June 12, 1956 R. F. MARKKULA 2,749,972

FOLDING CHAIR

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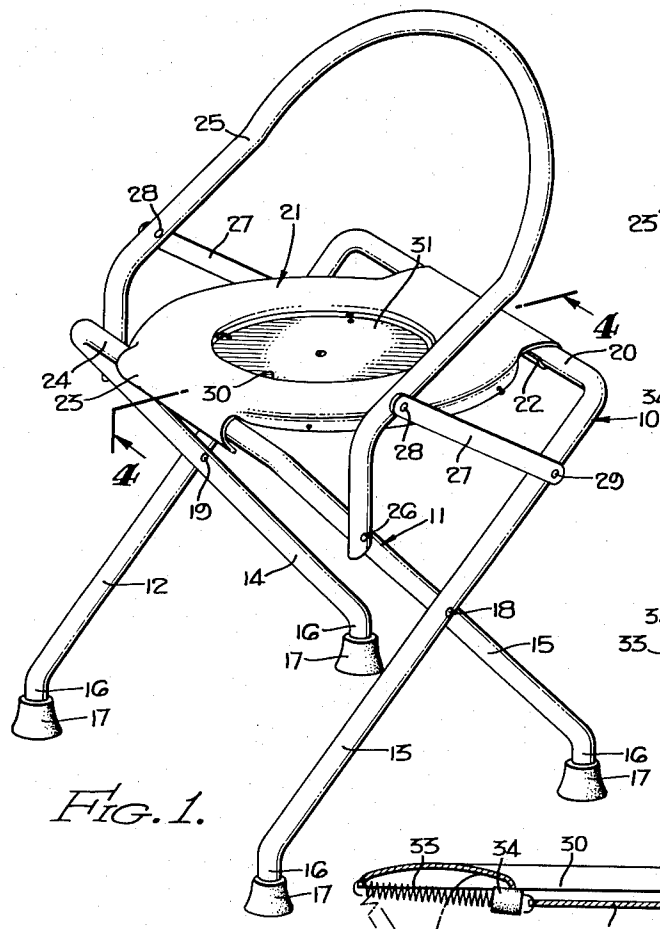


FIG. 1.

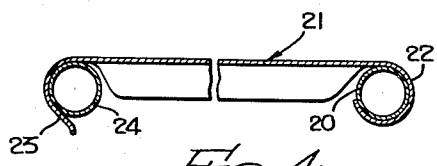


FIG. 4.

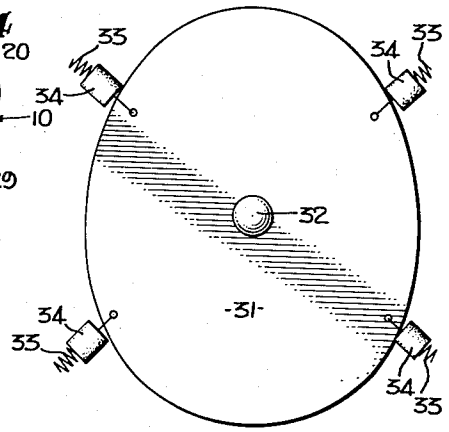


FIG. 5.

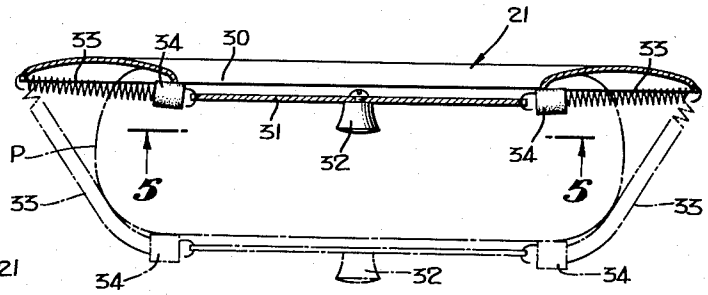


FIG. 2.

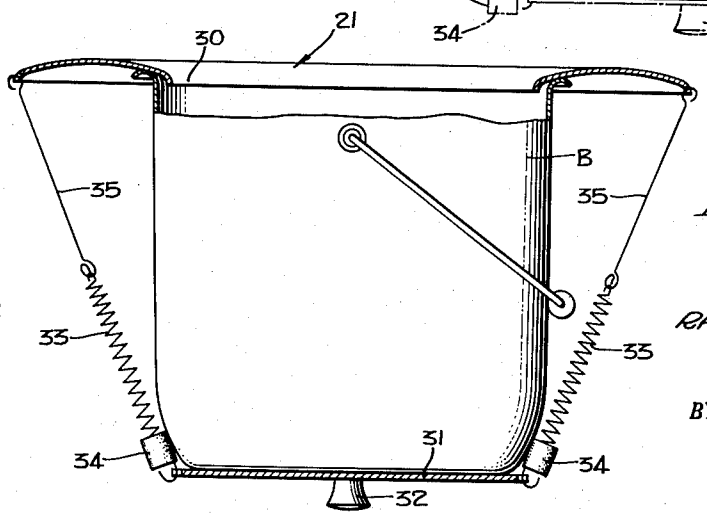


FIG. 3.

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FOLDING CHAIR

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2 Claims. (Cl. 155—147)

This invention relates to improvements in chairs.

An object of the invention is to provide an improved chair of simple design and durable construction which can be easily and quickly collapsed into a relatively compact form for transportation or storage purposes, and which may be readily set up into a sturdy, rigid support.

Another object of the invention is to provide a chair which may be optionally used as a comfort chair so as to support either a bedpan or similar receptacle when it is desired to use the chair for this purpose.

Another object of the invention is to provide a collapsible chair which has a backrest mounted thereon which will collapse with the chair as the chair is collapsed and which will be set up into an operative position when the chair is extended, the backrest being so designed that when it is extended it will be rigidly supported.

With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

Figure 1 is a perspective view of the chair embodying the present invention, illustrating the chair in its set-up condition;

Fig. 2 is a transverse vertical section through the seat of the chair;

Fig. 3 is a view similar to Fig. 2, but illustrating an alternative receptacle as having been supported beneath the seat;

Fig. 4 is a longitudinal vertical section taken substantially upon the line 4—4 upon Fig. 1; and

Fig. 5 is a bottom plan view of the plate which forms part of the seat.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, the improved chair comprises two crossed, inverted U-shaped frame members, generally indicated at **10** and **11**. These frame members have downwardly extending side arms **12**, **13**, **14**, and **15**, respectively which constitute the legs of the chair. These side arms terminate in downwardly bent foot portions **16** which may be covered with rubber caps **17** or the equivalent. The side arms **13** and **15** are pivotally connected to each other intermediate their ends, such as by a rivet or bolt **18** and similarly, the side arms **12** and **14** are pivotally connected to each other intermediate their ends, such as by a rivet or bolt **19**. The frame member **10** has a top cross bar **20** and a sheet metal seat **21** has its rear end curled about this cross bar as indicated at **22**. The forward end of the seat is extended and bent downwardly to provide a hook **23** that is receivable over the top cross bar **24** of the frame **11**. On swinging the seat upwardly, and in so doing, disengaging the hook **23** from the top cross bar **24**, the chair may be collapsed by pivoting one frame member **10** relatively to the other frame member **11**. On the other hand, when the chair is extended, as viewed in Fig. 1, and the hook is positioned over the top cross bar **24** the seat functions as a tension member limiting the spreading of the top cross bars **20** and **24**.

A U-shaped backrest **25** has its ends pivotally connected as at **26** to the side arms **14** and **15** of the frame member **11**. The pivotal connections at **26** are disposed about intermediate the top cross bar **24** and the pivots **18** and **19**. Bracing links **27** are pivotally connected to the backrest **25** as indicated at **28** and are also pivoted to the side arms of the frame member **10** as indicated at **29**. This construction causes the backrest to assume a relatively rigid position extending upwardly and rearwardly and around the back of the seat when the chair is in its set-up position. However, when the chair is collapsed the links **27** swing the backrest forwardly so that the backrest assumes a position generally in alignment with the plane of the frame member **11**.

The chair may be used as a camper's chair or as a comfort chair, and to this end the sheet metal seat **21** has an opening therein indicated at **30**. This opening is normally closed by an oval plate **31** having a handle **32** on its under side. This plate is suspended by means of tension springs **33**, the outer ends of which are extended through apertures in the outer marginal edges of the sheet metal seat. The inner ends of these springs are passed through apertures in the margins of the plate **31**. Rubber sleeves **34** are telescoped over these springs near the margins of the plate **31** and are engageable with the inner marginal edges of the seat **21**. These sleeves merely function as bumpers when the plate **21** is released.

The spring suspension for the plate **31** causes the plate to assume a normal position immediately beneath the seat and, in effect, closing the opening **30**. However, the plate may be depressed from the full-line position shown in Fig. 2 to the dotted line position shown therein, and a bedpan indicated by dotted lines and the reference character P may be interposed between the plate and the seat. In the alternative, a larger receptacle, such as the bucket B may be interposed between the plate and the under side of the seat. However, when the bucket is employed the outer ends of the springs **33** are detached from the margins of the seat and are connected to wire connectors **35**. These connectors, in turn, are connected to the seat through the apertures previously occupied by the outer ends of the springs. By removing the connectors **35** the springs may again be attached directly to the seat enabling a bedpan to be employed if this is preferred.

It will be appreciated from the above described construction that when the chair is in its set-up position that the seat functions to limit the spreading or pivotal movement of the two frame members **10** and **11**, and as these members are consequently locked by the seat that the backrest will be held rigidly in its set-up position. However, in order to collapse the chair it is merely necessary to unhook the forward end of the seat from the cross bar **24** and the seat may then hinge about the cross bar **20** enabling the frame members to collapse into a relatively compact form for storage purposes or for shipment.

The chair may be optionally used either as a chair or as a comfort chair as above described.

Various changes may be made in the details of construction without departing from the spirit and scope of the invention as defined by the appended claims.

I claim:

1. A chair comprising a pair of inverted U-shaped frame members, the side arms of one member being pivotally connected to the side arms of the other intermediate the top and bottom thereof, the top of one inverted U-shaped frame member being arranged at the back of the chair and the top of the other inverted U-shaped frame member being arranged at the front of the chair, a collapsible seat connecting the tops of the inverted U-shaped frame members, a back rest pivotally connected to the top of that U-shaped frame member which is arranged at the front of the chair and extending upwardly and rear-

wardly therefrom over the top of the inverted U-shaped frame member arranged at the back of the chair, links pivotally connected to the back rest and to the upper portion of the inverted U-shaped frame member that is arranged at the back of the chair, and the connections between the links and the back rest lying above and intermediate the pivotal connections of the other ends of the links and the pivotal connections between the backrest and the U-shaped frame member at the front of the chair.

2. A chair comprising a pair of inverted U-shaped frame members, the side arms of one member being pivotally connected to the side arms of the other intermediate the top and bottom thereof, a seat hingedly connected to the top cross-bar and having a hook at its swinging end engageable over the top cross-bar of the other frame member which is arranged at the front of the chair whereby upon disengagement of the hook the chair may be collapsed and when the chair is extended the hook engagement will limit separation of the cross-bars of the frame members, and a back rest, the lower ends of the back rest being pivotally connected to the side arms of the upper portion of the frame member which is arranged at

the front of the chair and extending upwardly and rearwardly therefrom and links pivotally connected to lower forward portions of the back rest and to the upper portions of the side arms of the frame member which are arranged at the back of the chair.

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