Sept. 21, 1954 H. POLLACK ET AL 2,689,598

CONVERTIBLE ARTICLE OF FURNITURE

Filed Oct. 26, 1951 2 Sheets-Sheet 1

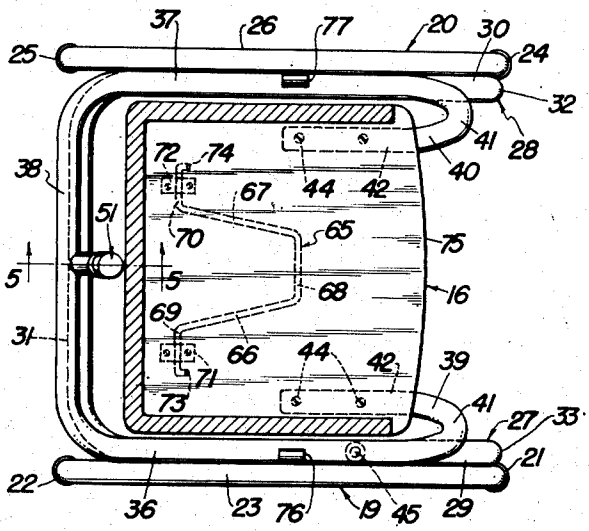

FIG. 2.

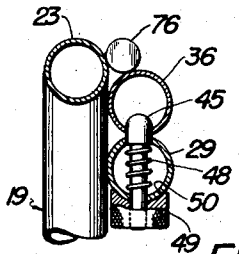

FIG. 3.

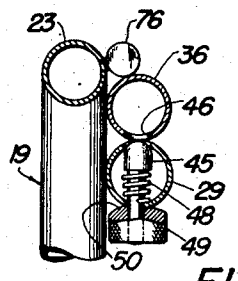

FIG. 4.

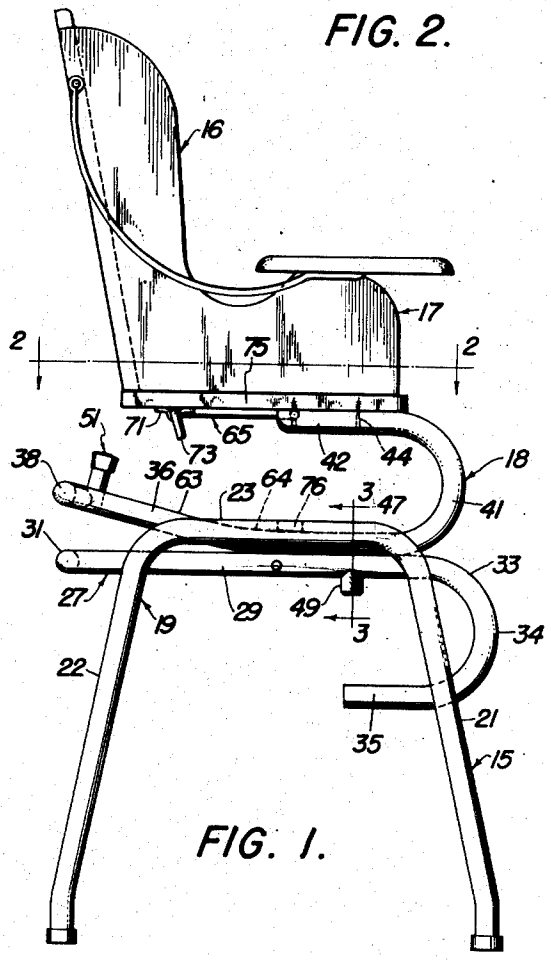

FIG. 1.

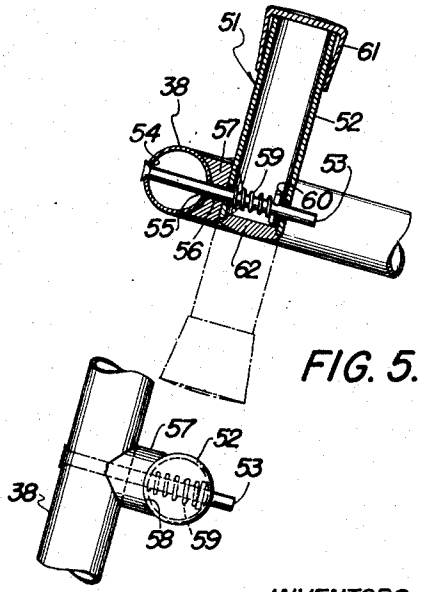

FIG. 5.

FIG. 6.

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CONVERTIBLE ARTICLE OF FURNITURE

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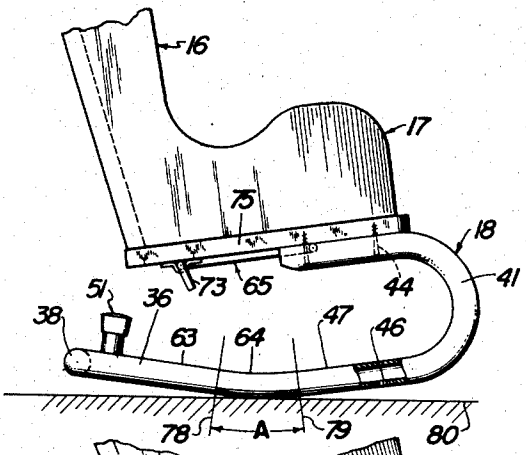

FIG. 7.

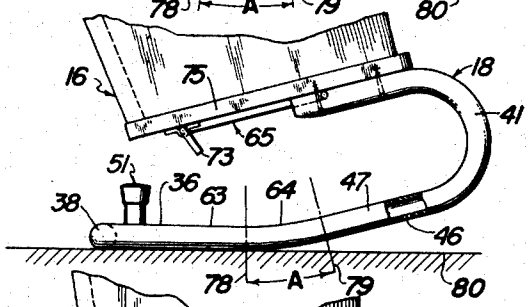

FIG. 8.

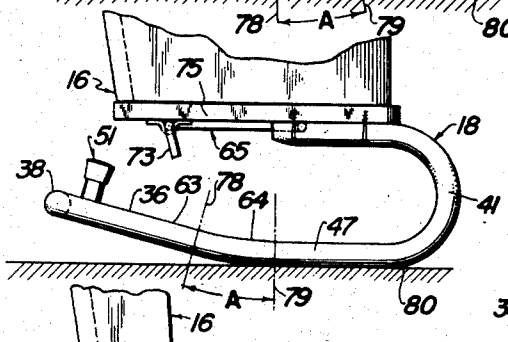

FIG. 9.

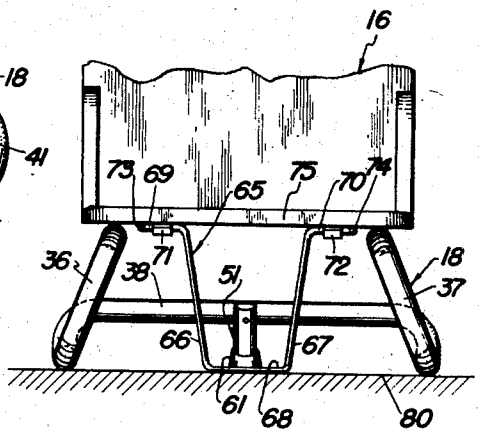

FIG. 11.

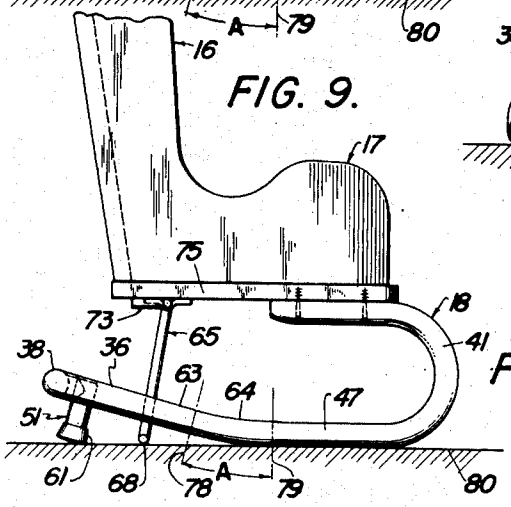

FIG. 10.

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UNITED STATES PATENT OFFICE

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CONVERTIBLE ARTICLE OF FURNITURE

Hyman Pollack, Brooklyn, and David Brand, Bronx, N. Y.

Application October 26, 1951, Serial No. 253,386

7 Claims. (Cl. 155—40)

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This invention relates to convertible articles of furniture, more particularly to a combination of an understructure and a removable superstructure capable of serving as a chair, this being a continuation-in-part of our application filed April 25, 1950, Serial No. 157,894, now Patent No. 2,644,506, dated July 7, 1953.

In our said previous application, as well as in certain commercial forms of convertible furniture articles of this category, the upper component is adapted to serve as a stationary chair, both when in assembled relation to the device, and when operatively detached therefrom. It is within the contemplation of our present invention to provide a structure of this class in which the upper component is capable of various uses, such as a high chair when operatively attached to the device, or either a stationary chair or a rocker when used as a separate and independent member. And in this aspect of our invention, it is an object to enable the said improved upper chair component to be operatively employable with the understructure of our said prior invention, with all the advantages thereof intact, without in any way interfering with the table of our said prior invention, but with all the advantages of having as an upper detachable component a chair unit that can selectively be used either as a rocker or a stationary chair.

It is another object of our invention to present a chair member having a base portion comprising two rocker bar elements for rockable engagement with the floor, and yet which can firmly and immovably be attached to the understructure.

Still another object of our invention is the provision of a rocker chair member, particularly adapted for a convertible article of furniture, having a rocker base portion shaped to permit a limited rocking movement, and to effect a braking action for both forward and rearward movements, so as to provide a rocking chair that is safe for children.

It is further within our contemplation to provide positive rocker brake means, whereby the device can be readily transformed from a rocker to a stable chair.

And it is our object to enable the above-stated objectives to be accomplished by a simple and readily fabricated device.

Other objects, features and advantages will appear from the drawings and the description hereinafter given.

Referring to the drawings,

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structures in assembled relation, and supporting, as a high chair, the rocker-chair component of our invention.

Figure 2 is a sectional plan of Fig. 1 taken along line **2—2**;

Figure 3 is a fragmentary section of Fig. 1 taken along line **3—3**, the releasable stop and locking means for the upper and lower sections being shown in locked position;

Figure 4 is a view like Fig. 3, but with the stop and locking member in retracted position;

Figure 5 is an enlarged fragmentary section of Fig. 2 taken along line **5—5**, the rear rocker brake-member being shown in full lines in its inoperative position, and in dot-dash lines in its operative position;

Figure 6 is a fragmentary bottom view of Fig. 5.

Figure 7 is a fragmentary side elevation of the rocker-chair member shown in a rocking position, a portion being removed for clarity;

Figure 8 is a view like Fig. 7, the rocker-chair member being shown in its rearwardly inclined position with the rear flat braking portion in full engagement with the floor;

Figure 9 is a view like Figs. 7 and 8, but showing the rocker-chair member in its forwardly disposed position, with the front flat braking portion in full engagement with the floor;

Figure 10 is another fragmentary side elevation of the rocker-chair member, showing the rear rocker stop in engagement with the floor; and

Figure 11 is a front view of the structure of Fig. 10, showing the intermediate or auxiliary rocker stop in operative positions.

As in the case of our above-mentioned previous invention, the device comprises an understructure in interlocking engagement with a superstructure. The understructure is generally designated as **15**, and the superstructure is generally designated as **16**. The said understructure is substantially similar in construction to the corresponding part described in our said previous patent application; but the superstructure includes certain important differences which will hereinafter be more specifically pointed out. Suffice it to say, for the present, that the superstructure includes a rocker-chair member **17** which is mounted upon the supporting structure **18**, thereby presenting a device which, in its assembled form, constitutes a high chair. However, the rocker-chair member **17** together with its supporting structure **18** may, as will hereinafter be explained, be removed from the understructure **15**, and employed either as a

The understructure comprises two inverted U-shaped leg members 19 and 20, member 19 consisting of front leg 21, rear leg 22 and lateral connecting bar 23; and leg member 20 consists of front leg 24, rear leg 25 and lateral connecting bar 26. Attached to the inner surfaces of leg members 19 and 20 are the rail members generally designated as 27 and 28 containing the parallel rails 29 and 30, respectively, joined by the rear bar 31, the forward portions of said rail members containing the hand-gripping loops 32 and 33, respectively. Both of these loops contain downwardly extending arcuate sections 34 and rearwardly extending lower sections 35.

As in the case of our said prior invention, it is preferred that the lateral bars 23 and 26 of the leg members be disposed above the rails 29 and 30, thereby providing lateral supports against which the superstructure can slidably move when being operatively assembled thereon.

The said supporting member 18 of the superstructure contains the two base rocker bars 36 and 37 connected together by the rear connecting bar 38, the forward portions of the said rocker bars being joined to the respective hand gripping portions 39 and 40, each of these having the loops 41 and the upper inwardly extending supports 42 which support the chair 16 by suitable fasteners 44.

The device is further provided with combination stop and lock means similar to that described in our prior application, for stopping the forward or rearward movement of the superstructure upon the understructure, and releasably locking it in said predetermined assembled position. Said means, in the preferred form illustrated (Figures 3 and 4), comprises an elongated element 45 extending through the rail 29 and proportioned to enter the aperture 46 in the forward flat portion 47 (see also Fig. 7) of the rocker bar 36. Disposed below and in abutting engagement with the head of element 45 is the spring 48 positioned within the rail 29—the lower portion of the element 45 having fixedly mounted thereon the cam knob 49 containing thereon the cam surface 50. In the position shown in Fig. 4, the highest point of the cam surface is in engagement with the underside of rail 29, thereby causing a downward retraction of element 45 and its withdrawal from aperture 46. In this position, the superstructure can readily be made to slide over the rail. Upon a rotation of the knob 49 through an angle of 90°, the lowest portion of the cam surface 50 comes into engagement with the underside of rail 29, thereby permitting the locking element 45 to enter the aperture 46, and effect an interlocking of the rail 29 and rocker bar 36, substantially in the manner described in our previous application. When this occurs, it is obvious that the superstructure cannot move relative to the understructure unless the engaged parts are released by operatively manipulating the knob 49. The arrangement is hence such that, as in the case of our prior invention, the hands are left free to grasp the loops 31 and 32 of the superstructure and manipulate it slidably upon the understructure, since the cam knob 49 will frictionally maintain itself in its unlocked position after it had been moved thereto.

Rotatably attached to the rear connecting bar 38 of the rocker-chair member is the rear rocker brake stop 51, this device being rotatable, by a simple manual manipulation, between its upper

operative or rocker-braking position shown in dot-dash lines in Fig. 5 and also in Figs. 10 and 11. In the preferred structure of said stop 51, a tube 52 is slidably and rotatably mounted on a shaft 53 extending through the diametrically opposite holes 54 and 55 in connecting bar 38, and the hole 56 in the cam member 57. The cam member 57 is in fixed engagement with the said bar 38, and has a concave cam surface 58 proportioned to receive the said tube 52 and maintain it substantially normal to bar 38. Mounted over the shaft 53 is the spring 59 which is in abutment with cross-pin 60, thereby urging the tube 52 into frictional engagement with said cam surface 58. The operative end of the tube contains the rubber base cap 61 for engagement with the floor, the opposite end containing the removable plug 62.

The arrangement is hence such that the said stop member 51 may assume one of two positions, as aforesaid—either the illustrated upright inoperative position or the downwardly-extending operative position, since the said concave cam surface 58 permits only such two positionings of the stop member—thereby readily enabling the rocker-chair member to be quickly converted from a rocker to a stable chair, or vice versa, as will more clearly hereinafter appear.

The rocker bars 36 and 37 are each specially shaped so as to provide three main sections, the aforesaid flat forward braking section 47, the rear flat braking section 63 and the intermediate arcuate rocking section 64. The functions of these sections will hereinbelow be described.

There is also an intermediate or auxiliary rocker stop 65 comprising a substantially U-shaped rod with lateral legs 66 and 67 connected by the base bar 68, the said lateral legs having at their extremities the outwardly disposed horizontal extensions 69 and 70, respectively, rotatably supported by the brackets 71 and 72, respectively, which are attached to the underside of seat 75. The said arms 69 and 70 contain the terminal portions 73 and 74. The said auxiliary stop can accordingly be rotatably manipulated from the inoperative position shown in Fig. 9, for example, to the operative position shown in Figures 10 and 11. In the said inoperative position the legs 66 and 67 and the connecting bar 68 are disposed against the underside of the seat 75, the terminal portions 73 and 74 extending downwardly, as clearly indicated in Fig. 9. When it is desired to bring the said auxiliary stop 65 into its operative position, the said terminal portions 73 and 74 are moved rearwardly, whereupon the legs 66 and 67, together with the connecting base bar 68 are brought downwardly so that said base bar is in engagement with the floor.

In operatively assembling the superstructure 16 upon the understructure 15, the loops 41 of the hand-gripping portions 39 and 40 are grasped with both hands, and the rocker bars 36 and 37 placed upon the rails 29 and 30 of the understructure, the superstructure being slid rearwardly until it is brought to a stop by the releasable locking element 45, hereinabove described. In the preferred structure illustrated, the lateral bars 23 and 26 of the understructure are, as aforesaid, spaced above and laterally outwardly with respect to the said rails 29 and 30, the said lateral bars 23 and 26 having mounted thereon the two inwardly extending guiding ele-

ments are preferably, although not necessarily, cylindrical members, which members are in spaced relation to and above the corresponding rails 29 and 30. The distance between element 76 and rail 29, and between element 77 and rail 30, is preferably such as to permit the forward flat portions 47 of the rocker bars 36 and 37 to slidably move between the corresponding guiding elements and rails, substantially in the manner of the structure described in our said prior application.

When the device is assembled in the manner above described, a high-chair structure is presented wherein the chair 16 is maintained in stationary and stable condition, in view of the fact that the flat forward brake sections 47 of the rocker bars 36 and 37 are in full engagement with the correspondingly positioned rails 29 and 30, and locked in said position in the manner aforesaid. When it is desired to remove the superstructure, the cam knob 50 is operatively rotated to retract the locking element 45, in the manner above described, and the superstructure then slid forwardly for placement upon the floor.

As appears from Figs. 7 to 11, there are various positions that can be assumed by said rocker chair member. In the position shown in Fig. 7, the rocker bars 36 and 37 have their arcuate intermediate or rocker portions 64 resting upon the floor, the seat 75, which is parallel to the forward flat portions 47, being tilted rearwardly, which is most desirable for rocking chairs. Due to the comparatively short length of said arcuate portions 64, the rocking motion is limited to the angle A (Fig. 7), said angle being defined by the forward and rear limits 78 and 79 of arcuate rocker portions 64. Upon a rearward rocking motion, the flat rear portions 63 of the rocker bars come into full engagement with the floor 80, as indicated in Fig. 8, such engagement being in effect a braking action and therefore causing a discontinuance of the rearward rocking movement, particularly because there are no arcs or curved positions in sections 63. Similarly, upon a forward rocking movement, the front flat section 47 comes into full engagement with the floor 80, as clearly shown in Fig. 9, thereby effecting a similar braking action upon the forward rocking movement of the device.

It is thus apparent that the rocker bars 36 and 37 are so shaped as to permit a rocking movement, but of a limited degree, thereby enabling the device to be safely used by a child. Nevertheless, the shape of each of said rocker bars is such as to enable the chair to be firmly and immovably secured to the understructure, in the manner aforesaid, to provide a safe and secure high chair arrangement.

Should it be desired to convert the rocker into a stationary chair, the stop member 51 is operatively swung downwardly to the position shown in Figs. 10 and 11, whereupon the terminal 61 comes into engagement with the floor. Since the said terminal is, as clearly appears from the drawing, spaced rearwardly from the flat forward section 47 and in the same plane with the underside thereof, it is apparent that the chair is now in a stable position. And in the event it is desired to create a more secure braking action against rocking, the said auxiliary stop 65 is operatively swung downwardly to the positions shown in Figs. 10 and 11, whereby the terminal 61, the base bar 68 of member 65, and

engagement with floor 80. It is of course obvious that stops 51 and 65 can be either separately or combinatively used as stop means.

The structure described above, while substantially similar to the invention of our first-filed application above mentioned presents certain improvements thereover, particularly in the form of the said novel rocker-chair member. Yet it is apparent that the said rocker-chair component can be employed, not merely as an independent unit, but also together with the understructure without interfering with any of the advantages of the invention set forth in the parent application.

In the above description, the invention has been disclosed merely by way of example and in preferred manner; but obviously many variations and modifications may be made therein. It is to be understood, therefore, that the invention is not limited to any specific form or manner of practicing same, except insofar as such limitations are specified in the appended claims.

We claim:

1. In a convertible article of furniture, an understructure and a superstructure removably supported thereby; the said understructure having leg members, two parallel rail members, and relatively short guiding elements spaced above and disposed over a minor fractional portion of said rail members; the superstructure comprising a rocker-chair member having a seat portion and a supporting member for the seat portion, the said supporting member containing two spaced rocker bars each having an arcuate rocking section, said rocker bars being slidably disposed upon said rail members and in underlying slidable engagement with said guiding elements, portions of said rocker bars being out of engagement with said rail members and said guiding elements.

2. In a convertible article of furniture, an understructure and a superstructure removably supported thereby; the said understructure having leg members and two spaced rail members; the superstructure comprising a rocker-chair member having a seat portion and a supporting member for the seat portion, the said supporting member containing two spaced rocker bars each having an arcuate rocking section and a substantially straight section, said rocker bars being slidably disposed upon said rail members; and locking means releasably securing the said straight section of one of said rocker bars to the underlying rail, portions of said rocker bars being out of engagement with said rail members.

3. In a convertible article of furniture, the combination according to claim 2, characterized by the rail members having straight sections, the said rocker bars being of tubular configuration, the straight section of at least one of said rocker bars having an apertured portion disposed over the straight section of the underlying rail, the said locking means having a retractable locking element supported by said underlying rail and adapted to extend into said apertured portion.

4. In a convertible article of furniture, an understructure and a superstructure removably supported thereby; the said understructure having leg members and two spaced rail members; the superstructure comprising a rocker-chair member having a seat portion and a supporting member for the seat portion, the said supporting member containing two spaced rocker bars each

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