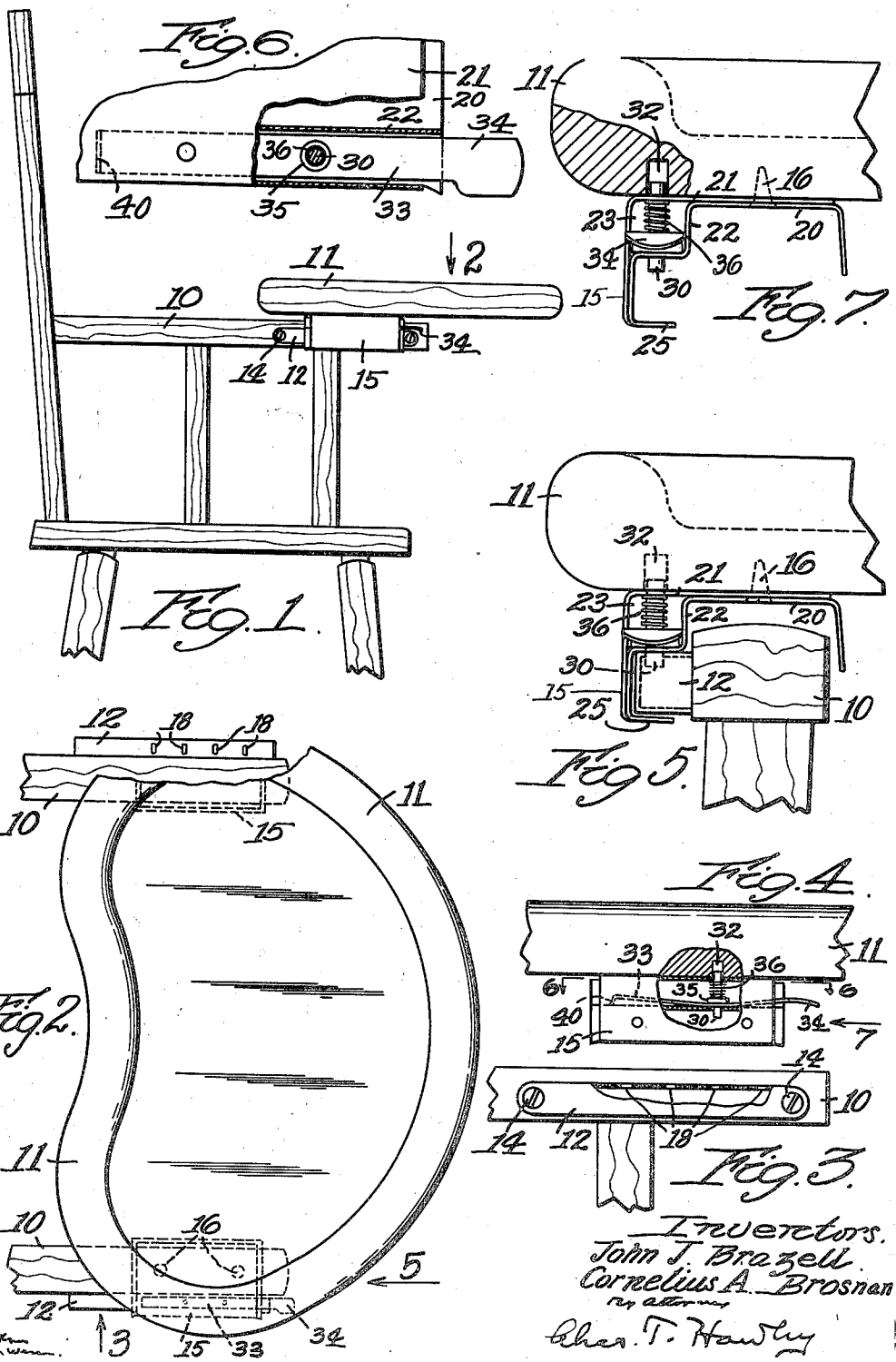
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TRAY FASTENING DEVICE

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TRAY FASTENING DEVICE

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3 Claims. (Cl. 155—127)

This invention relates to children's high chairs and particularly to means for securing a tray on the chair arms.

It is the general object of our invention to provide an improved device for detachably securing a tray in position, said device being so designed that release by the occupant of the chair is not easily accomplished.

A further object of our invention is to provide a construction by which the two parts of the fastening devices are positively locked together when the tray is in use.

We also provide a fastening device which may be easily and economically manufactured, and which may be made largely from sheet metal stock by press operations.

Our invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawing, in which—

Fig. 1 is a partial side elevation of a chair having our invention embodied therein;

Fig. 2 is a plan view of the tray and supporting arm, partly broken away and looking in the direction of the arrow 2 in Fig. 1;

Fig. 3 is a side elevation of one member of the attaching device, partly in section and looking in the direction of the arrow 3 in Fig. 2;

Fig. 4 is a side elevation of the second member of the fastening device, also partly in section;

Fig. 5 is an end view, looking in the direction of the arrow 5 in Fig. 2;

Fig. 6 is a plan view, partly in section and taken along the line 6—6 in Fig. 4; and

Fig. 7 is an end view, looking in the direction of the arrow 7 in Fig. 4.

Referring to the drawing, we have shown a portion of a high chair having arms 10 on which a tray 11 is supported. Our improved attaching device comprises a member 12 adapted to be secured to an arm 10 by suitable fastening devices such as screws 14 (Fig. 3), and a second member 15 adapted to be secured to the under side of the tray 11, as by screws 16.

The first member 12 is preferably formed from sheet metal by one or more press operations, and comprises a casing closed at the front, top and bottom, and open at the back, said casing being shown in Fig. 5. A series of openings 18 are formed in the top, as shown in Figs. 2 and 3.

The second member 15 of the attaching device, which is secured to the under side of the tray 11, is also formed largely of sheet metal and comprises a lower portion 20 and an upper portion 21. The portion 20 has an angularly offset portion 22 (Fig. 7) which cooperates with the upper portion 21 to form a substantially rectangular recess 23. The lower end of the portion 20 is also bent laterally to provide a guiding flange 25 which underlies the member 12 when the parts are assembled as shown in Fig. 5, and which effectively prevents upward displacement of the tray. The upper and lower portions 20 and 21 of the member 15 may be welded or otherwise permanently secured together.

A stud 30 is mounted in the rectangular recess 23, with the lower end of the stud extending downward through an opening in the lower side of the offset portion 22, and with the upper end of the stud extending upward through an opening in the member 21 and into a clearance recess 32 in the tray 11.

A release lever 33 is also mounted in the recess 23 and has a handle portion 34 projecting from the open end of the recess. The lever 33 is provided with an opening intermediate its ends to receive the lower end of the stud 30, and the stud is provided with a flange or collar 35 which rests against the upper surface of the lever 33 and which is pressed downward by a coil spring 36 mounted on the stud 30 and within the recess 23.

When the tray is assembled on the arms, as shown in Fig. 5, the lower end of each stud 30 also extends into one of the openings 18 in the top of one of the members 12, thus locking the parts together. A plurality of openings 18 are provided, so that different forward and back positions of the tray can be selected.

In assembling the parts, the tray is pushed toward the arms, thus entering the members 12 into the passages above the flanges 25. The levers 33 are pushed upward at the same time to raise the studs 30. This lifting action of the levers 33 is facilitated by providing an offset flange 40 (Fig. 4) at the rear end of each lever, to act as a pivot or knife edge during the lifting operation.

When the levers are released, the studs 30 will enter selected openings 18, thus firmly locking the tray in position, and the tray cannot be thereafter withdrawn except by reaching around to the front of the fastening devices and lifting the handle portions 34 of the levers 33. These handle portions 34 are relatively inconspicuous and are out of sight of the occupant of the chair, and are so positioned that they are not readily grasped accidentally.

The ends of the members 12 are rounded to facilitate assembly of the parts, and the end portions of the members 15 are preferably curved outwardly to facilitate assembly.

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

1. A tray attaching device comprising a first member to be attached to a chair arm, a second member to be attached to the under side of a tray, said first member being slidable within said second member and having a series of openings therein and said second member having associated portions cooperating to provide a longitudinal passage in which said first member is received and slidable and having inner and outer parts forming the enclosing sides of a rectangular recess at one side of said passageway, a locking device mounted in said recess and movable transversely thereof and into said passageway to locking position, and means in said recess engaging said device and effective to withdraw said device from locking position by manual operation thereof.

2. A tray attaching device comprising a first member to be attached to a chair arm, a second member to be attached to the under side of a tray, said first member being slidable within said second member and having a series of openings therein and said second member having a longitudinal passageway in which said first member is received and having upper and lower portions enclosing a rectangular recess at one side of said passageway, a locking device mounted in said recess and movable transversely thereof and into said passageway to locking position, and a release lever connected to said locking device and mounted in said recess, said lever having an offset inner end portion forming a pivotal bearing for said lever.

3. A tray attaching device comprising a first member to be attached to a chair arm, a second member to be attached to the under side of a tray, said first member being slidable within said second member and having a series of openings therein, said second member having associated portions cooperating to provide a longitudinal passageway in which said first member is received and slidable and comprising a right angle plate element and an abutting plate element secured to the under side of said right angle plate element, said abutting plate element having its upper corner portion bent to provide an opposed right angle portion coacting with said right angle plate element to form a rectangular recess at one side of said passageway, a locking device mounted in said recess and movable transversely thereof and into said passageway to locking position, and means in said recess engaging said device and effective to withdraw said device from locking position by manual operation thereof.

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