May 6, 1958 R. A. LECLAIR 2,833,335

SELF-LATCHING HINGE CONSTRUCTION FOR HIGH-CHAIR TRAYS

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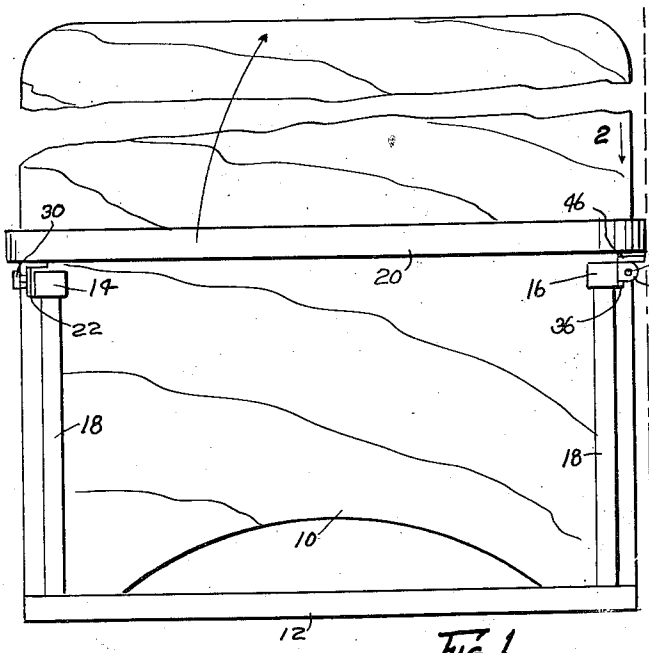


FIG. 1

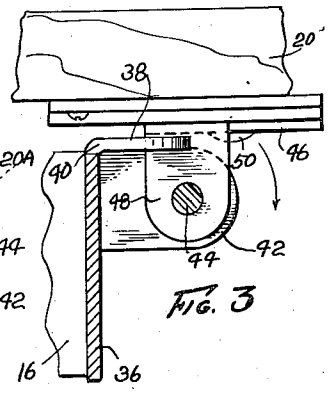


FIG. 3

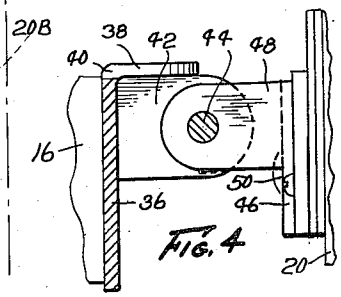


FIG. 4

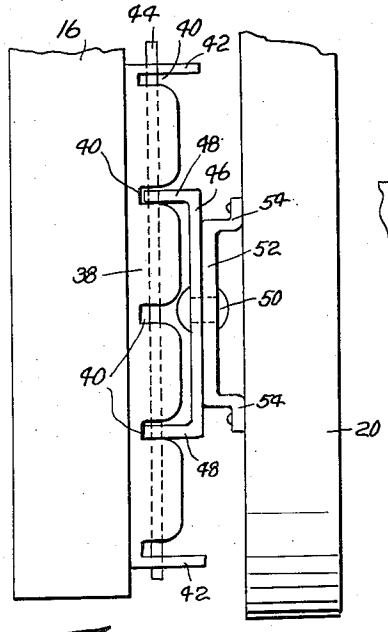


FIG. 2

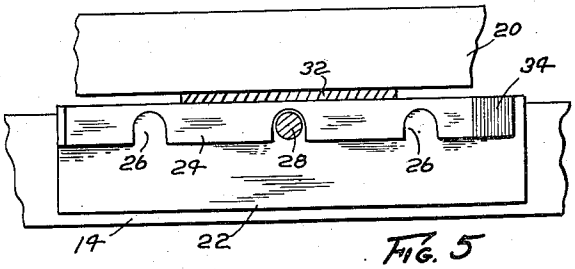


FIG. 5

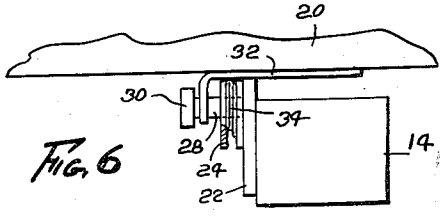


FIG. 6

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SELF-LATCHING HINGE CONSTRUCTION FOR HIGH-CHAIR TRAYS

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5 Claims. (Cl. 155—127)

This invention relates to a new and improved self-latching hinge construction particularly adapted for the adjustable trays of high-chairs for infant use, and the principal object of the invention resides in the provision of a hinge construction including automatic latching means whereby when the tray is swung from an inoperative to an operative position over the arms of the chair, the tray is automatically latched in adjusted condition with respect to a forward and rearward direction of adjustment of the high-chair tray as regards the seat or the arms of the high-chair upon which the tray is slidably mounted.

Other objects of the invention include the provision of a latching hinge construction for trays including a plate for attachment to the arm of a high-chair or the like, said plate being provided with a horizontal flange extending outwardly therefrom, said flange having a series of slots therein for the selective reception of the end ears or legs of an elongated U-shaped swinging bracket which is slidably mounted on a rod parallelly and longitudinally arranged with respect to the plate and having sliding adjustment with relation thereto, the bracket being locked when in operative position thereof and being unlocked when in non-operative position for easy sliding adjustment of the high-chair tray.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which:

Fig. 1 is a view with parts broken away, illustrating the invention;

Fig. 2 is an enlarged plan view, looking in the direction of arrow 2 in Fig. 1 and illustrating the mechanism in unlatched condition;

Fig. 3 is a view in front elevation, parts in section, looking in the direction of arrow 3 in Fig. 2 but showing the tray in operative latched condition;

Fig. 4 is a view similar to Fig. 3 but showing the device in unlatched condition;

Fig. 5 is a view in side elevation illustrating the latching plate at the opposite side of the high-chair; and

Fig. 6 is a view in front elevation thereof.

The present invention is shown as applied to an infant's high-chair but of course may be used in any relation where desired and convenient. The reference numeral 10 indicates the backrest of a high-chair, the seat of which is indicated at 12. As is usual, the high-chair is provided with forwardly-extending arms 14, 16 and side stiles 18 associated therewith. The subject matter of the present invention is adapted to be mounted on the arms 14, 16 and the adjustable tray is indicated generally at 20.

Referring first to the arm 14, there is mounted at the outer side thereof a plate 22 which is provided with a spaced member 24 having a series of notches 26 therein for the selective reception of the plunger 28 of a conventional finger-operated spring-pressed latch device 30, the details of which need not be described inasmuch as this device is substantially conventional. The latch 30 may

be mounted on a flanged plate 32 at the under side of the tray 20 and it will be clear that the tray 20 will have three separate positions of longitudinal adjustment relative to the arms of the high-chair and the latch 30 is manually manipulated in order to selectively enter the plunger 28 in a selected notch 26. The forward portion of the member 24 may be bent inwardly as at 34 to provide a cam for moving plunger 28 outwardly in order to automatically latch the same in the first notch 26.

At the opposite side of the high-chair, the arm 16 is provided with a plate 36 at the outside surface thereof and this plate has a horizontal flange thereon generally indicated at 38. This flange is provided with a series of inwardly-extending notches 40 best shown in Fig. 2, there being five of these notches as shown herein.

At the ends of the plate 36, the same is provided with ears 42 which between them support an elongated rod 44 acting as a pintle for the latching means to be described.

Slidably mounted on the rod 40 is an elongated U-shaped bracket 46 having end flanges or ears 48 each of which is apertured to receive rod 44, so that the U-shaped bracket 46 is longitudinally slidable thereon. It will be clear that the bracket 46 is rotatable on rod 44 and when it is in upright vertical position as in Fig. 3, the ears 48 thereof are so spaced as to automatically move into a pair of notches 40; and in this event the bracket 46 is clearly latched against any longitudinal motion with respect to the arm 16. However, upon being rotated in a clockwise direction according to the arrow in Fig. 3, the bracket 46 is free to longitudinally slide on rod 44 since the ears 48 are released from the notches 40. In this condition, the bracket 46 may be longitudinally adjusted to align ears 48 with a different pair of notches 40.

The bracket 46 may be projected to one side of the ears 48 as shown in Fig. 3, and it is provided with a pivot 50 for swivelly securing thereto another bracket 52 having raised legs or feet 54 for the securement thereto of the tray 20 at the under side of the latter.

Assuming the parts to be locked in adjusted position as in Fig. 1, the operator merely grasps the head of the spring latch 30 and moves it slightly to the left, disengaging plunger 38 from its respective notch 26, whereupon the tray 20 may be swung from its horizontal position to vertical position in the direction of the arrow in Fig. 1 where it assumes the dotted line position as shown in that figure; and this is indicated by the reference character 20–A. This function is carried out by the pivoting action of bracket 46 on the rod 44 as an axis.

With the tray in position 20–A, it may be now swung downwardly and forwardly toward the operator about pivot 50 thereby assuming the depending position shown in the broken lines in Fig. 1 and indicated by the reference character 20–B. In this position, the tray 20 is maintained in safe out-of-the-way position. It will be seen that merely upon returning the tray to the vertical position and then swinging it down, it will become automatically latched with respect to the right-hand side as seen in Fig. 1. While bracket 46 is latched, the tray may be swung on a vertical pivot toward the chair so that the free end of plunger 28 will engage the inclined surface 34 and being cammed rearwardly thereby, the plunger will then be automatically engageable with the first notch 26 shown in Fig. 5 adjacent the inclined portion 34, or any other selected notch.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. Locking hinge construction for a high-chair tray comprising a plate adapted for disposition on an arm of the high-chair, a notched flange on said plate, a rotatable U-shaped bracket, means slidably guiding the U-shaped

bracket longitudinally of said flange, means on the U-shaped bracket for entering selected notches in the flange for latching the bracket in relatively adjustable position with regard to the plate, and means for securing a tray for the high-chair to said bracket.

2. Locking hinge construction for a high-chair tray comprising a plate adapted for disposition on an arm of the high-chair, a notched flange on said plate, a rotatable U-shaped bracket, means slidably guiding the U-shaped bracket longitudinally of said flange, means on the U-shaped bracket for entering selected notches in the flange for latching the bracket in relatively adjustable position with regard to the plate, and means for securing a tray for the high-chair to said bracket, said last-named means including a swivel so that the tray is swivelly mounted relative to the bracket, the bracket being pivotally mounted relative to the plate.

3. Locking hinge construction for a high-chair tray comprising a plate adapted for securement to an arm of a high-chair, a rod on said plate in fixed relation thereto and spaced therefrom, a bracket slidable on said rod, said bracket being rotatable on the rod, means on said plate for latching said bracket in one rotative position thereof with relation to said plate, said means being free of the bracket in another rotative position thereof, and means swivelly mounting a tray for a high-chair on said bracket, said bracket including a pair of spaced ears, said ears being apertured and slidably and rotatively receiving said rod.

4. Locking hinge construction for a high-chair tray comprising a plate adapted for securement to an arm of a high-chair, a rod on said plate in fixed relation thereto and spaced therefrom, a bracket rotatable and slidable on said rod, means on said plate for latching said bracket in one rotative position thereof with relation to said plate, said means being free of the bracket in other rotative position thereof, and means swivelly mounting a tray for a high-chair on said bracket, said bracket including a pair of spaced ears, said ears being apertured and slidably and rotatively receiving said rod, said latching means including a notched flange extending parallel to said rod, the ears on the bracket and the notches extending generally transversely of said rod.

5. Locking hinge construction for a high-chair tray as recited in claim 4 including a latching plate on the opposite arm of the high-chair, and inter-engageable means to be latched thereby on the tray, said last-named means including notches in said last-named plate and a spring-pressed manually-actuated latch on said tray.

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