

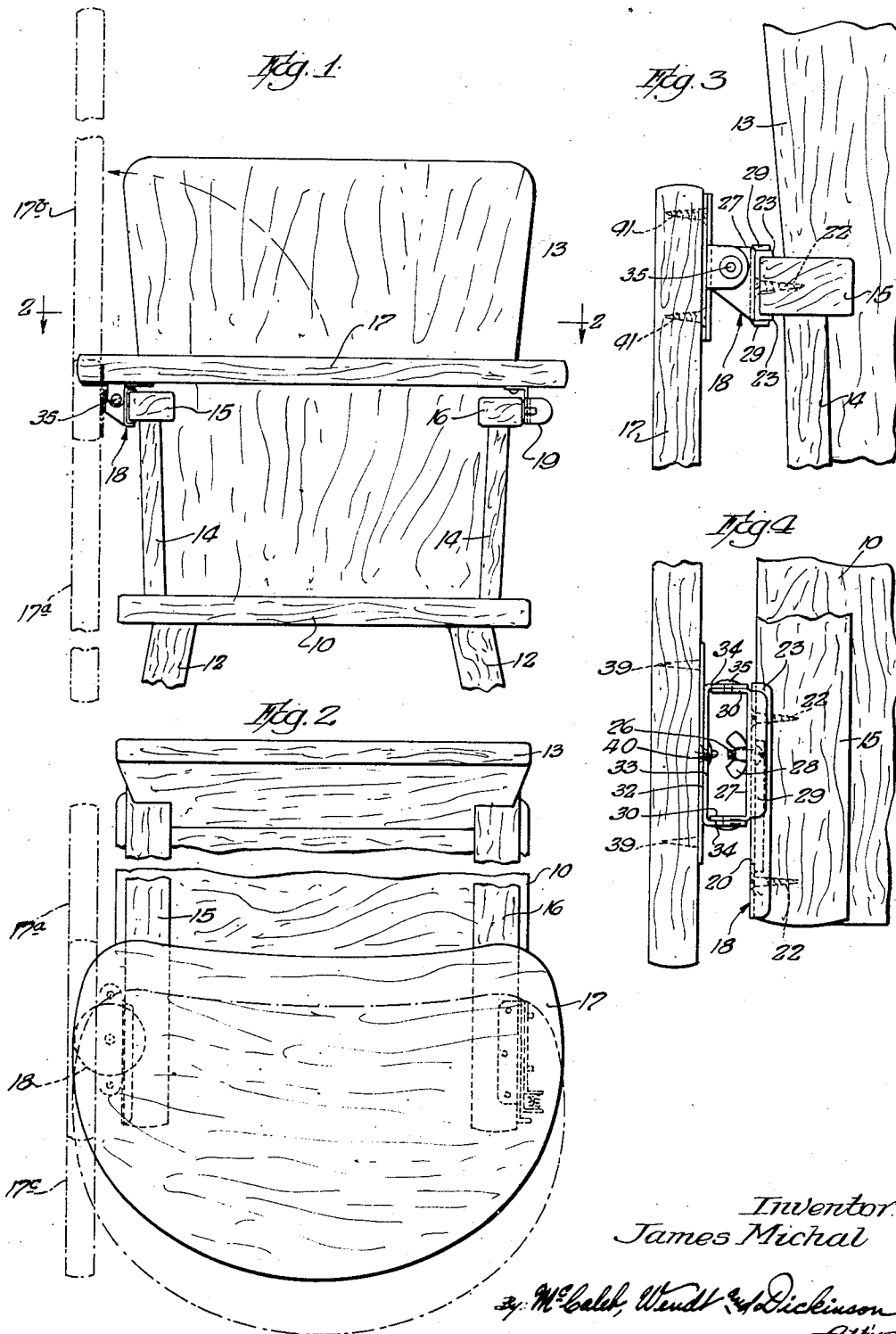
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HIGH CHAIR HARDWARE

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2 Sheets-Sheet 1



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HIGH CHAIR HARDWARE

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This invention relates generally to hardware for high chairs, and more particularly to the hardware utilized in the attachment of the feeding tray to the high chair.

It is a general object of my invention to provide improved hardware for the attachment of the feeding tray to a high chair which is not only secure when in place for feeding, but is adjustable and easily manipulated for the seating and removal of the child.

Considered more specifically, it is an object of my present invention to provide improved hardware for the attachment of a feeding tray to a high chair which includes a releasable latch and a hinge cooperatively related for firm attachment of the feeding tray to the high chair when desired and for the lateral swinging movement of the tray to an out-of-the-way position for seating or removal of the child.

The invention has for another object the provision of improved hardware for the attachment of a feeding tray to a high chair which is not only adapted to ease of seating and removal of the child from the high chair, but is adjustable to suit the size of the child.

As another object, my invention contemplates the provision of an improved hinge for movably supporting the feeding tray of a high chair for swinging movement in two transverse directions from a normal position of use to an out-of-the-way position.

Other objects and advantages of the invention will be apparent from the following description and the accompanying drawings, in which similar characters of reference indicate similar parts throughout the several views.

Referring to the drawings, of which there are two sheets,

Fig. 1 is a fragmentary front elevational view of a high chair which exemplifies the adaptation of a preferred form of my hardware;

Fig. 2 is a top plan view of the high chair shown in Fig. 1, with a part thereof shown in section, taken substantially on the line 2—2 of Fig. 1;

Figs. 3 and 4 are, respectively, front elevational and top plan views to an enlarged scale of a part of my preferred high chair hardware and indicating a different operating position than that shown in full lines in Figs. 1 and 2;

Figs. 5 and 6 are, respectively, top plan and side elevational views of the portion of the hardware shown in Figs. 3 and 4, with parts of Fig. 5 shown in section and the views in Figs. 5 and 6, respectively, taken substantially along lines 5—5

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of Fig. 6 and 6—6 of Fig. 5 and in the directions indicated by the arrow; and

Figs. 7 and 8 are, respectively, top plan and side elevational views of a different part of my preferred hardware, with the views taken substantially along lines 7—7 of Fig. 8 and 8—8 of Fig. 7, respectively, and in the directions indicated by the arrows.

Referring to the exemplary embodiment of my invention disclosed in the drawings, the high chair which is depicted has the usual seat portion 10 supported by legs 12. The seat portion has a back rest 13 secured thereto and extending upwardly. At the sides of the seat portion, support posts 14 and the back 13 carry arms 15 and 16 which extend forwardly from the back rest in substantially parallel relationship to the seat portion.

In the preferred embodiment of my invention a feeding tray 17 is connected to the arm 15 by a double acting hinge 18 and is releasably connected to the arm 16 by a manually operable latch 19. In the normal position the feeding tray extends across the upper surfaces of the arms at a distance from the back rest 13 which is sufficient for a child to be comfortably seated between the back rest and feeding tray. In this normal position the tray is secured to the chair on one side by the double acting hinge 18 and on the other side by the latch 19. In order to facilitate the removal of the child from the high chair the latch 19 is adapted to be easily manipulated with one hand, while the child is supported and removed with the other. Also with my preferred hardware the tray is swingable about two transversely disposed axes provided by the double acting hinge 18 to an out of the way position, such as that indicated by dot and dash lines at 17a in Figs. 1 and 2. The swinging movement may be about either or both of the transversely disposed axes at any given time and is controlled by the same hand which is utilized to effect the release of the latch 19. When swung about one of the axes the tray may be moved upwardly to a position such as that indicated in dot and dash lines at 17b in Fig. 1, from which it may be swung downwardly through the position indicated at 17c in Fig. 2 to the out of the way position at the side of the high chair. If more convenient, the tray may be swung forwardly after the release of the latch 19 and before it is swung to the out of the way position in which it hangs at the side of the chair, as shown in Figs. 3 and 4.

The details of the double acting hinge through which the swinging movements of the feeding

tray are accomplished are clearly illustrated in Figs. 3 to 6, inclusive. This preferred hinge structure includes a support plate 20 adapted to be secured to the outside surface of the arm 15 by fastening means, such as screws 22. Edge flanges 23 are desirably formed integrally with the support plate and overlie edge portions of the upper and lower surfaces of the arm to locate the support plate relative to the side surface of the arm and provide increased support. In the mid portion the support plate 20 has a longitudinal slot 24 spaced inwardly from the ends of the support plate and extending in substantially parallel relationship to the arm. Immediately behind the slot 24 the arm 15 is recessed as indicated in dotted lines at 25 in Figs. 5 and 6.

The recess at 25 accommodates the head of a bolt 26 which extends outwardly through the slot 24 and is movable longitudinally of the slot. An inner hinge bracket 27 having a suitable opening in the mid portion thereof, through which the bolt 26 extends, is adjustably secured to the support plate 20 by the bolt 26 and a coacting wing nut 28. Preferably the inner hinge bracket has integral edge flanges 29 which overlap the side flanges 23 of the support plate to maintain the aligned relationship of the inner support bracket relative to the support plate without interfering with the relative sliding movement of those two parts. Projecting outwardly from the ends of the inner support bracket 27 are integral ears 30, which are substantially parallel to one another and perpendicular to the face of the support bracket.

An outer hinge bracket 32 has a mid portion 33 which is preferably circular in shape and has integrally formed on opposite sides a pair of angularly projecting lugs 34 which straddle the ears 30. The ears 30 and lugs 34 have aligned openings therein and are rotatably connected by fastening means, such as rivets 35. The extent of the lugs 34 and the position of the aligned openings in which the rivets 35 are mounted is such that the outer hinge bracket 32 is swingable relative to the inner hinge bracket 27 about an axis substantially parallel to the support plate 20. A swivel plate 36 has a central bearing portion 37 which substantially conforms to the mid portion 33 of the outer support bracket, and has on opposite sides thereof integral tabs 38 through which fastening means, such as screws 39, extend to secure the swivel plate to the lower face of the feeding tray at one end thereof. In addition to the screws 39, laterally spaced screws 41 extend through suitable openings in the mid portion of the swivel plate more firmly to hold the tray relative to the swivel plate. At their centers the mid portion of the outer support bracket 32 and the swivel plate 36 are rotatably connected by fastening means, such as a rivet 40. The axis of the rivet 40 being transverse to the axis of the rivets 35, the feeding tray is swingable relative to the arm 15 of the high chair about two separate and transversely disposed axes. The axis of swinging movement provided by the rivets 35 serves for the swinging movement of the feeding tray 17 away from the arm 16 and toward a position such as that indicated in Fig. 1 at 17b. The axis of swinging movement provided by the rivet 40 serves in swinging the feeding tray away from the back of the high chair, and when combined with the movement about the axis of the rivets 35 enables the placement of the feeding tray in an out of the way or hanging position, such as that depicted in Fig. 3.

In order releasably to lock the feeding tray in place in its normal position across the arms 15 and 16, the latch 19 comprises a holding part 42 secured to the outer surface of the arm 16 and a separate releasable latching part 43 secured to the bottom surface of the tray 17 in position for latching engagement with the holding part. As shown in Figs. 7 and 8, the holding part 42 includes a support plate 44 which is secured to the arm 16 and has holding pins 45 secured thereto and projecting from the outer surface in linearly spaced relationship relative to one another and longitudinally of the arm.

The latching part 43 includes a bracket 46 secured by fastening means, such as screws 47, to the bottom surface of the tray and having a side portion extending angularly away from the bottom surface of the tray. The projecting edge of the side portion of the bracket 46 has notches 48 spaced in accordance and engageable with the projecting pins 45. At one end the side portion of the bracket 46 also has an integral projecting lug 49 extending outwardly therefrom, which serves as a latch operating grip.

The latching part 43 also includes a slide 50, which is mounted for linear movement relative to the bracket 46. Headed support pins 52 extend through longitudinal slots 53 in the slide, and are secured to the bracket 46 to support the slide relative to the bracket. A projecting lug 54 on the end of the slide near the projecting lug 49 provides a second latch operating grip, and a spring 55 disposed between the lugs 49 and 54 biases the slide to a position such that the lugs are separated and the headed pins 52 are disposed at the ends of the slots 53.

The slide 50 has extending inwardly from its lower edge notches 56 which are longitudinally recessed at the top so as to coact with the notches 48 in the bracket 46 and provide surfaces adapted to engage and interlock with the projecting pins 45. Release of the engagement of the pins 45 by the interlocking surfaces is effected by longitudinal movement of the slide relative to the bracket 46, which movement is produced by gripping the lugs 49 and 54 and the movement of the slide against the biasing force of the spring 55.

Although it is not necessary to produce precise alignment of the two side of the feeding tray 17 when the inner hinge plate 27 is set at some predetermined and adjusted position relative to the support plate 20, I have provided the longitudinally separated holding pins 45 on the holding part of the latch so that the notches 48 may be engaged by different ones of the holding pins 45 to effect at least an approximate transverse alignment of the feeding tray. It may be readily understood that the linear adjustment of the feeding tray toward and from the back rest 13 of the chair by the adjustment of the position of the inner hinge bracket 27 and the selection of a corresponding latching position results in the adjustment of the setting of the tray to suit the size of the child.

While I have illustrated a preferred embodiment of my invention, many modifications may be made without departing from the spirit of the invention, and I do not wish to be limited to the precise details of construction set forth, but desire to avail myself of all changes within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A hinge for mounting a feeding tray rela-

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tive to the arm of a high chair for swinging movements by transversely disposed axes and comprising, in combination, a support plate adapted to be secured to one of the arms and having parallel side portions, an inner hinge bracket, means for connecting the support plate and inner hinge bracket for relative linear movement substantially parallel to said one of the arms, said inner hinge bracket having side flanges overlying said parallel side portions of the support plate to maintain relative alignment thereof, an outer hinge bracket, means connecting the inner and outer hinge brackets for swinging movement of the outer hinge bracket about an axis substantially parallel to said one of the arms, a swivel plate adapted to be secured to the tray, and means for connecting the swivel plate to the outer hinge bracket for rotation relative thereto about an axis transverse to the axis of swinging movement of the outer hinge bracket.

2. A hinge for mounting one end of a feeding tray relative to the arm of a high chair for swinging movement about transversely disposed axes and comprising, in combination, a channel type support plate adapted to fit over and be secured to one side of the arm, an inner hinge bracket having flanged edges overlying and slidable longitudinally of the channel type support plate, means for releasably holding the support plate and inner hinge bracket in relative ad-

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justed positions, an outer hinge bracket, means including overlapping tabs integral with and bent from each of the hinge brackets for connecting the outer hinge bracket to the inner hinge bracket for swinging movement about an axis extending longitudinally of the arm, a swivel plate adapted to be secured to the tray, and means for connecting the swivel plate to the outer hinge bracket for rotational movement about an axis transverse to the axis of swinging movement of the outer hinge bracket.

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