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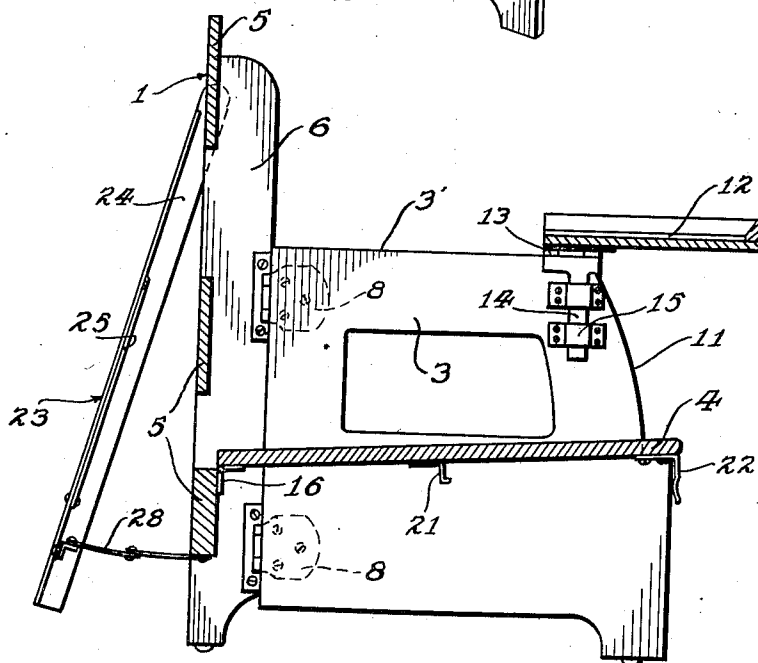
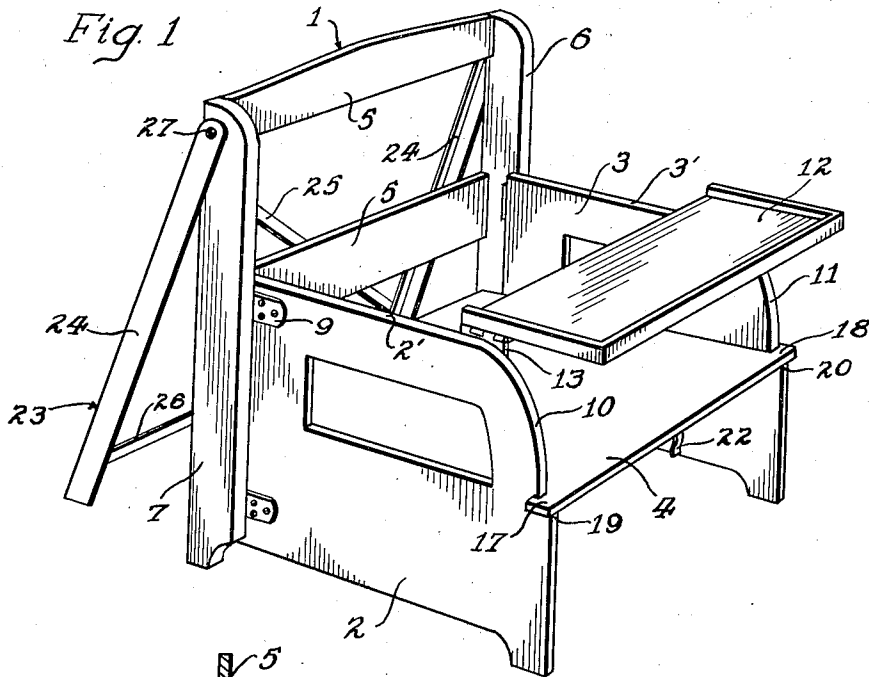
J. E. ERICKSON

2,019,005

CHAIR

Filed July 24, 1933

2 Sheets-Sheet 1



Witnesses:

Adolf Berg

Inventor

Julius E. Erickson

by Rummel Rummel & Woodworth
Attys.

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J. E. ERICKSON

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Fig. 3

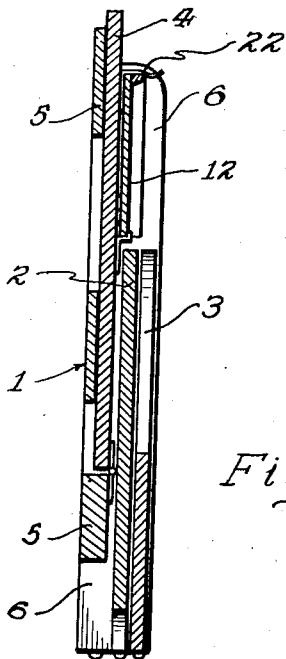
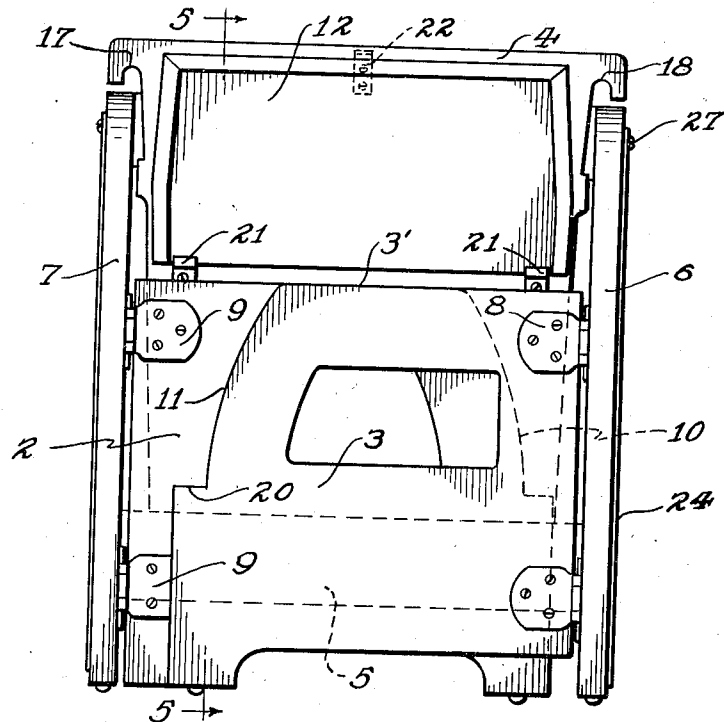


Fig. 5

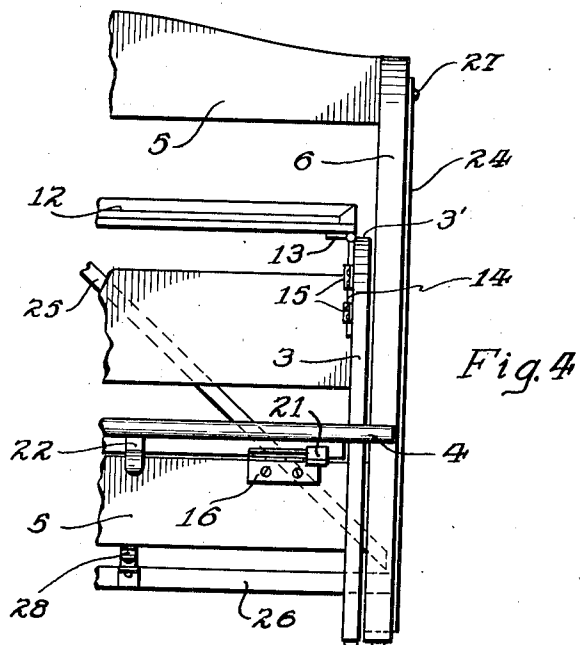


Fig. 4

Inventor
Julius E. Erickson
by *Rummler Rummler & Woodward*
Attys.

UNITED STATES PATENT OFFICE

2,019,005

CHAIR

Julius E. Erickson, Chicago, Ill.

Application July 24, 1933, Serial No. 681,934

2 Claims. (Cl. 155—141)

This invention relates to chairs of the collapsible or folding type; and more especially to small chairs for children, though not limited thereto.

5 The main objects of the invention are to provide an improved form of chair of the folding type which is simple in construction and operation; to provide an arm chair of the class described which may be folded compactly, in substantially flat form; to provide such a chair having a removable tray, storable within the chair when folded; to provide a foldable brace chair of the class described which cannot tip over backwardly; to provide a chair of the class described 10 having inwardly foldable arm rests to provide a structural design for chairs adapted for compact and stable stacking one upon another when folded; and to provide a device of the class described which is inexpensive to manufacture, and which 20 may be made from various readily available materials and with moderately skilled labor.

An illustrative embodiment of this invention is shown in the accompanying drawings representing a child's chair, in which drawings:

25 Figure 1 is a perspective view of the chair in operative or open position.

Fig. 2 is a front to back sectional view of the chair taken through the center of Fig. 1.

30 Fig. 3 is a front view of the chair in folded or closed position.

Fig. 4 is a front elevational view of the chair in open or operative position; parts being broken away at the left.

35 Fig. 5 is a sectional view of the chair in closed or folded storage and stacking form or position, taken on the line 5—5 of Fig. 3, with brace omitted.

Referring in detail to the drawings, the chair comprises mainly a back 1, sides 2 and 3, and a seat 4.

40 The back 1 is recessed and comprises a series of wooden cross panels 5 which are secured to the forwardly disposed edge frame posts or flanges 6 and 7. The sides 2 and 3 are secured to the posts 7 and 6 respectively by pairs of hinges 8 and 9. The outer upper front corner edges 10 and 11 of the sides 2 and 3 are rounded off as shown in Figs. 1, 2 and 3.

45 It will be apparent from Figs. 1 and 2 that the upper parts of sides 2 and 3 are adapted to serve as a pair of arms 2' and 3'.

50 A tray 12 spaced above seat 4 is demountably secured to the sides 2 and 3 by means of a pair of two-arm hinges 13 mounted rearwardly on the lower end edges of the tray, and which are formed with arms 14 of special design to be inserted

downwardly in pairs of socket forming brackets 15 secured to the inner faces of the sides 2 and 3 at their forward upper corners adjacent to the rounded edges 10 and 11, as shown on Fig. 2.

The seat 4 is secured by hinges 16 at its rear marginal edge to and adjacent the upper inner marginal edge of the lower panel 5 of the back 1, and is foldable upwardly against back 1. The front part of the seat 4 which, made of laminated wood or the like, is provided with integral outwardly projecting U-shaped guide flanges 17 and 18 which rest on upwardly facing stop portions 19 and 20 respectively of the sides 2 and 3 when the seat is in its lowered or operative position. See Figs. 1 and 3. 15

The lower side of seat 4 is provided with a pair of spaced brackets 21 about half way back, and a spring clip 22 at the front edge so that the tray 12 may be stored away under the seat 4 and held there in position by said brackets and clip when 20 the tray is not in use or when the chair is in folded position. See Figs. 2 and 3.

Secured to the back 1, whenever great stability is desired, is a rectangular anti-tilting brace 23, which comprises a pair of foot mitered side bars 25 24 and two stiffening bars 25 and 26. The upper ends of said bars 23 are pivotally secured to the outer side face parts of the back flange posts or wings 6 and 7 near their rear edges, by any suitable means 27, such as screws, bolts, etc. 30 The brace 23 opens outwardly away from the back of the chair to prevent the chair from tipping over backwardly; and this outward movement is limited by a toggle jointed link 28. Generally this brace is preferably omitted. 35

It is to be noted that the side-arm hinges 8 and 9 are mounted on the inner sides of the back edge-posts or flanges 6 and 7 respectively and are also secured to the outer sides of the respective side members 3 and 2 (see Figs. 1 and 6), in such 40 manner as to swing the sides 3 and 2 into folded position wholly between the bars 6 and 7 whenever the chair is folded. This is effected by attaching hinge 9 well back from the front edge face 7' of flange 7 to accommodate a rearward position of 45 side 2. And hinge 8 is located also back of the front edge face 6' of flange 6, but not so far back as the hinges on flange 7, so as thus to position the side 3 in front of side 2, when folded, but still back of the face plane of flange edge faces 50 6' and 7'.

The flanges 6 and 7 are rectangular in cross section, so that their front edge faces 6' and 7' and also their corresponding back edge faces 6'' and 55

7'' are parallel with the general plane of the back 1 and of the folded chair as a whole.

Hence when a plurality of such chairs are placed horizontally as in Fig. 6 and stacked gravitationally one upon another, the weight will all be on their horizontal edge faces 6', 6'', 7' and 7'', of the flanges 6 and 7.

For operation, assuming that the chair is in open or use position, as in Fig. 1, the tray is removed from the sides by lifting it upwardly and bending the hinge arms 14 inwardly to lie against the lower face of the tray. The tray may then be stored away by placing it in the brackets on the under side of the seat. The seat is then swung upwardly and backwardly to lie against the front face of the back 1. The side 2 is then folded inwardly against the seat and the other side 3 is then folded inwardly against the side 2. If the anti-tilting frame or brace 23 has been used it is moved toward the back. The chair is now folded in the position shown in Figs. 3 and 5.

It will be apparent that when the chair has been folded, especially when the brace 23 is omitted, the various elements will be disposed entirely between the forwardly disposed housing flanges or side posts 6 and 7 of the back. See Fig. 5. A group of chairs when thus folded may be closely stored face to face either on edge or stack-wise, one upon another, as may be preferred.

If the chair is to be opened from this closed position the sides 2 and 3 are swung outwardly and the seat swung downwardly from between the flange posts 6 and 7. The seat will be guided in its downward movement by the U-shaped flanges 17 and 18 which slide along the rounded off portions of the sides and finally come to rest on the stops 19 and 20 of the sides.

The anti-tilting device may or may not be used, and this is left to the discretion of the operator, but if it is to be used, the lower portion of the device is swung outwardly until the toggle jointed link 28 prevents further movement, and the toggle prevents accidental folding. If the tray is to be used the spring clip is sprung outwardly, allowing the tray to be removed from the brackets 21. The hinge arms 14 are then opened at right angles to the tray and inserted in the brackets 15 on the sides.

It is to be understood that some of the details set forth may be altered or omitted without departing from the spirit of this invention as defined by the following claims; and it will be apparent that although the invention is here exemplified by a child's chair, the invention or important features thereof may be employed in chairs for adults, as, for instance it may be used in cafeterias, work shops, and school rooms, etc. It is especially adapted for use in nurseries and lower kinder-

garten grades. Owing largely to the full length rigid side flanges 6 and 7, the folded chairs are peculiarly fitted for stacking horizontally one upon another to any desired height within practical convenience for a person standing on the floor, the said flanges being vertically aligned and carrying all of the weight, as will be understood.

I claim:

1. A foldable arm chair comprising a recessed back, sides, tray, and a seat, said seat and sides being hingedly secured to said back and having coactive supporting means at their forward edges on each side respectively, said seat being foldable adjacent said back, one of said sides being foldable adjacent the back part of said seat and the other of said sides being foldable adjacent the first-mentioned side, the said one of said sides being hinged at its rear edge to the inner face and somewhat back from the corresponding edge of one of the forwardly disposed flanges of said recessed back, and the said other of said sides being hinged at its rear edge to the inner face and at the opposite other edge of the other flange of said recessed back, said tray having hinged supporting arms at its ends to engage said sides, which sides have means to receive said arms, and said tray being secured to and flat adjacent the upper front portion of said seat when in folded position above the folded sides, all arranged to be folded compactly into the recess in said back, and said seat on its underside having lugs to engage said tray.

2. An arm chair comprising a recessed back, sides, tray and a seat, said back being substantially planar excepting it is provided with similar forward side flanges, said seat and sides being hingedly secured to said back and said flanges respectively, said seat being hinged at its rear edge to be folded directly adjacent said back, one of said sides being hinged at its rear edge to the inner face and back from the front edge of one of said flanges to fold adjacent said seat and the other of said sides being hinged at its rear edge to the inner face and at the front edge of the other of said flanges to be folded adjacent the first-mentioned side, said seat and sides having correlated stop means on their forward end parts to arrest and support the seat in a horizontal position when the chair is unfolded, and said tray having hinged supporting arms at its ends to engage said sides, which sides have means to receive said arms, and said tray being secured to and flat adjacent the upper front portion of said seat when in folded position above the folded sides, all arranged to be folded compactly into the recess in said back, and said seat on its underside having lugs to engage said tray.

JULIUS E. ERICKSON.