The invention concerns a folding high chair having a frame and legs which collapse from a set up position to a position where the seat, back and legs are substantially parallel in a folded condition comprising a reclining back which may be adjusted to different angular positions with relation to the seat, regardless of whether the chair is set up or folded. The said reclining back does not interfere with the folding of the chair because of a bracket construction which permits it to be adjusted angularly independently of the folding of the chair.

This invention relates to folding high chairs for the use of feeding of infants and for other similar purposes for infants and young children.

It is an object of this invention to provide such a folding high chair which, when set up, will have a firm and stable frame so that it will not readily tip over, and which will fold into as compact a mass as possible when it is desired to store same, and it is the principal object of this invention to provide such a folding high chair with a reclining back which may be set up to several positions so that the chair may be used with extremely young infants as well as with young children, and so that the same chair can be used with an infant not yet able to sit up, and also with an infant or a child that is already old enough to sit up.

Further objects and advantages will appear from the specification hereinafter in which:

FIG. 1 is a side elevational view of the invention in set up position with three variable positions of the back of the chair as shown in solid and dotted lines, with the removable tray of the invention shown in exploded position;

FIG. 2 is a view similar to FIG. 1 showing the chair in folded position with the tray removed;

FIG. 3 is a front elevation of the chair as shown in FIG. 1 with parts cut away and showing the tray in installed position;

FIG. 4 is a detail of a rear elevation of the chair as shown in FIG. 1 with a portion in section; and

FIG. 5 is a detailed view of a side elevation of the reclining bracket elements of the chair shown in exploded relationship.

Similar numerals refer to similar parts throughout the several views.

Referring now to the drawings, the chair 10 is provided with frame elements comprising foldable A-frame pairs of front legs 12 and rear legs 14 which support a pair of seat frames 16 and a pair of arm rests 18 as well as a pair of auxiliary frame members 20 which act to reinforce the general frame of the chair 10 and also as supports for a foot rest member 22. The pair of legs 12 is connected by further reinforcement such as a cross bar 24. It is to be understood that when viewing leg 12 in FIG. 1 of the drawings, we are looking at the left leg of the pair, and that a right leg is behind it, both legs being connected by cross bar as indicated at reference numeral 24.

Similarly, the rear pair of legs 14 are connected by cross bars as indicated at reference numeral 26. The cross bars 24 and 26 are not absolutely essential to the invention but aid materially in strengthening the rigidity of the frame as described.

The various elements as described are connected together by means of pivots at points 28, 30, 32, 34 and 36. There is also a pair of brackets 38 disposed on either side of the frame at the arm rests 18 which, together with back rest bracket elements 40, comprise the reclining bracket elements which support the reclining back 42. The upper ends of rear legs 14 are pivoted to the bracket elements 38 at points 44. Bracket element 38 not only serves as an element of the reclining seat mechanism as will be set forth more fully hereinbelow, but also serves as a folding or pivoting, bracket by means of which the chair is folded from a set up position. This is accomplished by attaching brackets 38 to the arm rest frame and to the upper part of legs 12 by means of rivets which are integral or connected to pivot points 30. In addition, the brackets 38 have upper flanges 50 which rest on upper edge 52 of arm rest frames 18 when the chair is set up to maintain it in set up position by acting as a stop against the arm rest and also to assist in folding by engaging the top 52 of arm rest with leading edge 54 of flange 50 when the device is folded. This will be more fully explained hereinbelow.

It will be noted in FIG. 1 that when the chair is in set up position, the brackets 38 are in a first position with flanges 50 resting on arm rests 52 and with pivot point 44 between pivots 28 and 30, thereby forming a substantial A-frame between the front and rear legs and the seat frame 16 when viewed from the side position. When the chair is completely folded, the brackets 38 have been rotated approximately 90 degrees forwardly on pivots 30 moving pivot points 44 rearwardly of leg 12 so that upper portions of legs 14 are now to the rear of upper portion of leg 12 with the entire frame folding with the elements in substantially parallel position as shown in FIG. 2 of the drawings. Brackets 38 are also pivotally connected to back rest bracket elements 40 by means of a fixed pivot 60 and a locking bolt 62. Locking bolt 62 is maintained in position in a selected opening or slit 64, 66 or 68 as the case may be and will be more fully explained hereinbelow. However, for the purpose of explaining the folding of the chair, we will assume that locking bolt 62 is in position in opening 64 on both sides of the chair so that the back rest 42 is maintained in a fairly upright position as shown in FIG. 1 of the drawings. The chair also has a seat cushion 70 of any preferable construction which is securely fastened to the frame elements 16.

The chair is folded by grasping the forward part of the seat cushion in one hand and the upper part of the back rest in the other hand and moving the back rest toward the seat cushion thereby causing brackets 38 to start to rotate forwardly and move the legs and frame from the position as shown in FIG. 1 to the position as shown in FIG. 2. The chair is now folded as shown in FIG. 2 and may be stored in a minimum amount of space. It is to be noted that the back rest 42 as shown in solid lines in FIG. 2 is folded flat against the rest of the construction. The chair is set up by reversing the procedure in grasping the back rest and the seat cushion, as shown in FIG. 2, and moving them apart to rotate brackets 38 rearwardly and reset up the chair 10 as shown in FIG. 1.

The chair is also provided with a belt 72 which is disposed around the back rest 42 and which may be used to fasten an infant or child securely into the chair, and also may be provided with a feeding tray 74 adapted to be slide fitted by means of brackets 76 over the arm rest frames 18. A locking arrangement may be provided such
as a rack 78 and pawl 80 arrangement as shown in FIG. 1 of the drawings on each side of the feeding tray 74 to maintain it in position. This also serves to keep the infant in the chair. We may also provide a strap 83 on the tray which may be fastened by a snap fastener or other means 84 to the front end of the seat when the tray is in position in order to further secure the infant.

The foot rest frame 22 may be removed if desired from the holes 90 in auxiliary frame portions 20, as foot rest 22 is maintained in position because of bent ends 92 of its supports 94. One or more other sets of holes 96 may be provided at different heights along auxiliary frame members 20 so that foot rest 22 may be positioned at different heights.

Back rest 42 will normally be kept in upright position for the older infant or child who is mature enough to sit up and has already learned how to do so. We have provided three positions for back rest 42 in the present invention. A low or reclining position such as that marked, in dotted line L, an intermediate position such as that marked M, and the position in solid line marked U, U' being an abbreviation for “Up” or “Upper” position, M for “Middle” position, and L for “Low” position as may be selected. The low position would be used for an infant which must be fed by bottle while on its back, such infant being too young to sit up. In such case, the infant would be strapped into the device by means of belt 77 while the back rest 42 is in position L. The middle position is provided for an adjustment upward from position L or downward from position U. The back rest 42 is moved from position U to position M by releasing bolt 62 from opening 64 allowing the back to recline, and then refastening bolt 62 into opening 66. If it is desired to place the back rest 42 in low position, the bolt 62 is again removed from opening 66, the back rest is permitted to recline and lower further, and the bolt is then replaced in hole 68 to maintain the back rest in low position. Elements 40 and 38 will be pivoting with respect to each other on pivot point 60 during these back rest adjusting operations. Element 40 is also provided with a pair of rearwardly curved portions 98 to help strengthen the positioning of the back rest 42.

Reference to FIGS. 1 and 2 of the drawings will show that because of the construction of the device, it may be folded from a set up to a folded position and vice versa with the back rest 42 in either the U, M or L positions, and that both folding operations, that is of the chair itself or of the reclining back, may be accomplished independently of each other.

While we have shown three positions for the reclining back, as many positions may be provided as is desirable by either increasing or decreasing the number of holes such as holes 64, 66 and 68 on the radius around pivot point 60. Bolt 62 and holes 64, 66 and 68 may be provided only in one bracket 38 as shown in the drawings, or on brackets 38 on both sides of the device. Bolt action 62 may be in the form of a spring loaded slide bolt as shown in FIG. 4 of the drawings having an operating knob 100, or it may be a plain slide bolt with any type of locking catch known to the art, or any other releasable means which will maintain an element such as element 38 and an element such as element 40 in their respective positions for the different positions for reclining the back rest 42.

We also provide a pair of side walls 102 extending from the sides of the back 42. These side walls 102 are an added safety feature to help keep the infant in the chair 10, especially when the back 42 is in position L, and the child lies back as in a crib or bassinet.

We have thus provided a folding high chair with a reclining back which may be used for infants and young children of all ages and during different stages of maturity and learning development.

We claim:

1. A folding high chair having a frame comprising legs, seat frame members and arm rest members pivoted together including at least one folding bracket pivoted at a first pivot point to an arm rest and to an upper end of a front leg, and at a second pivot point to a rear leg; adapted to be in a first set up position with the second pivot to said rear leg in front of the first pivot to said front leg, and adapted to be pivoted to a second folded position with the second pivot for said rear leg to the rear of the first pivot for said front leg, thereby folding the frame, said folding bracket being in combination with a reclining bracket being pivoted to it at a third pivot point, said second reclining bracket supporting a back rest for said chair and being maintained in selected positions with reference to said first mentioned folding bracket by releasable fastening means located on a curve with a radius on said third pivot point.

2. The device as defined in claim 1, in which said brackets are pairs of brackets on both sides of the chair.

3. The device as defined in claim 2, in which there are a pair of frame members disposed forwardly of the legs connected to the seat frame members and the arm rest members, said frame members having means for removably supporting a foot rest member in selected positions.

4. The folding high chair as defined in claim 3 in combination with a removable tray portion adapted to slide fit over the arm rest portions.

5. The folding high chair as defined in claim 1, in which said releasable fastening means is a spring loaded detent adapted to be placed in a plurality of detent receivers located on said curve with a radius on said third pivot point, and in which there is a detent receiver for said spring loaded detent pin adapted to hold said back rest in a substantially vertical position and another detent receiver for said detent pin adapted to hold said back rest in a substantially horizontal position, and at least one other detent receiver between the first and second mentioned detent receivers.

6. The folding high chair as defined in claim 5, in which there are a pair of side walls extending upwardly from the back rest when the back rest is in substantially horizontal position, and forwardly of said back rest when said back rest is in a substantially vertical position.

References Cited

UNITED STATES PATENTS

383,206 5/1888 Bastian ............. 297—19
1,203,572 11/1916 Betts ............. 297—19
2,798,315 1/1943 Smith ............. 297—365

FOREIGN PATENTS

1,289,504 2/1962 France.

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