

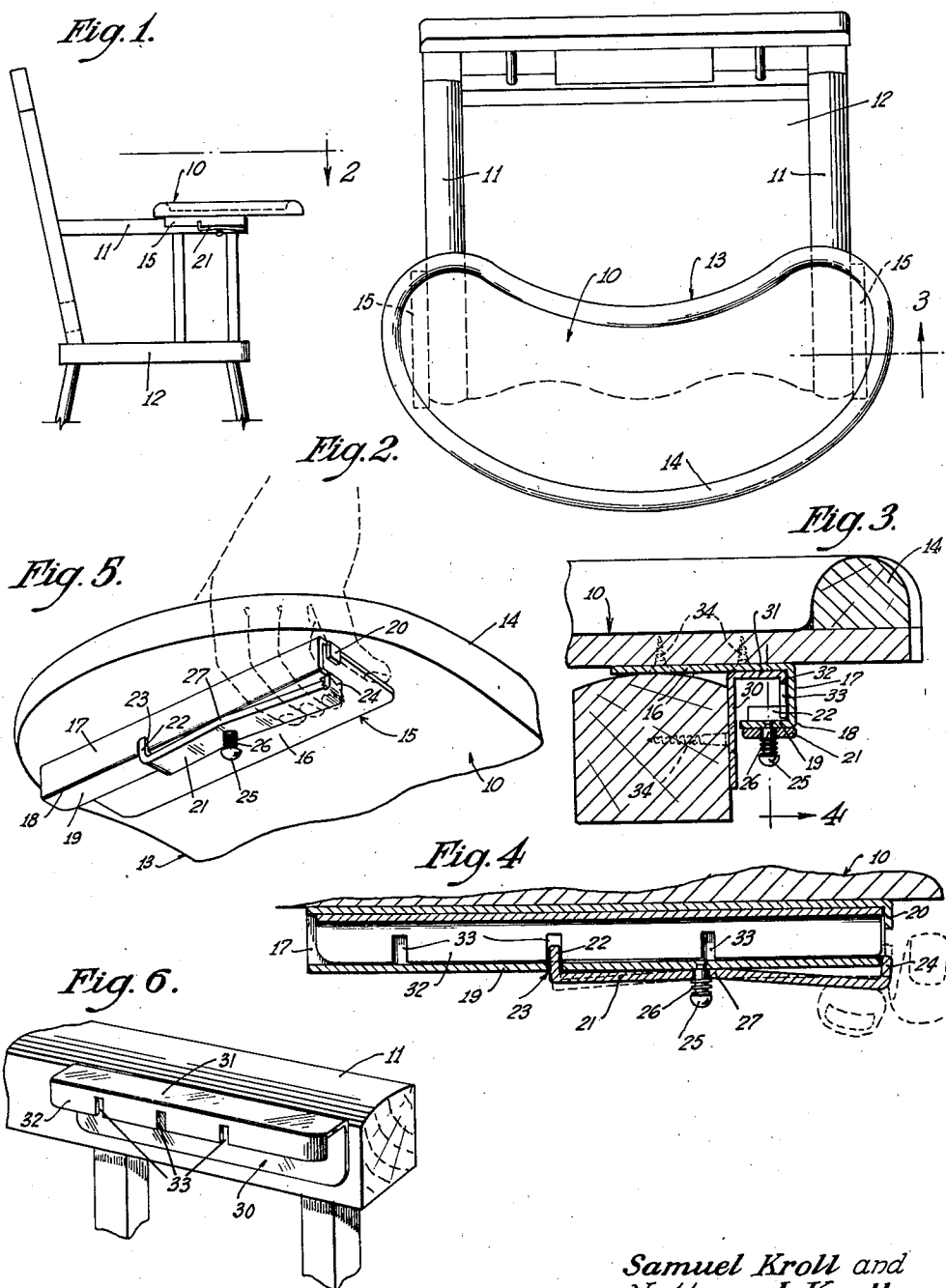
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LATCH FOR HIGH CHAIR TABLES

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LATCH FOR HIGH CHAIR TABLES

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This invention pertains to chairs and the like, and particularly to an infant's chair having a removable tray or table portion.

Among its important objects, the invention includes the provision of a chair especially suitable for infant's use and having side arms with a removable tray and means releasably latching the tray in a desired position relative to the arms.

A further object is the provision of a device of the character described and having means for mounting a tray on the arms of a chair, this means being in the form of track members mounted respectively on the arms of the chair and the under side of the tray or table for slidable movement of the tray into and out of mounted position, the track members having spring urged detent means manually operable to latch the tray in a desired position.

Still another object is the provision of interfitting track members for attachment to the arms of a chair and a removable tray mounted on said arms, and detent means carried on one of said track members and engageable in slot formations on a cooperating track member to hold the tray securely in place.

Other objects and novel aspects of the invention will appear as the following description proceeds in view of the drawing, in which:

Fig. 1 is a side elevation of a chair with the novel tray structure mounted thereon;

Fig. 2 is a top plan view to enlarged scale in the direction of line 2—2 of Fig. 1;

Fig. 3 is an enlarged vertical fragmentary section on lines 3—3 of Fig. 2;

Fig. 4 is a vertical longitudinal section through the track or mounting means and detent mechanism seen along lines 4—4 of Fig. 3;

Fig. 5 is a bottom perspective view of the tray and detent means; while

Fig. 6 is a fragmentary perspective of one of the chair arms and notched guiding track or channel.

The device of our invention particularly concerns a tray 10 and mechanism for adjustably supporting that tray across the opposite side arms 11 of a chair 12 (Figs. 1 and 2). The tray or table portion 10 may be of any desired shape such as that shown in Fig. 2 wherein an arcuate inner edge portion 13 has been provided so as to bring the table closer to the occupant of the chair. Preferably, the table has a marginal rim 14 to facilitate retaining articles thereon, the novel chair structure being especially designed to accommodate infants.

The mounting mechanism by which the tray

is adjustably mounted between the arms of the chair includes, as seen in Fig. 5, what is termed for convenience a movable runner or latch plate 15 in the form of an elongated plate or body member 16 having one longitudinal edge portion bent back upon itself to provide a substantially U-shaped edge channel or groove 17 having a lower longitudinally extending edge portion 18 and an adjoining bottom surface 19, the latter lying in a plane substantially parallel to the main body portion 16.

At one (forward) corner portion of the latch plate 15 there is formed a laterally extending ear or lug 20 positioned at one axial end of the channel 17 to provide a stopping means or lug.

Mounted on the bottom surface portion 19 of the channel formation 17 is a latch or detent member 21 having one of its extremities turned laterally to provide a latch tooth 22 which projects into a lateral slot 23 cut through the edge 18 into both the vertical side wall portion of the channel formation 17 and also the adjoining bottom surface portion 19 in such manner that a substantial portion of the lateral depending detent tooth 22 will project within the channel or groove part 17 of the latch plate 16.

At its opposite and outer end the detent 21 has an upturned lug or ear 24 which extends inwardly toward the channel and confronts the adjacent end edge of the top surface 19 of the channel. This latter provision, together with the projecting detent tooth 22 in the slot 23, prevents pivotal movement of the detent arm 21 in a plane parallel to the latch plate 16. However, the detent 21 is mounted on the bottom surface formation 19 of the channel by means of a headed pin 25 extending through the detent and secured in the bottom portion 19 of the channel formation.

Embracing the pin 25 between the head thereof and the detent 21 is a coil spring 26, and it is to be observed that the detent 21 is arcuated or bent as at 27 (see also Fig. 4) from a point close to the opening through which the pin 25 extends on out to the end thereof at which the depending ear 24 is positioned. The expanding effort of the spring 26 causes the flat portion of the detent between the pin 25 and the latching tooth 22 to lie flush against the bottom surface portion 19 of the channel, thus positioning the opposite (right hand) section of the detent away from the channel, as seen in Fig. 4, so that a rocking movement of the detent about the bight 27 may be effected to project and withdraw the detent 22 from the lateral slot 23.

A stationary mounting or track member, on

which the channel formation 17 of the movable member of Fig. 5 is slidably received, is seen in Fig. 6, and includes an elongated plate 30 of metal or the like having one longitudinal edge portion bent back upon itself, providing a longitudinally extensive edgewise groove or channel 31 substantially U-shaped in cross-section and corresponding to the channel part 17 of the latch plate construction of Fig. 5.

This stationary track or channel member 31 likewise has a side surface portion 32 disposed in a plane substantially parallel to the main body portion 30 of the track member, and suitably spaced in a longitudinal direction along this side or surface 32 are a plurality of lateral slots 33 dimensioned to receive the detent tooth 22 in a manner heretofore explained in conjunction with the slots 23 in the channel formation 19.

Both the stationary and movable channel members 30 and 15, respectively, are provided in their main plate portions with suitably spaced apertures for mounting screws 34 (Fig. 3), and it is intended that one of the stationary members 30 be attached to each of the outer vertical surface portions of the side arms 11, it being further intended that there be two of the movable latch plate structures 15 attached to the tray at the opposite sides of the bottom thereof so as to provide smooth and firm mechanical action. However, it is not essential to the satisfactory operation of the guiding and latch means that this dual arrangement be provided, since one of the movable and stationary channel units is adequate to provide an operative structure.

It will be apparent that various changes and modifications may be made in the particularly described structure set forth herein as illustrative of one embodiment of the invention, and it is our intention that the appended claims shall include within their scope all such changes and modifications.

Having thus described our invention, what we claim as new and desire to protect by Letters Patent is:

1. An adjustable latch device comprising cooperating slide and track members each having a channel-shaped formation open at its ends and along one side and having a free edge along said open side, said slide member being mounted on an object which is movable with respect to a second object on which the track member is mounted so as to slidably dispose and interfit one said channel formation in the other when the movable object is moved in a particular direction relative to the other object, said open side of the interfitted channel formation being substantially closed by the side of the outer channel adjacent said free edge thereof, said interfitted channel formation being notched along its free longitudinal edge adjacent said open side thereof, and the overlying or closing side of the outer channel having latch means mounted thereon and including a releasable detent which extends through said overlying or closing side of the outer channel formation on which it is mounted and into one of said notches to prevent relative movement of said members.

2. An adjustable latch slide device comprising a track and a cooperating slide member each having an elongated channel-like formation constructed to fit one within the other, said slide member being mounted on an object which is movable with respect to another object on which the track member is mounted, the movable object being moved to bring said members into coop-

erative relation with said channel-like formations slidably fitting one within another, the inner channel formation having an elongated free edge portion provided with spaced-apart detent latching means and the outer channel formation having releasable detent means projecting there-through into latching engagement with said latching means.

3. Slidable mounting means for a high chair arm table, said means including a pair of track plates mounted on opposite arms of the high chair and each being in the form of an open-sided track channel with an elongated free edge portion extending along the open side thereof, and a pair of slide plates each being in the form of a slide channel shaped similarly to said track channels and both mounted on said table in such manner that the channels thereof will interfit slidably with the track channels of said track plates when the table is slid into position on said arms, the wall portions adjoining the free edges of the outer interfitting channel overlying the free edge portions of the inner interfitted channel, said inner free edge portions having notches therealong, and said overlying wall portion of the outer channel having an elongated detent arm mounted thereon for rocking movement between its ends and having a detent part which is extended through said side wall on which the detent is mounted so as to latchingly engage in said notches, and spring means for said detent arm and normally rocking the latter to project said detent part into latching position as aforesaid, said arm being rocked in an opposite direction to withdraw said detent part from latching position to permit sliding movement of the table as aforesaid.

4. A device of the class described, including a pair of spaced supports, a tray, and means slidably mounting said tray on said supports, said means comprising a pair of elongated plates one attached near each side of the tray and each said plate having one longitudinal edge portion bent back upon itself in substantially U-fashion to form a channel, and having a bottom wall in a plane substantially parallel to said plate, with a lateral slot cut into said wall and an adjoining wall portion, an elongated detent arm bent between its ends and mounted on said bottom wall by means of a headed pin extended therethrough near said bend into said bottom wall and having a spring expanded between the outer head end portion of the pin and the detent arm yieldingly urging an end of the detent arm toward said slot in the bottom wall, said detent arm having a part at said last-mentioned end extending through said last-mentioned slot, said detent arm being movable about said bend therein to move said end part in a direction out of said slot, together with a stationary track plate of elongated form attached to the side of each of said supports and each having a longitudinal edge part bent back with a side wall lying in a plane substantially parallel to the plate and a notch formed in the free longitudinal edge portion of said last-mentioned side wall, the said channel formations on said tray being slidably engaged on said track formations on said supports with said end part on the detent arm latchingly extended into said notch in the free edge portion of the side wall in said stationary track plate.

5. In an infant's chair of the type having a pair of opposite arms and a removable tray member mounted on said arms, tray mounting means including a track member attached to

each of said arms, said track members being in the form of elongated plates each having a longitudinal edge portion bent in a direction back upon the plate to provide a channel-shaped track, the main body of said plates being attached to the confronting vertical surface portions of their respective arms and each of the track formations thereof having a side wall substantially parallel to said main body of the plate and having a free edge portion in which are formed a plurality of spaced notches, a pair of slide plates mounted in spaced relation on the bottom of said tray and having sliding engagement with said track plates, said slide plates being in the form of elongated plate members each having a longitudinal edge portion turned in a direction back upon itself to provide a channel formation slidably fitting onto the channel formation of corresponding track plates on said arms, said slide plates each having a main body portion attached in a substantially horizontal plane to the bottom of said tray and each channel formation of each slide plate having a bottom wall portion parallel with the main body portion thereof and each having a slot cut into said bottom wall portion and the adjoining wall portion, each of said bottom wall portions having a substantially elongated detent arm pivotally mounted thereon between its ends and having an offset latching end portion normally projected in said slot in said bottom wall portion, the opposite end portion of said detent arm being offset so as to overlie an end portion of the channel formation on which it is mounted, said latching end portion of the detent arm fitting into one of the aforesaid notches in said track plates to prevent movement of the tray.

6. A latch structure for a chair table of the type adapted to be mounted on a pair of chair arms, said latch structure including a pair of track plates of elongated form and each having a longitudinal edge portion bent up to provide a channel with a free edge portion having a plurality of spaced notches formed therein, and a pair of slide plates of elongated form mounted in spaced parallel relation on the bottom of said table and each having a longitudinal edge portion turned back in a direction upon itself to provide channel formations similar to the channel formations on said track plates, said channel formations of the slide plates each having a longitudinally extensive bottom wall portion in spaced and substantially parallel relation to the main plate portion thereof and adapted to overlie said free edge portion of the channel formation of one of said track plates when the parts are in assembled relation, and latch means in the form of an elongated detent arm bowed between its ends and mounted by pin means extending therethrough in the region of the bow thereof into a respective bottom wall portion of one of said slide plates, such that said detent arms may rock about the bowed portions thereof, and each said arm having an inwardly offset latch nose

extending through a slot cut into the respective bottom wall portion, each pin means being provided with spring means normally rocking the corresponding detent arm to dispose said latch nose in said slot formation in the bottom wall and into one of said notches in the corresponding track plate when the parts are in assembled relation, said detent arms being rocked to withdraw their respective latch noses from latching engagement as aforesaid.

7. The device of claim 6 in which the end portion of each of said detent arms opposite the latch nose formations thereof is bent around an end of the corresponding bottom wall to provide an abutment limiting the relative movement in one direction of said tracks and slide plates.

8. Latch means for an infant's high chair table including a separable table member adapted to be mounted on spaced arm members, said latch means including a pair of elongated track plates mounted on opposite vertical portions of said arms and each having an upper horizontally extensive longitudinal edge portion bent in a direction back upon itself to provide a substantially channel-shaped track with a horizontally extensive longitudinal free edge portion in which are formed a plurality of spaced notches, and a pair of elongated slide plates mounted in spaced parallel relation on the bottom of said table member and each having a horizontally extensive longitudinal edge portion bent back to provide a channel-shaped groove into which one of the aforesaid and corresponding channel-shaped tracks is slidably received, each of said channel formations of the slide plates having a side wall portion which extends around the said free edge portion of the corresponding channel track, and latch means for each of said slide plates and including an elongated latch arm rockably mounted by means of a headed pin extended therethrough between its ends into said side wall portion of the corresponding slide plate at a point spaced inwardly from one longitudinal end of the latter, said detent arm being bowed outwardly away from said side wall portion at one side of said pin, said detent arm having one end portion bent inwardly to provide a latch nose which projects into a slot cut into said side wall portion for engagement in one of said notches in the free edge portion of the corresponding track plate, spring means on said pin normally rocking said arm to dispose said latch nose into the slot as aforesaid.

9. The device of claim 8 further characterized in that the end portion of said detent arm opposite the latch nose thereof is bent around said one longitudinal end of the corresponding side wall portion for abutting engagement with a part of the corresponding track plate when the table member is slid into position a predetermined distance toward said chair.

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