

952,671.

Patented Mar. 22, 1910.

3 SHEETS—SHEET 2.

Fig. 3

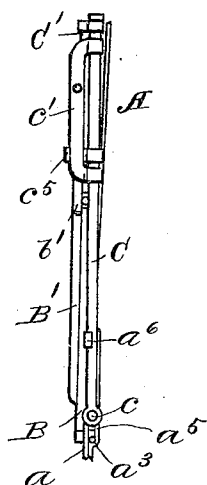
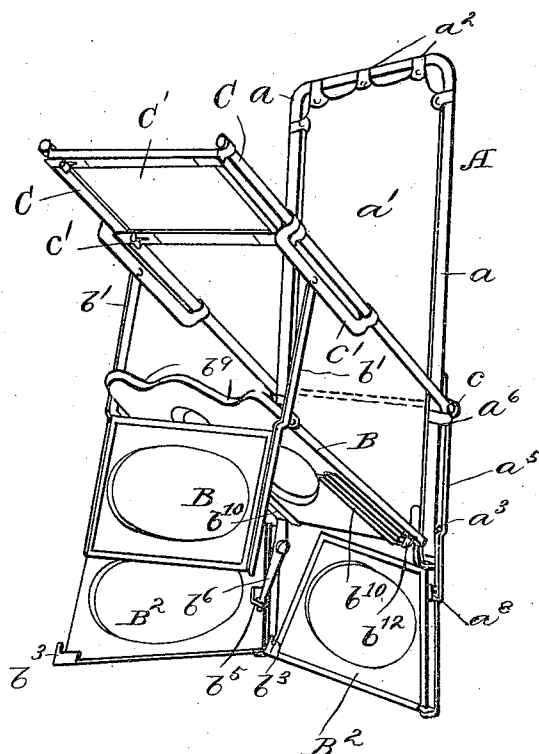


Fig. 2



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NURSERY-CHAIR.

952,671.

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To all whom it may concern:

Be it known that I, JOHN W. HENCKE, citizen of the United States, resident of Cleveland, county of Cuyahoga, State of Ohio, have invented a new and useful Improvement in Nursery-Chairs, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

This invention relates to nursery chairs, and particularly to chairs of this kind that are adapted to be folded up when not in use. In other words, the object of the invention is the provision of a child's traveling toilet that can be used in automobiles, railroad cars, steam boats and hotels and which can be carried without inconvenience in a trunk or suit-case.

To the accomplishment of the above and related objects, said invention consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings: Figure 1 represents in perspective, a chair embodying my several improvements in its open or operative condition; Fig. 2 is also a perspective view of the same but in partly closed or folded condition; Fig. 3 is a side elevation of a portion of the chair as it appears in its completely closed, or folded, condition; Fig. 4 is a side elevation, from within, of a detail of the chair's construction; Figs. 5 and 6 are corresponding side elevations from within of a certain operative detail as applied to the respective side doors of the chair; and Fig. 7 is a cross-section and plan view of one such detail, taken on the line 7-7, Fig. 5.

Referring to such drawings, the main element of the chair will be seen to consist of the back A with which all the other parts are either directly or indirectly connected and against which they are adapted to be folded in the closed, or inoperative, condition of the chair. Such back A comprises, in the preferred form illustrated, Figs. 1 and 2, a metallic frame a of inverted U shape

and dimensions chosen to conform with the use to which the chair is to be put. The back rest proper consists of a sheet a' of veneer, leather, fiber, or fabric suitably attached to the sides and top of frame a by means of clips a^2 . At a suitable height above the bottom edge of the frame a , the sides thereof are connected by a shaft a^3 to which is pivotally attached the seat B, and also a cover b adapted to close thereover or to fold along with such seat against the back A as desired. In its open, or operative, position, the seat B is designed to be supported at its outer or free end by a front B' that preferably consists of a closed panel as shown to the sides of which are rigidly secured arms or bars b' pivotally attached laterally of the seat near such forward end and extending upwardly, the upper ends being connected with the back A by what is in effect a compensating parallel motion as will hereinafter appear. In the open position of the seat B, in which it is designed to be supported by front B' , the latter inclines downwardly and outwardly from such seat so that its lower edge lies without the inner edge of rounded recesses b^3 in the front edge of the seat, one on each side of the latter's median line, whereby the contour of such front edge is made substantially that appearing in Figs. 1 and 2. By means of the construction and arrangement of front B' such front being a closed panel as stated, a sloping foot-board is in effect provided and the child using the chair is thus prevented from drawing his feet back far enough to permit him to get up alone. He is thus prevented from standing up and pushing or upsetting the chair backward. The advantage residing in having the front edge of the seat recessed as described, should be obvious; since thereby the child is obliged to spread his knees apart, and he is thus involuntarily induced to adopt a position that is at once more comfortable, as well as free and hygienic, than would otherwise be assumed.

Extending for some distance along the back of frame a above the point of pivotal attachment of seat B thereto, are secured supplementary bars a^5 , Figs. 1, 2, 5 and 6, that form guideways in which is movably held a transversely disposed bar c . To the respective ends of the latter are pivoted the rear ends of the arm C which thus are seen to have sliding pivotal engagement with the

chair back. A laterally projecting lug a^5 near the upper extremity of each such guideway is so disposed as to support the rear end of the corresponding arm C, when horizontally extending, Fig. 1, and to secure the same against the back A when alined therewith, Fig. 3. To the outer portion of the arms are pivotally secured the upper ends of the bars b' utilized, as previously stated, in attaching front B' to seat B. This pivotal connection with arms C' is not had directly but with the cross bar of a U-shaped frame or bracket c' , the spaced ends of which are slidably mounted upon such outer arm portions. Upon such arms is supported a tray C', the ends of which are secured to the respective arms at two points, one in front of, and the other between the two ends of the slidably mounted U-frame c' . The connections of the tray C' at one end are made detachable so as to permit the same to be swung about the arm as an axis. Two catches c^3 are adapted independently of each other to secure such free end of the tray against the disengagement described. Chance loosening of the tray by the child, naturally inquisitive as to fastenings of this sort, is thus rendered more difficult.

By virtue of the sliding pivotal engagement of the arms C with the chair back A, and with the lateral prolongations b' of front B', it will be seen that in the folded condition of the chair, the frame composed of the two arms C, the bar c^{11} connecting their rear ends, and the tray C' joining their forward portions, is adapted to be shoved bodily down. The length of the chair in its folded condition is thus adapted to be shortened by the range of movement allowed by the guides a^5 and the ends of U-frames c' , and the height of back A so made the maximum dimension of the device. At the same time by the locking action of lugs a^6 , when the arms C are thus closed alongside frame a , assisted by an outwardly disposed lug c^5 , Figs. 1 and 3, mounted on the inward hinge of tray C' so as to similarly lock members b' , the chair is securely held together when folded and can only be opened by positive actuation of its parts, having such end in view.

To additionally support the seat B as also to laterally inclose the lower portion of the chair, sides, or doors, B² are provided, such sides being pivotally attached at their rear edges to the corresponding lower portions of the frame a of the chair back. In their outer, or extended positions, these panels fit neatly within the spaces bounded by such seat B and outwardly inclining front B'. They are furthermore provided at their lower outer corners with hooks b^3 , Fig. 4, adapted to engage with lugs or pins b^4 mounted upon contiguous inturned flanges b^{11} that bound the respective lateral edges of

front B'. Each of said sides furthermore bears inwardly directed lugs b^5 near its rear edge that are engaged by levers b^6 pivotally secured to the back of the chair so that oscillation of such levers is adapted to cause the corresponding side to swing inwardly or outwardly as the case may be. The upper ends of levers extend into proximity with the rear portion of the seat B, their upper portions being provided with cam grooves b^8 with which engage pins b^7 secured in such seat. Oscillation of the levers will thus be obviously had upon movement of the seat. The respective cam grooves b^8 are of diverse conformation so that the oscillation of the corresponding levers, and thereby of sides B², is not had simultaneously but successively. The two sides are thus adapted to be folded in one upon the other and thus to automatically, by merely raising the seat B, close the same against the back A.

The operation of my device should be fairly obvious from the foregoing description of its construction. It will be evident, in other words, that by simply raising or swinging upwardly arms C together with tray C', whereby their outer portions are connected, seat B will simultaneously be raised and folded against back A as will also the swinging front B' by virtue of the link motion connecting the same with the back. Movement of the seat, as has just been explained, is furthermore adapted to automatically fold inwardly the two side doors B² of the chair so that by a single movement the entire device is folded up close and into small compass. The compass thus occupied is still further reduced by retraction of the arms C with tray C', down the slideway A² whereby the length of the device as a whole is materially decreased. This retraction of the arms and tray is furthermore utilized to lock the several members constituting the device in the closed position into which they are assembled.

Any suitable chamber may be employed in connection with my improved chair; or, if preferred, a collapsible pouch of the type shown and described in my pending application, Serial No. 298,433, filed January 29, 1906, may be used instead, to this end lugs b^{10} , Fig. 2, are provided on the underside of seat B for the attachment of such pouch thereto.

To assist levers b^6 in swinging side doors fully into their outer positions, as well as to securely retain the same in such positions once they are attained, I provide a cam faced lug b^{12} on the under side of seat B near each lateral edge thereof, Figs. 2, 5 and 6. These lugs are disposed well to the rear and the action should be obvious. Conversely to prevent the sides from swinging out farther than they should, the frame a of chair back A is provided with a for-

wardly directed lug *a*^s Figs. 1, 2 and 7, that engages the corresponding door and serves as a stop therefor.

Other methods of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a device of the character described, the combination of a back; a seat pivotally attached thereto; arms slidably pivoted to said back; a front hinged to said seat; and members, rigid with said front, slidably pivoted to said arms.

2. In a device of the character described, the combination of a back; a seat pivotally attached thereto; arms slidably pivoted to said back; a tray supported upon said arms; a front hinged to said seat; and members, rigid with said front, slidably pivoted to said arms.

3. In a device of the character described, the combination of a back; a seat pivotally attached thereto; arms slidably pivoted to said back and adapted to project forwardly beyond the latter; a tray supported upon the outer portions of said arms and adapted to swing about one of the same as an axis; a front hinged to said seat; and members, rigid with said front, slidably pivoted to said arms.

4. In a device of the character described, the combination of a back; a seat pivotally attached thereto; arms slidably pivoted to said back and adapted to project forwardly beyond the latter; a tray supported upon the outer portions of said arms and adapted to swing about one of the same as an axis; two catches adapted independently to secure the free end of said tray against such movement; a sloping front hinged to said seat; and members, rigid with said front, slidably pivoted to said arms.

5. In a device of the character described, the combination of a back provided laterally with slideways; a seat pivotally attached to said back; a transversely disposed bar movable in said slideways; arms having their rear ends pivotally attached to said bar; lugs on said back adapted to support such rear ends of the arms when the latter are horizontally extended and to secure the same against said back when alined therewith; a front hinged to said seat; and members, rigid with said front, slidably pivoted to the front portions of said arms.

6. In a device of the character described, the combination of a back provided laterally with slideways; a seat pivotally attached to said back; a transversely disposed bar movable in said slideways; arms having their

rear ends pivotally attached to said bar; lugs on said back adapted to support such rear ends of the arms when the latter are horizontally extended and to secure the same against said back when alined therewith; a front hinged to said seat; U-shaped frames slidably mounted upon the front portions of said arms; members, rigid with said hinged front, pivoted to said frames respectively; and a tray attached upon said arms at points respectively in front of and with said U-shaped frames.

7. In a device of the character described, the combination of a back; a seat pivotally attached thereto; means adapted to support said seat in its open position; arms slidably pivoted to said back and adapted to project forwardly beyond the latter, said arms having their outer portions in slidable pivotal connection with said seat; and a tray supported upon such outer portions of said arms and adapted to swing about one of the same as an axis.

8. In a device of the character described, the combination of a back; a seat pivotally attached thereto; means adapted to support said seat in its open position; arms slidably pivoted to said back; links connecting the outer portions of said arms with the front of said seat; said links being pivoted to the latter and having slidable pivotal engagement with the former; a transversely disposed tray supported upon such outer arm portions, said tray being adapted to swing about one of said arms as an axis; and two catches adapted independently to engage the other arm to secure the free end of said tray against such movement.

9. In a device of the character described, the combination of a back, sides pivotally connected thereto, and means connected with said sides for swinging the same, said means being adapted automatically to open or close said sides one after the other.

10. In a device of the character described, the combination of a back, a seat pivotally attached thereto; sides pivoted to said back; and means connecting said sides with said seat, said means being adapted automatically to swing said sides upon their axes, one after the other, upon said seat being swung upon its axis.

11. In a device of the character described, the combination of a back; a seat pivotally attached thereto; sides pivoted to said back and adapted when extended to support the latter; and means connecting said sides with said seat, said means being arranged and constructed to fold said sides against said back upon said seat being thus folded.

12. In a device of the character described, the combination of a back; a seat pivotally attached thereto; sides pivoted to said back below said seat and adapted when extended to support the latter; and means connecting

said sides with said seat, said means being arranged and constructed successively to fold said sides against said back upon said seat being thus folded.

- 5 13. In a device of the character described, the combination of a back; a seat pivotally attached thereto; sides pivoted to said back below said seat and adapted to support the latter; inwardly directed lugs borne by said
10 sides, respectively; and levers pivotally attached to said back and engaging said lugs to swing the corresponding sides upon their axes, said seat being operatively connected with said levers.
- 15 14. In a device of the character described, the combination of a back; a seat pivotally attached thereto; sides pivoted to said back below said seat and adapted to support the latter; inwardly directed lugs borne by said
20 sides, respectively; levers pivotally attached to said back and engaging said lugs to swing the corresponding sides upon their axes, the upper portions of said levers being provided with cam-grooves; and pins borne by said
25 seat and engaging such cam-grooves to thus actuate said sides upon movement of said seat.
- 30 15. In a device of the character described, the combination of a back; a seat pivotally attached thereto; sides pivoted to said back below said seat and adapted to support the latter; inwardly directed lugs borne by said
35 sides, respectively; levers pivotally attached to said back and engaging said lugs to swing the corresponding sides upon their axes, the upper portions of said levers being provided with cam-grooves; and pins borne by said
40 seat and engaging such cam-grooves to thus actuate said sides upon movement of said seat, said cam-grooves being conformed to swing said sides one after the other.
- 45 16. In a device of the character described, the combination of a back; a seat pivotally attached thereto; arms slidably pivoted to said back; and means upon the outer portion of said arms adapted to lock such seat against such back when said arms are retracted in a folded condition of the device.

17. In a device of the character described, the combination of a back; a seat pivotally 50 attached thereto; arms slidably pivoted to said back; and a tray supported upon the outer portions of said arms; said tray being adapted to lock said seat against said back when said arms are retracted in the 55 folded condition of the device.

18. In a device of the character described, the combination of a back; a seat pivotally attached thereto; means adapted to support said seat in its open position; arms slidably 60 pivoted to said back; links connecting the outer portions of said arms with said seat; and a tray supported upon such outer arm portions and arranged and constructed to lock said links against said seat upon said 65 arms being retracted in the folded condition of the device.

19. In a device of the character described, the combination of a back; an apertured seat projecting approximately horizontally there- 70 from, said seat having an aperture of gourd-shape with the narrower portion extending forwardly, the front edge of said seat being formed with a rounded recess on each side of such forwardly extending aperture por- 75 tion; and a sloping front extending downwardly from said seat, the upper edge of said front being substantially in line with the outer edge of said aperture portion and the inner edge of recesses and the lower edge 80 of said front.

20. In a device of the character described, the combination of a back; a seat pivotally attached thereto; and sides attached thereto and adapted to be swung outwardly to sup- 85 port said seat, the latter being provided with lugs having cam faces adapted to engage said sides to assist in thus swinging the same and to secure them in their final outer posi- 90 tions.

Signed by me this 13th day of June, 1907.

JOHN W. HENCKE.

Attested by—

E. R. RODD,
MARY ISRAEL.