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CONVERTIBLE HIGH CHAIR SWING

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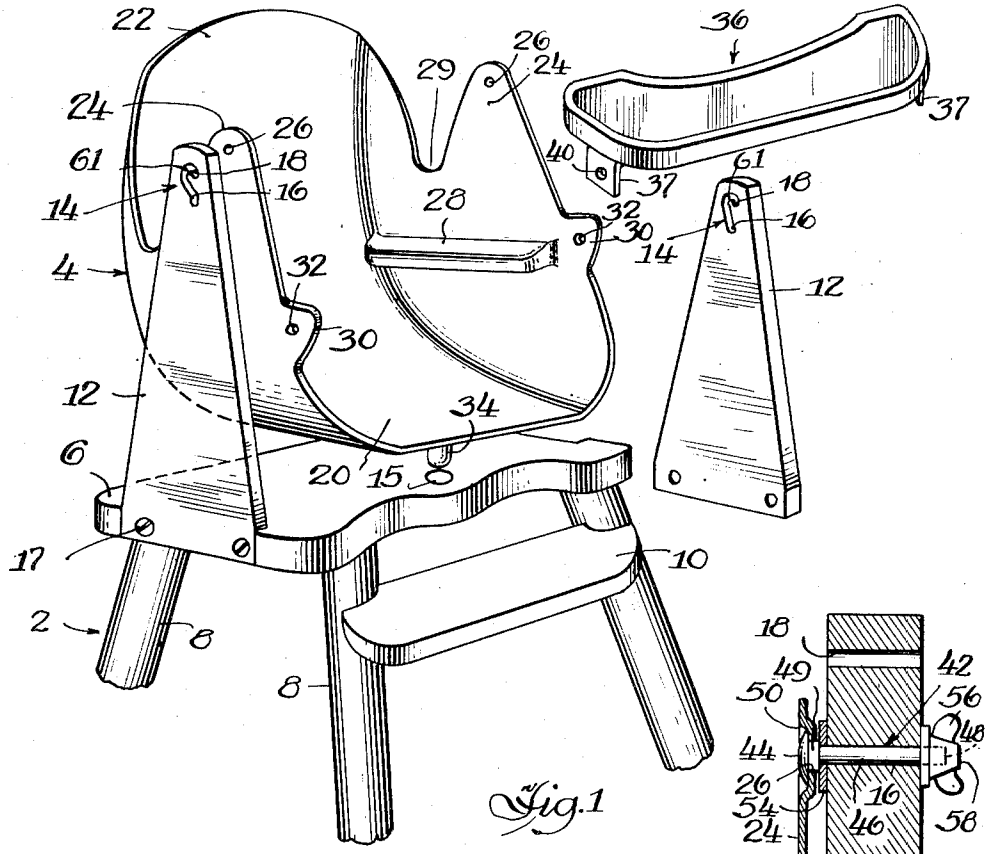


Fig. 1

Fig. 3

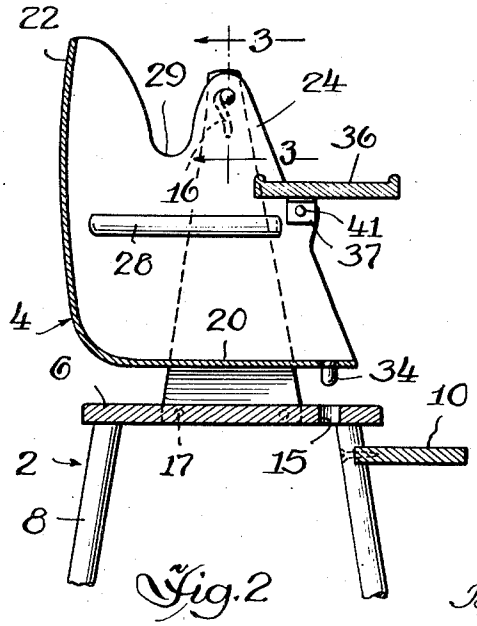


Fig. 2

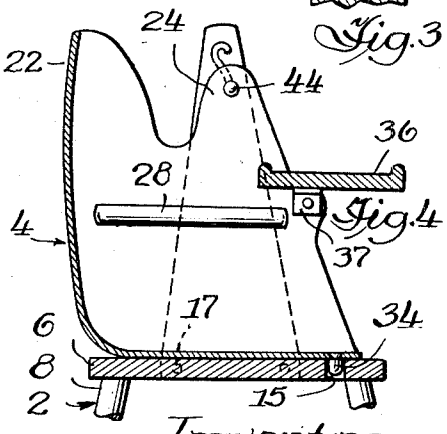


Fig. 4

Inventor,
Benjamin H. Pearl
By: Morris Spector
Atty

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CONVERTIBLE HIGH CHAIR SWING

Benjimen H. Pearl, Chicago, Ill.

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11 Claims. (Cl. 155—38)

This invention relates to baby high chairs or feeding chairs, and more particularly relates to a baby chair of the type which is convertible to a chair which may be used as a play device.

One form of a baby feeding chair now in use has a seating unit which may be rocked to and fro only slightly. In this chair, no provision is made for immobilizing the chair when used in connection with a tray for feeding the baby. The movable nature of the seating unit is often distracting to the child while eating, since he often desires to rock the seat and play rather than be receptive to feeding. The other, and more common, form of high chair now in use has an immobile seating unit.

In accordance with the present invention, a baby feeding chair is provided having a seating unit which may be securely immobilized with respect to the legs of the chair and which may be readily and simply converted to a freely swingable seating unit. The chair is constructed of a minimum number of component parts which may be inexpensively manufactured and assembled. Further, sharp points are eliminated throughout and the chair is otherwise constructed to avoid harming the child using the chair.

Briefly, the elements of the preferred embodiment of the invention include a stationary base having a horizontal shelf from which rigidly depend supporting legs, a seating unit having a back, side arm supports and a seat, and a simple, inexpensive mounting means for pivotally supporting the seating unit and for raising and lowering same with respect to the shelf. The seating unit in its lower position rests on and is locked to the shelf. In its raised position, the seating unit is out of contact with the shelf and is then freely swingable on said mounting structure. The mounting structure preferably includes a pair of pivot pins which are pivotally received in a pair of upstanding side members which are a part of the seating unit. The pins are slidable in vertical slots in side frame members which are connected to the shelf. The seating unit and pivot pins are thus adapted for vertical movement with respect to side frame members so that the seating unit may be raised from the shelf and lowered thereon. Means are provided, comprising respective notches, for receiving the pivot pins in an upper position wherein the seating unit secured thereto is free to swing without interference with the shelf.

Other features and advantages of the present invention will become apparent by making reference to the specification to follow and the drawings showing illustrative embodiments of the invention.

In the drawings:

Fig. 1 is an exploded view, in perspective, showing the component parts making up the novel baby chair of the invention;

Fig. 2 is a vertical section of the chair shown in Fig. 1, with the components in assembled condition and with the seating unit of the chair in a position whereby it may be freely swung in relation to the base of the chair;

Fig. 3 is an enlarged fragmentary sectional view taken along section line 3—3 in Fig. 2; and

Fig. 4 is a vertical section of the chair of Fig. 1 showing the seating unit in a lower immobile position on the base of the chair.

Referring now to the drawings, wherein like reference numerals indicate similar elements throughout, the basic elements of the chair comprise a base 2 and a seating unit 4 which may assume one of two positions with respect to the base 2. One of these positions, shown in Fig. 4, is where the seating unit 4 is in a lowered position with the bottom of the seating unit resting on the top of the base 2. The seating unit may be locked securely in this position thereby resulting in a chair structure which is a rigid structure throughout. In the second position of the seating unit 4, the seating unit is supported in a raised position from the base 2 wherein the seating unit may be freely swingable along an arcuate path having a relatively large radius, to provide a play device for the child sitting therein. Fig. 2 shows the seating unit in the raised, freely swingable position.

The base 2 comprises a horizontal shelf 6 and depending legs 8 rigidly secured by any suitable means to the bottom of the shelf 6. A horizontal step 10 spaced beneath the shelf 6 and extending between the two forward legs 8 provides a foot resting platform for the feet of the child sitting in the chair, when the chair is in its lower position. To provide stability to the chair structure, the legs may be made sufficiently short to provide a stable support for the chair when used as a swing, or the base may be suitably weighted at the bottom to provide the stability.

Extending upward from the opposite sides of the shelf 6 are a pair of side frame members 12. The side frame members may be secured to the side faces of the shelf 6 by means of screws 17. The upper ends of the side frame members 12 are provided with hook-shaped perforations 14 which extend completely therethrough. The hook-shaped perforations 14 each include a vertically extending lower slot portion 16 and a downwardly curled upper portion which provides a closed bottom notch 18. The hook-shaped perforations 14 are both located in the same relative positions on the side frame members 12 so that the upper and lower portions of the hook-shaped apertures are respectively in horizontal alignment.

The seating unit 4 has a seat 20, a rear back-resting portion 22, and side members 24 which extend upwardly from the seat 20 and which are of approximately the same height as the rear 22 of the seating unit, for reasons to be hereinafter explained. The side members 24 of the seating unit 4 include circular apertures 26 in the upper portion thereof which are in horizontal alignment and which are opposite the hook-shaped perforations 14 in the side frame members 12. Extending inwardly about half way up the side members 24 of the seating unit are inwardly extending arm rests 28. The arm rests 28 are spaced above the seat 20 at a distance such that a child may comfortably rest his arms.

The upper extremities of the side members 12 and 24 of the chair preferably occupy only the central side portion of the chair so that spaces 29 are provided to enable the child or baby sitting in the chair to see objects or people viewable from the sides of the chair.

Extending forwardly from the front of the side members 24 are respective ears 30 having circular apertures 32 therein, which are likewise in horizontal alignment. Depending downwardly from the front and lower end of the seat 20 is a projection or plug 34. The projection 34 is located in vertical alignment with a circular aperture 15 in the shelf 6 of the base member 2. The plug member 34 is engaged by the walls of the aperture 15 when the seating unit is in its lower position, as shown

in Fig. 4, and thereby restrains the seating unit from lateral movement with respect to the shelf **6**.

A tray **36** of conventional design includes side plate members **37** depending therefrom which are in juxtaposed relationship, respectively, with the ears **30** on the front of the seating unit **4**. Plate members **37** include apertures **40** which are in alignment with apertures **32** in ears **30** so that they may each receive a bolt **41** and attached nut to secure the tray **36** to the ears **30**.

For economy in manufacture, the entire seating unit **4** may be molded as a single integral unit from a suitable plastic material.

The seating unit **4** is mounted between the side frame members **12** of the base **2** with the side members **24** of the seating unit adjacent to but displaced a small distance from the side frame members **12**. The seating unit is secured to the side frame members **12** by means of a simple mounting structure including respective bolts **42** having a head **44**, unthreaded shank **46** and threaded end **48**. The end of the shank **46** adjacent to the head **44** of each bolt is increased in diameter to provide a spacing bearing collar **49**. The side members **24** of the seating unit **4** include a recessed circular portion **50** adjacent to the apertures **26** therein which receive the heads **44** of the bolts **42**. The shanks of the bolts extend through apertures **26** and the adjacent hook-shaped perforations **14** in the side frame members **12**. A washer **54** bridges the gap between the outer face of the spacing collar **49** and the inner face of the side frame members **12**. The depth or thickness of the spacing collar **49** is made larger than the thickness of the side members **24** adjacent the apertures **26** so that the seating unit side members **24** do not bind against the washers **54** but are freely pivotable on the collars **49**.

On the threaded ends of the bolts **42** are threaded wing nuts **56**, for aiding in securely locking the seating unit of the side frame members **12** in either its upper or lower position. The wing nuts **56** each includes a central boss **58** which is apertured only part way therethrough so that the sharp ends of the bolts **42** may be completely covered by the wing nuts so as to prevent any injury to the child using the chair.

When the seating unit is in its lower position, as shown in Fig. 4, the bolts **42** rest on the bottom of the vertically extending slot portions **16** of the hook-shaped perforations **14**, as shown most clearly in Fig. 4. In this position, the plug **34** is received in the aperture **15** in the shelf **6**, and together with the tightened wing nuts **56** holds the seating unit rigidly and securely on the shelf **6** to provide a stable chair which may be used for feeding or other purposes.

To convert the chair from this condition to a swing, the wing nuts **56** are loosened and the chair raised from its lower position so that the shanks **46** of the bolts **42** slide upwardly along the vertical slot portions **16** of the hook-shaped perforations **14**, so that the shanks of the bolts **42** are lifted above the wall **61** defining the upper end of the notch portion **18** of the hook-shaped perforations **14**. The seating unit is then lowered so that the shanks of the bolts **42** rest on the bottom of the notches **18**. In this position the seating unit is supported in a raised position above the shelf **6**, so that it may be freely pivoted or swung on the spacing collars **49** of the bolts **42**. The plug **34** accordingly clears the top of the shelf **6** in this position of the seating unit. The wing nuts **56** are tightened to prevent any relative movement between the shank of the bolts **42** and the side frame members **12** of the base member **2**.

Note that the apertures **26** in the seating unit side members **24** and the bolts **42** received therein extend an appreciable distance above the level of the arm rests **28**. This is important to provide a large radius for the arcuate path over which the seating unit is swung.

Applicant has thus provided, with a minimum of component parts, a baby high chair which may be converted from a rigid structure used for feeding, to a freely swingable chair structure which has an appreciable arc of swing. The components are designed so that any possibility of injury to the child is minimized. For example, nuts like wing nut **56** are used with bolts **41** for securing the tray **36** to cover the exposed sharp ends of these bolts.

Applicant has above described the most preferred embodiment of his invention. It should be understood, however, that numerous modifications may be made of this preferred embodiment without deviating from the broader and generic aspects of the invention.

I claim:

1. A baby chair comprising a horizontal base member, means for rigidly supporting said base member above floor level, a pair of pivot supports, means supporting said pivot supports on opposite sides of, and above, said horizontal base member, a seating unit having respective means engageable with said pivot supports and swingable thereon, means enabling the selective lowering of said seating unit onto, and the raising of said seating unit out of contact with, said horizontal base member, said seating means being immobilized when lowered to rest on said base member and free to swing on said pivot supports when raised above said base member.

2. A baby chair comprising a horizontal base member, a seating unit, means for pivotally supporting said seating unit for swinging movement above and out of contact with said base member, said means including a pair of side members extending upwardly of the base member on opposite sides thereof and supporting said seating unit, and means permitting the lowering of said seating unit onto said base member to immobilize same.

3. In a baby chair having a raised base member and legs depending therefrom, a seating unit having a back support, side arm supports and a seat, means for pivotally supporting said entire seating unit for swinging movement above and out of contact with said base member, and means permitting the lowering of said seating unit with the seat thereof resting on said base member to immobilize the same.

4. A baby chair comprising a seat, a base member, side frame members projecting upward from opposite sides of said base member, said seat being between said side frame members, means extending upward from opposite sides of said seat, a pair of spaced pivot support means on said side frame members for pivotally supporting the upper ends of said first-mentioned means, means selectively permitting the raising of said seat with the seat above and out of contact with said base member so that said seat may be freely swung on said pivot support means, and the lowering of said seat to a position where said seat is resting on said base member, and means for maintaining said seat in said raised position.

5. A baby chair comprising a raised base member having supporting legs depending therefrom, a seat having upwardly extending side members, side frame members projecting upward from opposite sides of said base member, said seat being between said side frame members, a pair of spaced pivot support means for pivotally supporting said seat side members to said side frame members of said base member, means selectively permitting the raising of said seat with the seat above and out of contact with said base member so that said seat may be freely swung on said pivot support means, and the lowering of said seat to a position where said seat is resting on said base member, and means for maintaining said seat in said raised position.

6. A baby chair comprising a seating unit having a pair of upwardly extending side members, a base member, a pair of side frame members projecting upwardly from opposite sides of said base member and located opposite said seating unit side members, respective vertically extending slots in one of said pairs of side members and respective pivot pins extending from the other pair of

side members and each riding in one of said slots, respective vertical notches in said side members having said slots, and said notches communicating with said slots, said slots and notches being sufficiently long to enable said seating unit to assume a lower position where the seating unit is immobilized by resting on said base member and to assume a raised swingable position with said pivot pins engaging the walls defining the ends of said notches.

7. A baby chair comprising a seating unit having a pair of upwardly extending side members, a base member, a pair of side frame members projecting upwardly from opposite sides of said base member and located opposite said seating unit side members, respective vertically extending slots in said side frame members and respective pivot pins extending from the seating unit side members and each riding in one of said slots, respective open-top vertical notches in said side frame members and communicating with said slots, said notches being positioned so that the walls defining the closed ends of said notches engage said pins and pivotally support said seating unit in an upper position where the seating unit is removed from contact with said base member, said slots being sufficiently long to permit said seating unit to assume a lower position where the seating unit is in contact with said base member.

8. A baby chair comprising a seating unit having a pair of upwardly extending side members, a base member, a pair of side frame members projecting upwardly from opposite sides of said base member and located opposite said seating unit side members, respective hook-shaped perforations in said side frame members each having a vertically extending lower portion and a downwardly curled upper portion, respective pivot pins connecting with said seating unit side members for pivotally supporting said seating unit, each of said pins extending into the adjacent hook-shaped perforation and adapted to be seated on the wall defining the lower extent of the downwardly curled portion of the adjacent perforation and to pivotally support the seating unit in an upper position with the seating unit removed from said base member, the said vertically extending lower portions of said perforations being sufficiently long to permit said seating unit to assume a lower position where the seating unit is in contact with said base member and to assume an upper position where said pins clear the walls defining the upper extent of said downwardly curled upper portions of said perforations.

9. A baby chair comprising a seating unit having a pair of upwardly extending side members, a base member, a pair of side frame members projecting upwardly from opposite sides of said base member and located opposite said seating unit side members, respective hook-

shaped perforations in said side frame members each having a vertically extending lower portion and a downwardly curled upper portion, respective pivot pins pivotally received in openings in said seating unit side members, each of said pins extending into the adjacent hook-shaped perforation and adapted to be seated on the wall defining the lower extent of the downwardly curled portion of the adjacent perforation and to pivotally support the seating unit in an upper position with the seating unit removed from said base member, the said vertically extending lower portions of said perforations being sufficiently long to permit said seating unit to assume a lower position where the seating unit is in contact with said base member and to assume an upper position where said pins clear the walls defining the upper extent of said downwardly curled upper portions of said perforations.

10. A baby chair comprising a horizontal base member, a seating unit, means for pivotally supporting said seating unit for swinging movement above and out of contact with said base member, means for permitting the lowering of said seating unit onto said base member to immobilize the same, and means for securing said seating unit against movement relative to said base member comprising cooperating plug and socket means on the confronting faces of said seating unit and base member, said socket receiving said plug when the seating unit is in its lower position.

11. A baby chair comprising a seating unit having a bottom forming a seat and arm rests supported above the seat, a pair of upwardly extending side members secured to the seat and having a top portion which extends an appreciable distance above the elevation of the arm rests, a base member, side frame members projecting upwardly from opposite sides of the base member and located opposite to the seating unit side members, means for permitting the raising of said seating unit from a position wherein the bottom of the seat is immobilized with respect to the base member, to a position wherein the seating unit is raised from contact with the base member, and means for pivotally supporting said seating unit in said raised position about a horizontal pivot axis extending through the upper portions of said seating unit side members.

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