawings, 10 designates the base, 11 the side flanges, 12 the front flange and 13 the rear flange. These parts, as well as those hereinafter described, may be of wood, metal, plastic or other suitable material. The flanges are all a part of the base 10 or attached thereto by adhesive, nails, screws or other appropriate fasteners, the flanges upstanding from the base and the rear flange being higher, at least at its ends, than the rear portions of the side flanges 11. The front flange 12 may be longer than the rear flange 13 to front the forward ends of the side flanges 11; whereas the shorter rear flange 13 fits between the rear end portions of the side flanges 11.

The back 14 has depending side flanges 15 and a front flange 16 but no rear flange, the latter being unnecessary and replaced by the upper portion of the high rear flange 13 of the lower section. The front flange 16 extends all the way across the back member 14 and in front of the ends of the side flanges 15 to which it is nailed or otherwise secured. The flanges 15 and 16 are a part of, or secured to, the back 14. At their rear ends the side flanges 15 overlap the ends of the rear high flange 13 in the plane above the side flanges 11 of the lower case section and are pivoted thereto by the metal, wood or other pivot pins 17.

The back and base members 14 and 10 with their respective flanges constitute upper and lower encasing sections adapted to fold or swing relatively about the fulcrum 17 to open position, as shown in Figures 1 to 5, or to the closed or collapsed condition illustrated in Figure 6, the flanges affording an interior space in the latter condition for the reception of the folding sectional seat, and connected arms and legs.

The legs 18 and arms 19 are pivoted together in pairs at opposite sides of the seat, the legs being pivoted at their lower ends to the side flanges at 20, and the arms being pivoted at 21 to the side flanges 15. The near ends of the arms and legs are pivoted together at 22, the pivots 22 passing through the bifurcated discs 23 of the arms 19 and the reduced intermediate disc 24 of the leg. Rounded shoulders 25 are the result of reducing the thickness of the legs 18 at the discs 24 and on these rounded shoulders are rotatably supported the curvilinear edges of the forked discs 23 of the arms. The center of curvature of both shoulders 25 and discs 23 is the pivot 22. The shoulders 25 thus tend to support the discs 23 against canting movement that would loosen the pivot.

Pivots 26 connect the upper portions of the legs 18 with the front large section 27 of the seat, which is completed by the short rear seat section 28. A seat beam 29 is nailed or otherwise affixed beneath the front seat section 27 at its rear portion and preferably spaced slightly forward of the rear edge of the seat member 27. A back beam 30 is nailed or otherwise affixed to the back 14 at seat elevation. Pivots 31 connect the side hinge bars 33 with the ends of seat beam 29, while other pivots 32 connect the bars 33 with the ends of the back beam 30. The side hinge bars 33 are nailed or otherwise secured at their

central portions to the ends of the rear seat section 28 and project both forwardly and rearwardly of the rear seat section 28 to receive the pivots 31 and 32. The rear corner portions of the front seat section 27 are cut away at 34 to receive the forwardly-projecting ends of the hinge bars 33, which are desirably enlarged downwardly as at 35 in Figure 2 to encompass the ends of the seat beam 29 which is virtually a part of the seat. The pivots 31 penetrate the beam 29, the seat member 27 or both. When the seat is in the operative position shown in Figures 1, 2 and 3 the upper surfaces of the side hinge bars 33 are flush with the seat surface and form a part thereof as the rear seat member 28 is narrower, to accommodate the side hinge bars 33, than the front seat member 27. The beam 30 is of the same length approximately as the width of the rear seat member 28, and all portions of the seat and its connected parts lie within the arms 19 to permit the latter and the legs to move without interference. In the horizontal position of the seat, rear seat member 28 is spaced a small distance forwardly of back beam 30 to allow sufficient clearance for hinging action of the rear seat member about the back beam when folding the case sections into finally collapsed condition where the rear seat member 28 will fold upwardly of the back beam 30 and lie against the back wall 14.

Rockers 36 are connected by cross rails 37 and 38 and the rockers have affixed thereto longitudinal supporting bars 39 on which rests the base 10. The rear cross rail 37 carries pins 40 projecting forwardly to be received into holes 41 in the rear high flange 13 of the lower case section. A pivoted keeper 42 on the front rail 38 of the rocker structure is rotatable to a position interlockingly over the flange 12 of the lower case section.

Pivoted at 43 to the ends of the flange 16 are the side bars 44 carrying the tray bottom 45, the side bars being connected at their outer ends by the stile bar 46, bars 44 and 46 forming a raised rail for the tray bottom. In such bottom is an opening 47 to removably receive the reduced upper end 48 of a prop 51 having the shoulder 50 to support the tray. The lower end of prop 51 rests freely on the base 10 where it is confined by a metal or other strap 52 vertically through which the prop is insertible and removable.

A pivoted hook 53 on flange 16 detachably engages the headed stud 54 on the flange 12 to hold the case members in the closed position of Figure 6.

In operation, the case members are simply opened on the pivots 17 to cause automatic setting up of the seat for occupancy. In the fully open position the arms 19 strike the shoulders 25 and coact as stops. Also the squared shoulders 55 of the side hinge bars 33 encounter the cut-out portions of the front seat section 27 and serve as stops and to avoid the downward collapse of the seat. The various pivots 31, 32, 26 and 22 form a toggle lock in the set-up position shown in Figures 1, 2 and 3 and this further tends to avoid collapse. To initiate folding the seat is pushed up from beneath at a middle point to break the toggle lock. In folding, the seat moves from the position of Figure 4 to that of Figure 5. The upward breaking of the seat creates a pull on the legs 18 and consequently on the connected arms requiring that the back member hinge further back before it can come down into the position of Figure 6. The pivots 22 must cross the dead center line and move into the crotch at the hinged ends 17 of the case sections and they are pulled into this position by the continued upward folding of the seat. The seat members in folded position lie parallel with base and back and with each other and the arms 19 lie in contact above and in parallelism with the legs 18, to which end the discs 23 and 24 are offset eccentrically outward and upward of the center lines of the legs and arms.

Figure 6 shows also how the tray bottom in the inverted folded position lies flat against the top of the back 14 with its bars 44 lying outwardly of the side flanges 15 and the stile bar 46 concealing the open joint between the back 14 and the top edge of the high flange 13.

To open the two case members are unlatched at 53 in Figure 6 and swung out on the pivots 17 to a position where the back passes the right angular position then the connected arms and legs are pulled forward and upward to the position of Figure 5 and finally the seat as in Figure 4 is pushed downwardly.

The tray can then be thrown over the back on pivots 43 and the prop 51 inserted in place as in Figure 3 to support such tray.

Whenever the device is to be removed from the rockers 36, the keeper 42 is rotated to release position, the front end of the device raised to escape the bar 38 and the device pulled forwards to withdraw the flange 13 from the pins 40.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:

1. A child's folding chair comprising pivoted case members forming a base and back, a seat, and arms and legs pivoted respectively to the back and base and to each other, said seat comprising relatively foldable sections, and hinge means fastened to one seat section and pivoted to the back and to the companion seat section.

2. A chair according to claim 1 in which a back beam is affixed to the back and directly receives the pivots by which the hinge means is coupled to the back member, the relation of hinge means length to said pivots being such as to produce the necessary clearance between said beam and seat section to allow relative pivotal movement.

3. A chair according to claim 1 characterized by the hinge means formed partially by a pair of bars at the sides of the one seat section constructed and arranged to lie flush with the upper surface of the seat when in set-up position.

4. A chair according to claim 1 wherein the hinge means comprises side bars pivoted in cut-away portions of the companion seat section.

5. A chair according to claim 1 wherein the hinge means is in part in the form of side bars having downwardly-offset forward portions which receive the pivots for connection to the companion seat section.

6. A chair according to claim 1 wherein the hinge means is constituted by side bars the forward ends of which are squared and received in cut-outs of the companion seat section with which such ends act as stops, said ends have downwardly-offset portions receiving the pivots by which the companion seat section is connected to the side bars.

7. A child's folding chair comprising base and

back members pivoted together at end portions thereof, mutually pivoted leg and arm couples pivoted to opposite end portions of the members, a back beam affixed to the back at an intermediate position, side hinge bars pivoted at their rear ends to opposite ends of said back beam, a rear narrow seat section affixed between the intermediate portions of said bars forwardly of the back beam and with clearance therebetween, a wider front seat section having rear corner cutouts to receive the forward ends of the hinge bars, said forward ends having stop shoulders and dropped portions below and offset rearwardly of the shoulders, a seat beam affixed beneath the forward seat section near but spaced forwardly from its rear edge, pivots connecting said dropped portions with the seat beam, and further pivots connecting the forward part of the front seat section with the legs below the mutual pivotal points.

8. A child's folding chair comprising base and back members, flanges on the sides and front of the two members extending towards one another, a rear flange on the base member extending higher than the other base member flanges, the side flanges on the back member overlapping and pivoted to the upper portion of said rear flange, and a seat carried by said members.

9. A child's chair comprising foldably connected base and back members, a folding seat carried thereby, and arm and leg units mutually pivoted to one another, to the members and to said seat, said arm and leg units having at their proximal ends intermeshing discs receiving the mutual pivot, one of the discs having a circular edge struck from the mutual pivot as a center, and another disc having an arcuate shoulder to receive the edge of the disc.

10. In a child's chair, foldably connected base and back members, a foldable seat carried thereby, a tray, side bars carrying said tray, said side bars pivoted exteriorly of the back member and foldable at the sides thereof, and a cross stile bar connected to the tray constructed and arranged to conceal the joint between the rear portions of the members when folded.

11. In a child's chair, foldably connected base and back members, a foldable seat carried thereby, a tray pivotally carried by the back member and swingable thereover, a removable prop erected on the base member to support the tray, a strap on the base member to freely receive the lower end of the prop, said prop having a shoulder and reduced upper end to receive the tray.

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