

Nov. 19, 1957

A. R. BODE
COLLAPSIBLE CHAIR
Filed July 30, 1956

2,813,575

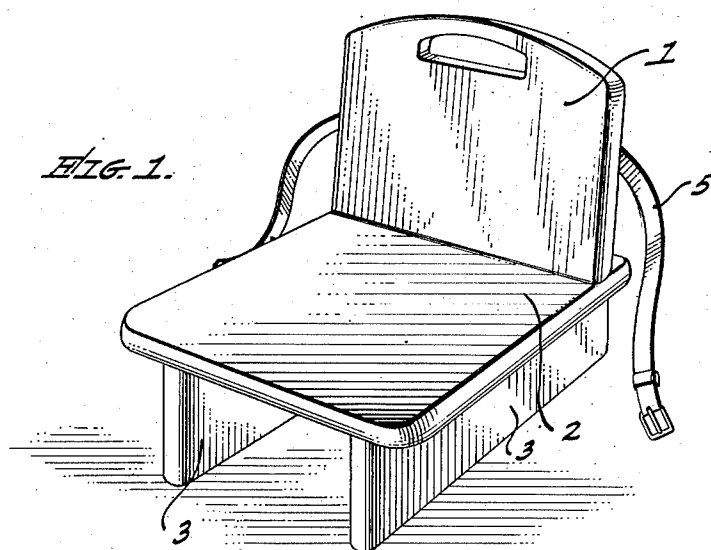
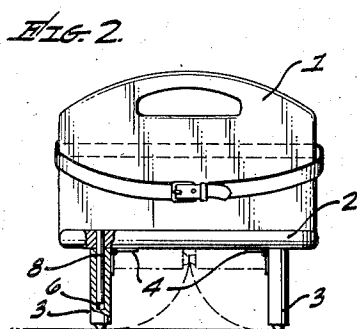
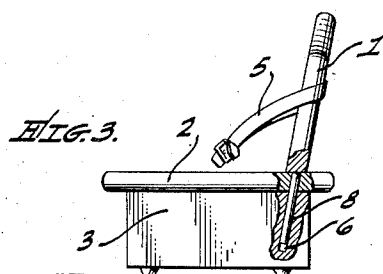
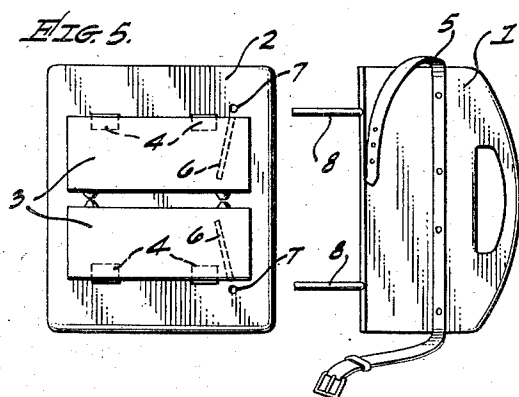


FIG. 4.

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COLLAPSIBLE CHAIR

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Application July 30, 1956, Serial No. 600,966

4 Claims. (Cl. 155—139)

This invention relates to a collapsible chair, especially one of small size, suitable for children, either to be set on the floor or to be set on a regular chair so as to convert it to a high chair.

An object of the invention is to supply a chair which is very simple to construct, and is strong and rigid yet readily collapsed to form a very compact easily portable bundle. Other objects will appear from the following description of the invention.

Briefly, the invention comprises a chair having two legs each of which extends from the front to the back of the chair seat near the side thereof. These legs are hinged to the bottom of the seat so that they may swing through a 90 degree arc from an extended position in which they are substantially vertical and perpendicular to the chair seat, to a collapsed position in which they are swung inwardly toward the center of the seat and lie flat against it. The chair back is removable, having two pins rigidly attached thereto which extend downwardly from its lower edge, one pin near each side of the back, i. e. near each end of the lower edge. These pins are sufficiently long to pass through holes in the rear portion of the chair seat, and well into holes or receptacles which pass deep into the chair legs when they are in their extended position. Thus when the pins are fully inserted through the holes and into the receptacles, the back is fixed firmly in position and braced there by the legs which support the pins. In turn, the legs are held rigidly in position also, by these same pins, and are thus prevented from collapsing. The pins serve a dual purpose. They prevent the legs from collapsing side-ward, and they at the same time prevent the back from collapsing backward or forward. Then, simply by pulling the back upwardly until the pins are disengaged, the legs are free to collapse inwardly against the seat, and the back may be set down, also flat against the seat or collapsed legs, so as to form a compact readily portable bundle. In fact, as described below, it is preferred to have a strap attached to the back to hold the occupant in the seat, and when the chair is collapsed, this same strap may be used to tie the bundle together for carrying.

The invention may be understood more thoroughly by reference to the attached drawing, in which Figure 1 is an orthographic projection, and Figure 2 is a front view of the chair ready for use; Figure 3 is a side view of the chair, also ready for use; Figure 4 is a back view of the chair back after it is disengaged from the rest of the chair; and Figure 5 is a view of the bottom of the chair with the legs in collapsed position. The same numbers are used to identify the same parts of the chair in each figure.

Referring to the drawing, chair back 1 is seen to have a lower edge which fits snugly against chair seat 2 when the chair is set up. Back 1 is substantially vertical and seat 2 is substantially horizontal, but they may be tilted somewhat for comfort as desired, by proper design of legs 3 and holes 6 and 7 as explained more

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completely below. Legs 3 are hinged along the sides of seat 2 by means of hinges 4. Each leg extends from a point near the front of the chair seat to a point near the back of the seat, so that in effect it takes the place of both a front leg and a back leg of a conventional 4-legged chair. If desired, rubber feet may be placed, one at the front and one at the back, of the bottom of each leg so as to simulate a 4-legged chair even more closely. Hinges 4 are placed near the outer edges or sides of seat 2, and are preferably of the type which will permit legs 3 to be swung in only a 90 degree arc, from an extended position in which they are vertical, or perpendicular to the chair seat, to a collapsed position in which they are folded inwardly so as to rest flat against the bottom of the chair seat as shown in Figure 3.

Rigidly fixed to chair back 1, and extending downwardly from the lower edge thereof, are two pins 8. These pins are located near each end of the lower edge of the back 1, just in line with legs 3 when these are in the extended or vertical position. Holes 7 are of size and shape to fit pins 8 and permit them to pass through so as to let the lower edge of back 1 fit against seat 2. Holes 7 are located near each side of the back part of seat 2, and are also in line with legs 3 when these are in the extended or vertical position. Legs 3 are thicker than pins 8 and have holes 6 drilled in them of size and shape such as to fit pins 8 and permit them to enter the legs a sufficient distance to let back 1 rest its lower edge against seat 2. Pins 8 are long enough to enter holes 6 a sufficient distance, preferably at least 2 diameters, to provide solid support for the pins. The holes 6 are in line with pins 8 when legs 3 are in their extended or vertical position and pins 8 have been passed through holes 7. A strap 5 may be attached horizontally to back 1 so as to pass around the occupant of the chair and hold him in normal sitting position. The strap 5 is also useful to hold the parts together when they are in the collapsed position.

From the above it is clear that when it is desired to use the chair, it is necessary simply to swing legs 3 into their extended position and insert pins 8 through holes 7 into holes or receptacles 6. The pins thus serve not only to lock legs 3 in their extended position but also to hold back 1 in position. When it is desired to collapse the chair for storage or carrying, the back 1 is simply lifted so as to pull pins 8 out of holes 6 and 7, the legs 3 are swung inwardly to lie flat against seat 2, back 1 is also set flat against seat 2 or the outer side of the collapsed legs, and strap 5 is fastened around the pieces.

As indicated, the materials of construction may be simply boards of about 1" thickness, with hardwood, steel or similarly strong pins of circular cross section and about 1/2" diameter. Thus each hole 6 may be drilled with a center line lying in the center plane (i. e., the plane midway between the large flat surfaces of the board) of each leg 3. Holes 6 and 7 may be lined with metal, plastic, etc. to assure smooth fit. Pins 8 are also shown as having a center line lying in the center plane of back 1, and may be fastened thereto simply by holes drilled therein.

In the chair illustrated, the desired tilt to the back, or deviation from the vertical, is attained by drilling holes 6 and 7 with the same deviation from the vertical. The same tilt may be obtained by using pins which are bent so as to fit into vertical holes 6 and 7 if desired. It may also be noted that in the chair illustrated the seat is exactly horizontal, by virtue of the fact that legs 3 are of the same height from front to back. Obviously, a desired tilt to the seat such as a slope from front to back may be obtained by having the legs 3 longer at the front of the seat than at the back. It is also clear that part of legs 3 between the front and the back may

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be cut out so as to have contact with the floor or other supporting medium only at points near the front and the back of each leg, making each leg even more like two legs of a 4-legged chair. In fact two legs may be used in place of each leg 3 providing they are connected together so as to move as one.

Although the construction illustrated is preferred, it is also within the contemplation of this invention that the pins 8 and the receptacles 6 need not lie in the same plane as the centers of back 1 and legs 3 respectively. Thus, for example, the pins 8 may be fastened to the back of back 1 so as to project downwardly below its lower edge as described above. Receptacles 6 may also take the form of pieces of pipe or tubing fastened to leg 3, for example along the outer side. Chair seat 2 may also extend only to back 1 rather than passing thereunder as illustrated, in which case there would be no need for holes 7, and back 1 would rest directly on legs 3, with the pins 8 directly entering receptacles 6. Pins 8 may also have a cross-section other than circular, such as square, oblong, etc. as long as holes 7 and receptacles 6 have the same shape.

It is to be understood that the chair illustrated is the preferred embodiment of the invention even though the above modifications and other modifications of the invention which would occur to one skilled in the art from the above description are to be considered within the scope of the invention as defined in the following claims.

I claim:

1. A collapsible chair which comprises a substantially horizontal seat, two legs extending from front to back of the seat one along each side thereof, said legs being fastened to the bottom of said seat by hinges near the sides thereof so as to be free to swing outwardly in a

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90 degree arc from a collapsed position in which they rest flat against the bottom of said seat to an extended position in which they are substantially vertical, a seat back, and two pins attached thereto so as to extend downwardly from the lower edge thereof, said legs having receptacles integral therewith adapted to receive said pins when the legs are in the extended position and thereby not only support said back in a substantially vertical position, but also lock said legs in the extended position.

2. A chair according to claim 1 in which said seat extends under said back and has holes therein through which the pins may pass, and the lower edge of the back rests against the seat when the pins are fully inserted through the holes in the seat and into the receptacles in the legs.

3. A chair according to claim 2 in which the legs are substantially thicker than the pins, and the receptacles in the legs are holes centered in the center planes of the legs.

4. A chair according to claim 3 in which the pins are centered in the center plane of said back.

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