Feb. 5, 1952 L. T. TUTTLE 2,584,642

CONVERTIBLE HIGH AND LOW CHAIR

Filed Oct. 11, 1947

Fig. 1.

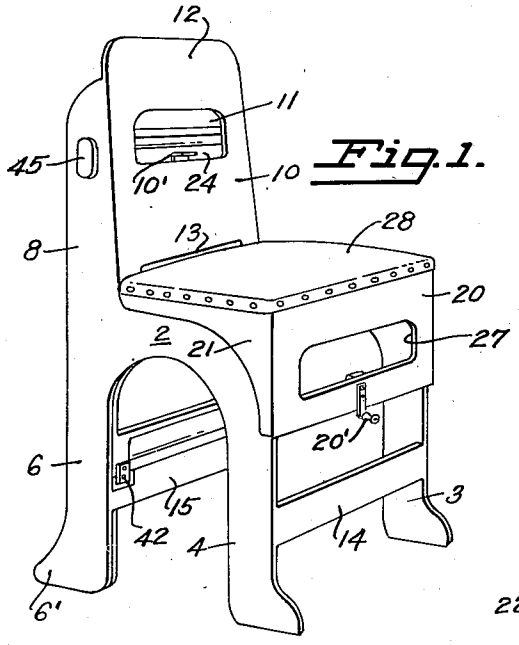


Fig. 5.

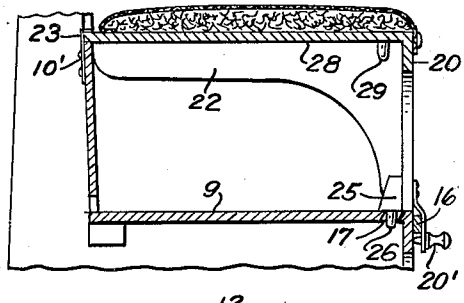


Fig. 3.

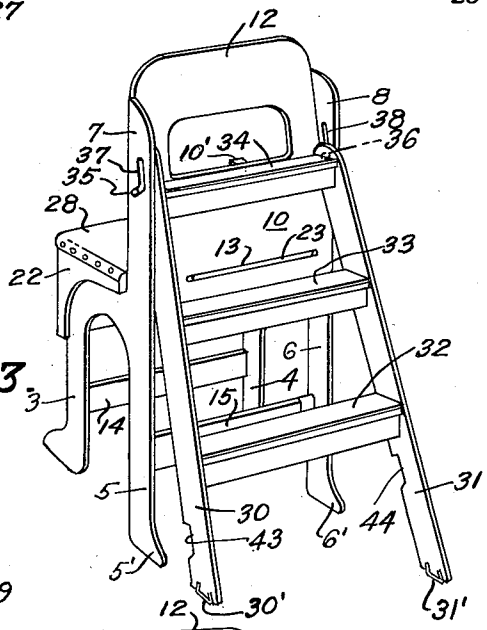


Fig. 2.

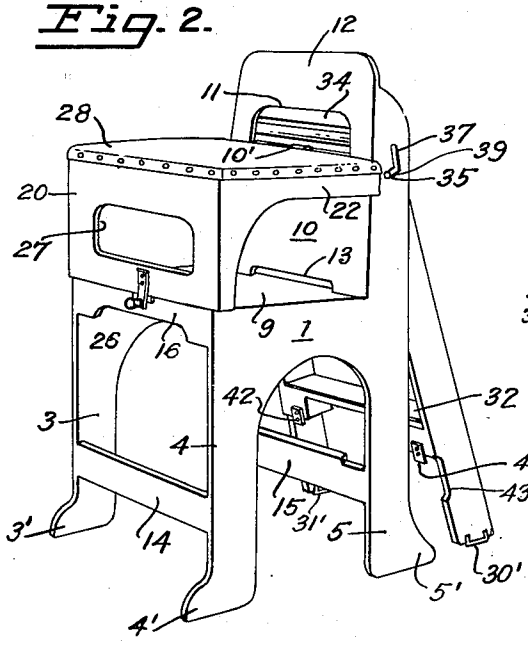
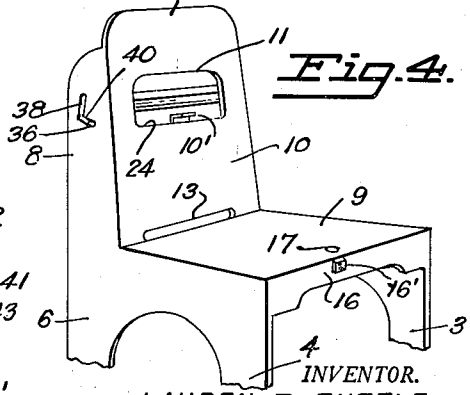


Fig. 4.



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Patented Feb. 5, 1952 2,584,642

UNITED STATES PATENT OFFICE

2,584,642

CONVERTIBLE HIGH AND LOW CHAIR

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Application October 11, 1947, Serial No. 779,296

4 Claims. (Cl. 155—38)

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This invention relates to furniture and more particularly to a combined chair, stool and ladder.

Among the objects of the invention is the provision of a kitchen accessory comprising a chair of conventional height that may be converted into a stool of greater height, for convenient use at the kitchen sink, laundry equipment and the like.

Another object is the provision of such a chair assembly having a foldable ladder therein, for use in reaching the higher shelves, curtain installations and other household equipment.

A further object is the provision of such a utility that is light, sturdy, comfortable, safe and attractive, that can be fabricated at a relatively low cost.

Other objects and advantages will appear as the description progresses. In the specification and the accompanying drawings the invention is disclosed in its preferred form. But it is to be understood that it is not limited to this form; because it may be embodied in modifications within the spirit of the invention, as defined in the claims following the description.

In the one sheet of drawings:

Fig. 1 is a perspective front view of a chair assembly constructed in accordance with this invention.

Fig. 2 is a similar side view of the same with the ladder in operative position.

Fig. 3 is a similar view of the same from the rear.

Fig. 4 is a fragmentary detail, similar to Fig. 1, with the stool removed from the chair.

Fig. 5 is an enlarged detail from the side, in vertical section, showing the pin and latch engagement of the stool seat with the chair.

In detail the structure shown in Fig. 2, comprises the interspaced sides 1, 2, having the legs 3, 4, 5, 6 and the back rails 7, 8, respectively. These sides are joined in the middle of their length by the transverse seat 9, braced by blocks in the corners beneath the seat and not visible.

The back board 10 is attached to the back rails 7, 8 and extends upwardly from the seat 9. This back has the upper opening 11, forming a convenient handle portion 12, and the lower transverse notch, forming a slot 13 above the level of the seat 9.

The front legs are cross braced by the rung 14, and the rear legs by the rung 15 gained thereinto and glued respectively. The seat portion is reinforced by the front trim 16, Fig. 4, inset and glued similarly to the rungs 14, 15. This forms a strong, light and rigid chair foundation for the other elements of the assembly.

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The stool element comprises the flat top seat cushion 28, slightly larger than the seat 9, upon which it rests in Fig. 1. It has the front support board 20 and the side trims 21, 22, securely assembled in an angular integral structure. The rear edge of the top board 28 has the tongue 23 extending behind the sides 21, 22 and interlocked with the slot 13 in the back 10, in Fig. 1, and with the opening at 24 in Fig. 1. The front 20, has the central block 25, having the stud 26 projecting downward into the socket 17 in the front edge of the seat 9, see Fig. 5. The front 20 of the stool rests upon and is anchored to the seat 9 at 26, and to the back 10 at 24, beneath the detent 10' where it remains. The latch 20' and detent 10' lock the stool 18 in the elevated position so that it will not be displaced if the chair is lifted or moved about by grasping the stool portion of the assembly.

When it is desired to lower the stool, the user releases the spring latch 20' engaging beneath the stop 16' on the front trim 16 and grasps the front 20, through the opening 27, lifts the stool assembly free at 26 and 17, and lowers it to the seat level 9 and pushes the tongue 23 into the slot 13 and lowers the front until the sides 21, 22 bear against the sides 1, 2 of the chair frame and the stud 29 on the stool 18 enters the socket 17 in the front of the seat as previously described relative to the stud 26. This secures the stool assembly to the chair foundation. The cushion 28 is attached to the top of the stool.

The ladder element comprises the side rails 30, 31, having the friction inserts 30', 31', in their lower ends respectively, and joined together by the steps 32, 33, 34, in the usual manner. These rails extend slightly above the top step 34, and have the laterally extending pivots 35, 36, respectively extending into the slots 37, 38 through the upper portions of the back rails 7, 8. These vertical slots have lateral extensions, 39, 40 respectively extending toward the back 10 of the chair, into which the pivots lock when the ladder is in the extended position, as in Figs. 2, 3.

The lowest step 32 has the depending keepers 41, 42 attached to blocks fixed beneath the step, adapted to hook over the top edge of the rung 15, into the notches provided therein. The inner edges of the side rails are recessed at 43, 44, to pass the width of the rung 15, when the ladder is retracted.

The ladder is retracted by grasping beneath the top step 34 pulling it backward to clear the extensions 39, 40, then lifting the ladder, which is guided by the pivots 35, 36 in the slots 37, 38.

The ladder is then swung inwardly on these pivots and the keepers at **41**, **42** dropped over the notched top of the rung **15**, which holds the ladder assembly closely telescoped within the width of the back rails **7**, **8**, and the rear legs **5**, **6**, of the chair, as in Fig. 1.

When the ladder is in the extended position, as in Fig. 3, the top step **34** is adjacent the bottom **24** of the opening **11** in the back of the chair, so that the toe of the user may extend beyond the front edge of the step and through the opening in the back **10** of the chair, for greater foot security.

The legs **5** and **6** have the rearward extensions **5'**, **6'** respectively, for giving stability to the extended ladder, as in Figs. 2 and 3, affording better support on the center of gravity when the user is standing thereon.

The front legs have similar forward extensions **3'**, **4'** respectively, preventing the chair rotating from beneath the sitter, should she lean forward.

For better appearance, the slots **37**, **38** may be concealed beneath shields, such as at **45**, Fig. 1.

The invention is preferably constructed of relatively thin ply wood for appearance, ease of fabrication and choice of finish. But it may be die formed of sheet aluminum, properly flanged and stiffened by embossing, plastics, or any other suitable materials, in substantially the same design and mode of operation.

Having fully described this invention and its mode of operation, what I claim and desire to secure by Letters Patent is:

1. A chair having a horizontal seat and a vertical back extending upwardly from said seat and having upper and lower openings therethrough; a detachable stool having a front support with its lower edge resting upon the front portion of said seat and having a vertical stud engaging a socket in said seat; a tongue on the rear edge of said stool selectively engaging within said upper and lower openings in said back; and a latch on said front support engaging the front portion of said seat for locking said stool to said chair, when in high-stool position, said front support extending below and in front of said seat in the lowered position.

2. A chair having a seat and a back extending upwardly from said seat and having upper and lower openings therethrough; a detachable stool having a front support; a tongue on the rear of said stool selectively engaging in said upper or lower openings in said chair back to make a high stool when said tongue engages said upper opening and a seat at chair height when said tongue engages said lower opening, said front support extending downwardly in front of said seat; a stud attached to the front lower portion of said stool support and engaging within a socket in the forward portion of said chair seat when said stool is set up to form a high stool; a similar stud attached to the forward under portion of said stool seat to engage within said socket in the front portion of said chair seat so as to engage within said socket in the front portion of the said chair seat when said stool is nested in the down position at chair height; a latch on the lower front portion of said stool support to engage the front portion of said chair seat when said stool is in the elevated position to form a high stool; a detent on said chair back and spaced upward above the lower edge of said upper horizontal opening to receive the rear edge of said tongue when said stool is in the elevated position.

3. A chair having a seat and a back extending upwardly from said seat having upper and lower openings therethrough; a detachable stool having a front support resting upon the front portion of said seat when in the upper position and extending below said seat when moved forwardly and in the lower position; a tongue at the rear of said stool selectively engaging within said upper or lower opening in said back to establish the upper and lower positions respectively.

4. A chair having a seat and a back extending upwardly from said seat and having upper and lower openings therethrough; a detachable upholstered stool top forming the cushion for said seat when in chair position, a front support on said stool top below said seat in normal chair position and supported by the front portion of said seat when in the upper position; a tongue on the rear of said stool selectively engaging through said upper opening in said chair back to make a high stool when said stool is elevated above said seat and engaging through said lower opening in the chair position.

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