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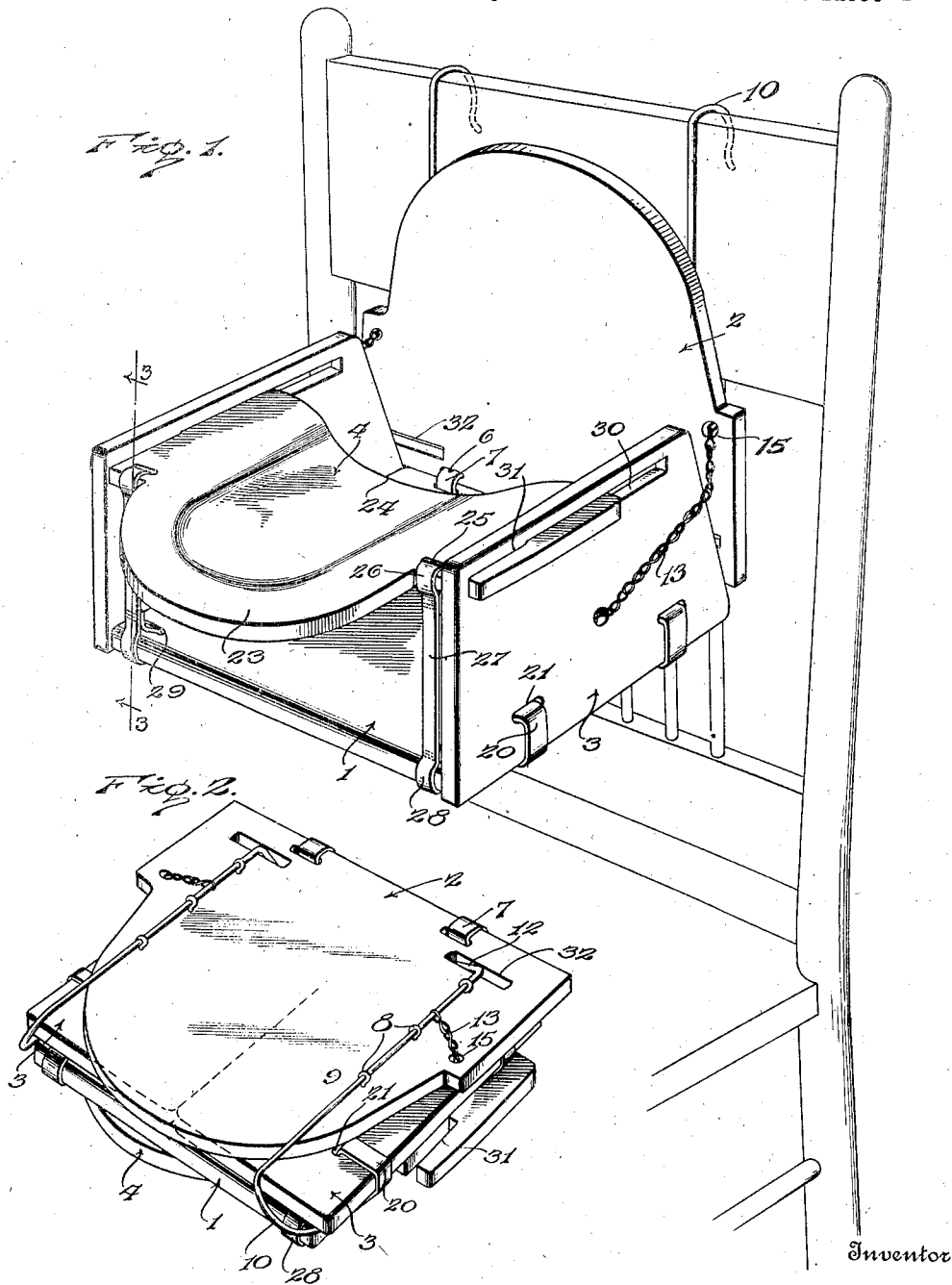
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O. GROLL

CHILD'S FOLDING CHAIR

Filed May 7, 1926

2 Sheets-Sheet 1



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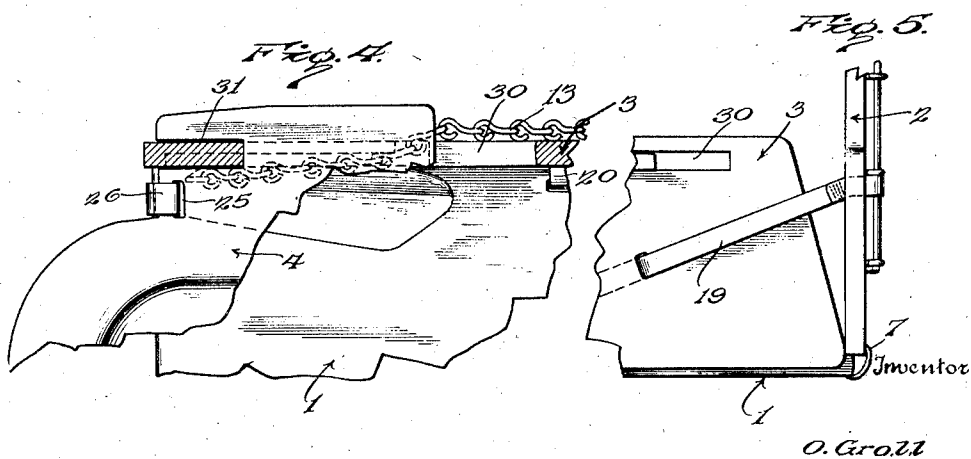
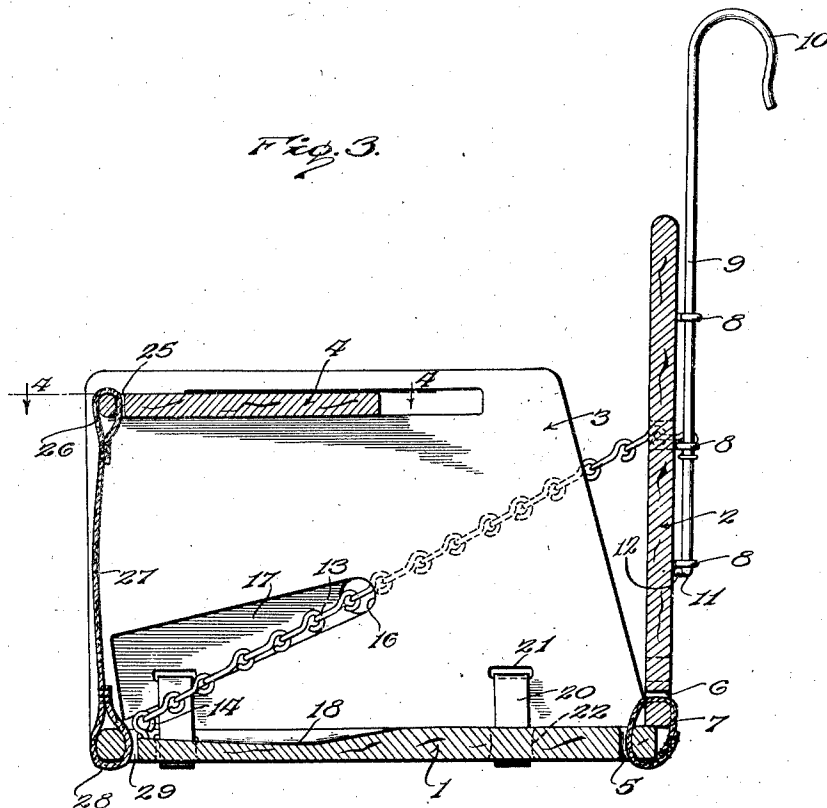
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2 Sheets-Sheet 2



By *Lacey & Lacey* Attorneys

UNITED STATES PATENT OFFICE.

OTTO GROLL, OF NEW YORK, N. Y.

CHILD'S FOLDING CHAIR.

Application filed May 7, 1926. Serial No. 107,421.

This invention relates to improvements in children's chairs and more particularly to that type which are designed to be supported upon the back of an ordinary chair, and one of the objects of the present invention is to provide a foldable chair of this type so constructed that the component parts thereof may be readily adjusted to position to permit of use of the chair and readily collapsed when the chair is not in use, the invention contemplating a construction in which the seat, side members, back, and tray of the chair will be so constructed and proportioned that when these parts are folded the chair will occupy no greater space than that substantially defined by the marginal dimensions of the seat and by the combined thickness of the several parts, so that the chair will occupy minimum space in its folded or collapsed condition.

Another object of the invention is to provide a chair of the type referred to so constructed that, when the chair is unfolded and its component parts arranged for use of the chair, there will be no necessity of manipulating any clamping devices or other mechanical clamping or securing means for holding the parts in their proper relative positions.

Another object of the invention is to so construct the chair that when a child is occupying the same there can be no possibility of collapse of the chair with consequent liability of injury to the child.

Another object of the invention is to so construct the chair that the suspension means therefor, which is engageable with the back of an ordinary chair, will serve likewise as a means for maintaining the component parts of the chair in their collapsed position, when the chair is not in use.

In the accompanying drawings:

Figure 1 is a perspective view of the chair embodying the invention mounted upon an ordinary chair.

Figure 2 is a perspective view of the chair collapsed or folded.

Figure 3 is a vertical front to rear sectional view through the chair, taken substantially on the line 3—3 of Figure 1, looking in the direction indicated by the arrows.

Figure 4 is a horizontal sectional view taken substantially on the line 4—4 of Fig-

ure 3, looking in the direction indicated by the arrows.

Figure 5 is a fragmentary side elevation of a portion of the chair illustrating a slight modification of the invention.

The chair consists essentially of a seat 1, a back 2, sides 3, and a tray 4, and means connecting these parts to permit of folding of the same, and also a suspension means, all of which will presently be specifically described. The seat, back, sides and tray are all preferably made of wood, and the seat 1 is of rectangular form and is provided adjacent its rear edge with transverse slots indicated by the numeral 5. The back 2 of the chair is provided near its lower edge with transverse slots indicated by the numeral 6 and spaced apart a distance equal to the spacing of the slots 5, and loops 7 are engaged freely through the respective slots and serve to swingingly connect the said seat and back so that they may be relatively folded. The loops 7 may be in the nature of leather straps or the loops may be of metal, either as preferred.

In order that the chair may be supported upon the back of an ordinary chair, a series of eye members 8 is arranged upon the rear side of the back 2, parallel to the side or vertical edges of the said back, and suspension rods 9 are slidably adjustably fitted through the eye members of each series. Each rod has its upper end portion overturned to provide a suspension hook 10 for engagement over the upper edge of the back of an ordinary chair, as clearly shown in Figure 1 of the drawings, so that the suspension rods may be thus supported and extend downwardly in front of the back of the said ordinary chair. The lower end portion of each of the suspension rods is bent at right angles, as at 11, so as to provide a stop indicated by the numeral 12 and when the suspension rods are so adjusted that their hooked upper ends 10 extend rearwardly with relation to the plane of the back 2, the stops 12 will engage the lowermost ones of the eye members 8. The engagement of the stops 12 with the lowermost eye members 8 serves, of course, to limit the upward movement of the suspension rods 9 through the said members and, therefore, when the hooked upper ends of the members are engaged over the upper edge of the back of an ordinary chair, the back 2 of the chair

embodying the invention will be securely supported in upright position, as shown in Figures 1 and 3 of the drawings.

In order that the seat 1 may be supported substantially horizontally and in a fixed position with respect to the back 2, chains or other flexible connections, indicated by the numeral 13, are secured each at one end to an eye 14 at or adjacent a respective one of the forward corners of the seat and each chain, near its other end, is led through an opening 15 in the back 2 and connected to the respective suspension rod 9, the chains intermediate their ends, being passed through openings 16 formed in the sides 3 of the chair, the portions of the stretches of the chains which extend forwardly from the openings 16 and through the eyes 14, being accommodated in recesses 17 formed in the inner sides of the respective side members 3, and the remaining lengths of the chains extending beside the outer sides of the said side members. In this manner, the seat is firmly supported in substantially horizontal position and in proper relation to the back 2, and in order the first mentioned portions of the stretches of the chains may be accommodated between the side members 3 and the seat 1, when the side members are folded to overlie the seat, as will presently be explained, companion recesses 18 are formed in the upper side of the seat near each lateral edge thereof, so that in the folded positions of the parts, the recesses 17 and 18 will substantially match to accommodate the said portions of the chains or other flexible elements 13 and thus prevent any marring of the finish of the sides and seat of the chair if the said flexible elements are of a metallic nature. However, as shown in Figure 5 of the drawings, which illustrates a slight modification, the flexible elements, which are, in said figure, indicated by the numeral 19, may be in the nature of straps. In any event, these elements will be flexible so as not to in any way interfere with free folding movement of the seat, sides and back of the chair.

The sides 3 of the chair are connected with the seat 1 at opposite sides of the seat by loops 20 which do not differ essentially from the loops 7 which connect the back 2 with the seat 1, and these loops are engaged through slots 21 formed in the sides 3 and other slots 22 formed in the seat 1 near the lateral edges thereof, and in this manner the sides are foldably connected with the seat 1.

The tray 4 is, as previously stated, made of wood, and has substantially parallel side edges and a rounded forward extension, the latter indicated by the numeral 23, the rear edge of the tray being curved inwardly and forwardly as indicated by the numeral 24, so as to accommodate itself to the body of the child occupying the chair. The extension

23 of the tray is of less width than the main portion of the tray and at the juncture of the ends of the rounded forward edge of the extension with the front edge portions of the main portion of the tray, the tray is formed with slots 25 accommodating the looped ends 26 of straps 27, which may be of leather, metal, or any other material found suitable for the purpose. The straps 27 are formed at their other ends with loops 28 which engage in slots 29 formed in the seat 1 at the forward corners thereof and in this manner the tray is connected with the seat so as to occupy a position adapting it for use as shown in Figure 1 of the drawings and likewise in Figure 3, and also to occupy the folded position shown in Figure 2 of the drawings, in which position the tray lies beneath the seat 1. In order that the tray may be supported in position for use, the sides 3 of the chair are formed near their free or upper edges, each with a longitudinally extending slot 30 adapted to receive the respective lateral edge portion of the tray. The tray 4 is formed in each of its lateral edge portions with a slot 31 extending in a front to rear direction and opening through the forward edge of the main portion of the tray and these slots are of a width corresponding substantially to the thickness of the sides 3 of the chair, as clearly shown in Figure 4 of the drawings. The slots 30 are of a length equal to the length of the side portions of the tray so that each side portion of the tray may be inserted through the slot 30 in the respective side 3 of the chair and the tray then shifted bodily in a forward direction so as to interlock the same with the said sides 3, the portions of the sides immediately in advance of the forward ends of the slots 30 being snugly received between the side walls of the respective slots 31 as shown in Figures 1 and 4. In this manner, the tray and the sides of the chair are interlocked so that the tray is supported by the side members and, in turn, relatively brace the side members to maintain the same in upright position.

It will be evident from the foregoing description of the invention that when the component parts of the chair are arranged as shown in Figures 1 and 3, they will be relatively braced and the structure will be a substantially rigid one without any likelihood of disarrangement of its parts. It will be observed by reference to the drawings that the sides 3 are of trapezoidal form, the upper and lower edges of each side being parallel and the forward edge of each side being at right angles to the said upper and lower edges, whereas the rear edge of each side is inclined upwardly and forwardly. The sides are thus formed in order that the chair may be more readily set up and folded, and in collapsing or folding the chair, the

seat 1 is swung upwardly until the inclined rear edges of the sides engage against the back of the seat, thus slackening the chains or other flexible connections 13 to permit of relative outward swinging of the sides 3, this being done after the tray 4 has been shifted rearwardly so that the opposite sides thereof may clear the slots 30. The tray is swung bodily forwardly and downwardly to a position lying beneath the seat 1, as shown in Figure 2 of the drawings, the straps 27 permitting of such movement of the tray without interference. The sides 3 are then folded inwardly so as to lie upon the upper side of the seat 1, and preferably these sides are of such height that when they are thus arranged their normally upper edges, which, when the chair is in use, constitute arm rests, will approximately abut as shown in Figure 2 of the drawings. The back 2 is then folded down to position overlying the folded sides 3, as shown in the said Figure 2, and the suspension rods 9 are then rotated part of a revolution so as to bring their hooked ends into engagement beneath the outer corners of the said sides 3, as illustrated in Figure 2, thereby securing the parts in their folded position. In order that the suspension rods may be thus positioned, slots 32 are formed in the lower corner portions of the back 2 and accommodate the right angularly turned stops 12 at the lower ends of the said rods, it being understood that the rods are shifted in the eyelets for a short distance in order to provide for such manipulation thereof to enable them to serve as retaining members.

It will be understood, of course, that all of the component parts of the chair, such for example as the seat 1, back 2, sides 3, and tray 4, may be of any desired ornamental marginal contour and may be ornamented or decorated in any manner found desirable.

It will likewise be observed by reference to Figure 2 of the drawings, that when the structure is folded it will occupy but little space, inasmuch as the thickness of the folded structure is equal merely to the combined thickness of the seat 1, one of the sides 3, the back 2, and the tray 4, the marginal dimensions of the folded chair being no greater than substantially the marginal dimensions of the seat 1 or back 2.

It will be understood that the chains or other flexible elements 13 serve not only to support the forward portion of the seat 1 so that the seat will occupy a proper position with respect to the back 2, but, likewise, inasmuch as these elements extend through the openings 16 in the sides 3 of the chair, they serve to automatically swing the sides to substantially upright position when the back 2 is swung upwardly and to maintain the sides in this position while the tray 4 is be-

ing arranged between the said sides and properly adjusted with respect thereto.

It will be quite evident from the foregoing description of the invention that the child occupying the chair cannot possibly effect collapse of the chair but that this can only be done while the chair is unoccupied and in the manner hereinbefore described. Likewise, the arrangement is such that there is no liability of collapse of the chair while it is not occupied.

Having thus described the invention, what I claim is:

1. A folding chair of the class described, including a seat, sides foldably connected with the seat, a tray, means carried by the tray for slidably and detachably interlocking the sides therewith, and flexible means connecting the tray and seat and adaptable to permit the tray to be folded beneath the seat.

2. A folding chair of the class described, including a seat, a back foldably connected with the seat, sides foldably connected with the seat, and flexible supporting elements connected at their ends to the seat and back and extending between the same to support the seat in unfolded position with respect to the back, the sides having openings for the passage therethrough of the said flexible elements and the said sides and seat having recesses to accommodate the portions of the stretches of the said elements which extend along the inner faces of the sides, whereby the said sides may be folded to lie flat upon the upper side of the seat and the said back may be folded to lie flat upon the folded sides.

3. A folding chair of the class described, including a seat, a back foldably connected with the seat, sides foldably connected with the seat and arranged, in the folded position of the parts, to lie between the seat and back, and suspension rods mounted upon the rear side of the back for rotative movement and provided at their upper ends with engaging hooks, the said hooks, in the folded position of the parts, being engageable, through rotative adjustment of the said suspension rods, with the said sides of the chair to maintain the said parts folded.

4. A folding chair of the class described, including a seat, a back foldably connected with the seat, sides foldably connected with the seat and arranged in the folded position of the parts to lie between the seat and back, guide members mounted upon the rear side of the back, and suspension rods rotatably and slidably mounted in the guide members, the said rods being provided at their upper ends with engaging hooks and having their lower ends turned at an angle to provide angularly extending stop members for engagement with the guide members, the said hooks, in the folded position of the parts, 130

being engageable, through rotative adjustment of the said suspension rods, with the said sides of the chair to maintain the said parts folded, the back of the chair having 5 slots to accommodate the stop members of the said rods when the rods are in the latter position of adjustment and thus prevent slidable displacement of the same.

5. A folding chair of the class described 10 including a seat, sides foldably connected with the seat and having slots therein, a tray insertable at its ends in said slots and having members interlocking with the said sides, a back to which the rear side of the 15 seat is hingedly connected, the said sides

having upwardly and forwardly inclined rear edges opposing the said back and providing for upward swinging of the seat and the sides, and flexible elements connected with the back and with the seat and extending through openings in the said sides and 20 held taut when the seat is in lowered position substantially at right angles to the back and adapted to be slackened when the seat is tilted upwardly, whereby by reason of such 25 slackening, the sides may be spread apart to provide for separation of the tray therefrom.

In testimony whereof I affix my signature.
OTTO GROLL. [L.S.]