Jan. 21, 1958 R. E. MORELAND 2,820,509

COLLAPSIBLE CAMP CHAIR

Filed Nov. 22, 1955

Fig. 1

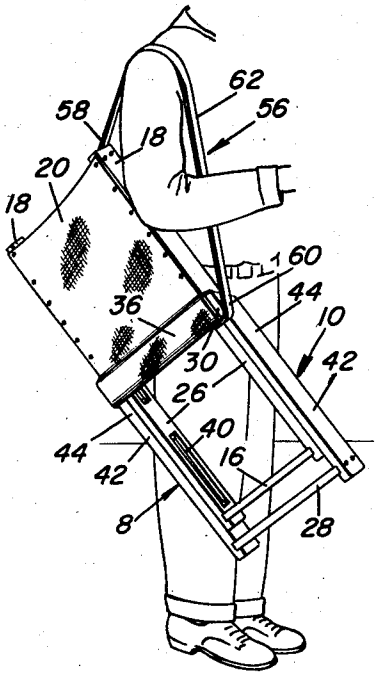


Fig. 2

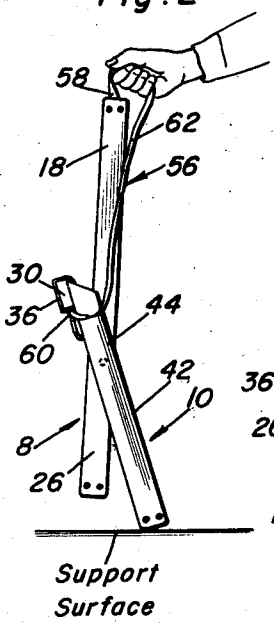


Fig. 3

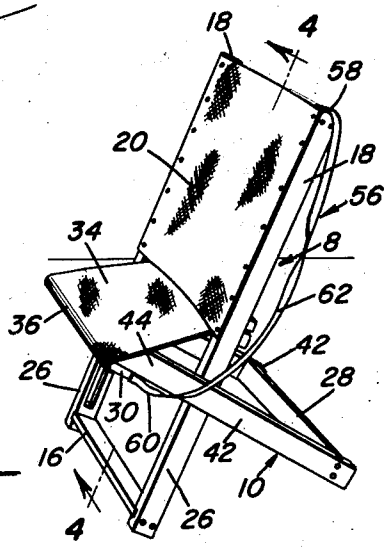


Fig. 4

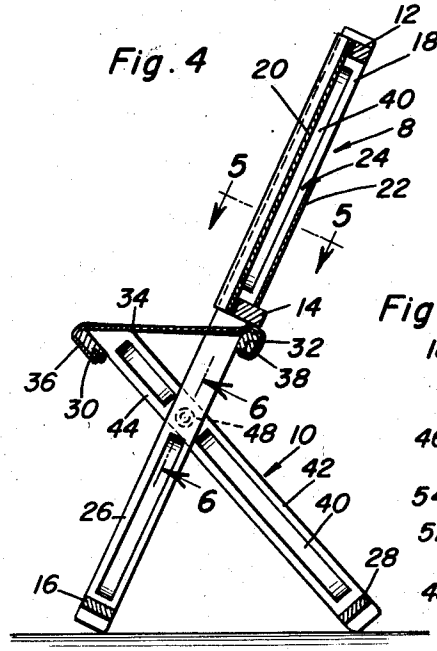


Fig. 5

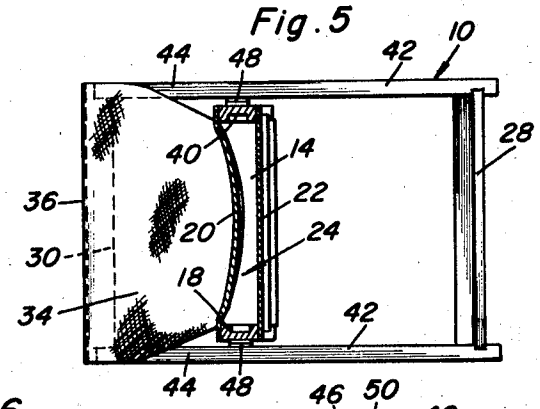


Fig. 6

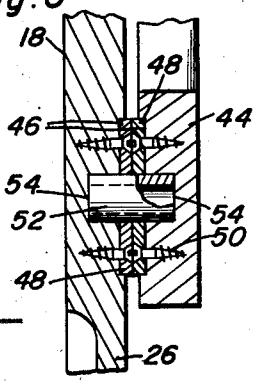
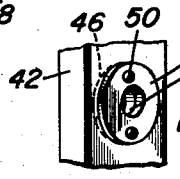


Fig. 7



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COLLAPSIBLE CAMP CHAIR

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3 Claims. (Cl. 155—143)

The present invention relates to an improved collapsible multipurpose chair which is readily portable and is herein designated as a camp chair, that is, a lightweight easy-to-carry chair which lends itself to reliable and practical use for general out-of-doors and similar occasional purposes, for instance, at all sorts of sporting events, at parades, exhibitions and similar festivities.

One object of the invention is to structurally, functionally and otherwise improve upon similarly constructed and performing portable-type camp chairs and, in so doing, to provide a chair in which manufacturers will find their manufacturing requirements satisfied and users will find their out-of-doors purposes effectually met.

Another object of the invention is to provide a simple, economical and feasible folding camp chair which is ingenious in that it is so constructed that when it is lowered vertically toward the ground or other support surface and strikes the surface, the leg frames embodied therein automatically spread apart and open up and later on, when the chair is no longer in use and is lifted up from said surface, the legs of the respective leg frames collapse and nest together, whereby to provide an unusually compact structure which may be transported by the user from place to place.

In carrying out a preferred embodiment of the invention the frames are covered with canvas or equivalent material and provide a seat and a back rest. In addition, a loose hanging sling is provided and has its ends so arranged and attached to the respective upper portions of the respective frames that it serves not only as a flexible handle for lifting and lowering the chair but, what is more important, as a shoulder strap which facilitates suspending and carrying the chair in a most convenient and highly practical manner.

A further and highly important object of the invention resides in providing the leg portions of the cooperating frames with a highly novel hinge, that is, a hinge which is precision made and precisely installed, is sensitive, is substantially wear-resisting and weatherproof and functions with maximum efficiency so that the lifting and lowering the chair by way of the shoulder strap renders the legs automatically openable and closable.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying sheet of illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the same:

Figure 1 is a perspective view of the improved camp chair showing its construction and the manner in which the sling is used for suspending and carrying the chair from place to place;

Figure 2 is a side elevational view illustrating how the sling may be used for lifting and lowering the chair and how the legs of the respective frames separate or fold together as the case may be;

Figure 3 is a perspective view showing the chair erected or set up for use;

Figure 4 is a section on the vertical line 4—4 of Figure 3 looking in the direction of the arrows;

Figures 5 and 6 are sections taken on the lines 5—5 and 6—6 of Figure 4; and,

Figure 7 is a fragmentary perspective view of one of the details.

Referring now to the drawing with the aid of reference numerals and to assist in distinguishing the principal parts, the relatively long frame, which is generally rectangular, is denoted by the numeral 8 and is herein designated as a "first" frame. The other shorter frame is denoted as the "second" frame as at 10.

In practice these frames are preferably, but not necessarily, constructed of basswood which lends itself admirably well to the purposes intended in that it is light in weight and exceedingly strong and durable. The longitudinal rails of the first frame 8 are connected together by an upper cross-piece 12 (Fig. 4), an intermediate cross-piece 14 and a lower cross-piece or brace 16. The upper portions of these frame members or rails are denoted at 18 and have a piece of canvas or the like fastened thereto to define a back-rest. On the rear side these upper portions are provided with a second shorter piece of canvas or the like 22 which in conjunction with the cross member 14 provides a carrying pocket 24 for miscellaneous articles. The lower portions, below the hinge means to be described, constitute relatively short so-called front legs 26. The frame 10 embodies vertical or lengthwise side members or rails connected at their lower ends by a cross-brace 28. There is a similar cross member 30 connecting the upper mitered ends. This cross-piece cooperates with a companion cross-piece 32 and these parts 30 and 32 serve to accommodate the canvas or equivalent seat 34, with the ends 36 and 38 attached in any suitable manner. It is, of course, important that the seat be below the cross-piece 14 to avoid interference with the opening and closing of the frames 8 and 10. Although of no particular importance the inner or inward surfaces of the frame members are rabbeted as at 40 for lightness in weight. The portions of the frame members which cross, however, are solid and of uniform cross-section, as seen in Fig. 6. It will be noted, of course, that the lower portions 42 of frame 10 constitute the rear legs while the upper portions 44 provide the seat support. Also and this is important, the legs 42 are appreciably longer than the legs 26. Furthermore, the respective paired legs are hinged and fastened together so that their adjacent inward surfaces are in spaced parallelism and do not collide when the frames are opened or closed. The intermediate portions of the frame members are crossed so that the upper ends of the respective legs 26 and 42 are thought of as terminating at the location of the hinges. The hinge means on each side is the same and a description of one will suffice for both and with reference to Figure 6 it will be seen that the adjacent surfaces of the inner and outer legs are recessed as at 46 and that opposed aligned washers 48 are seated in the recesses and are fastened by screws or the like 50. The contacting surfaces of the washers are precision finished to assist in providing a smooth operating articulated joint. The washers constitute bearings and the bearings serve to accommodate the hinge pintle or journal 52. This is preferably a precision finished hollow cylinder. The intermediate portion is seated in the respective bearings and the end portions telescope into sockets 52 provided therefor in the respective inner and outer legs. It will be noticed that the sockets open inwardly and do not extend through to the exterior surfaces of the legs. Therefore, the joint is thought of as a concealed and substantially weatherproof hinge or joint. In fact, this hinge is so accurately made and installed that it is virtually

frictionless and permits the legs of the respective frames to open and close with precision and without hindrance. The longer legs 42 present a greater mass than the shorter legs 26 which renders the legs automatically folding when the chair is lifted up as is evident from Fig. 2. By the same token the lower ends extending beyond the corresponding lower ends of the legs 26 cause the legs to spread apart automatically when the chair is set down.

The sling 56 has its upper end 58 attached to the upper portion of the first frame of one side and its lower portion 50 attached to the same side of the second frame 10, the intermediate portion 62 being removed. Thus, the sling serves both as a shoulder strap and flexible handle.

Although basswood is the material generally preferred, its use is not essential, and it will therefore be clear that a suitable grade of aluminum may, under certain manufacturing requirements, be used.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A portable and collapsible multipurpose chair for general out-of-doors and similar occasional use comprising a first frame having a backrest and paired legs, a second frame having paired legs with their intermediate portions overlapping and crossing the intermediate portions of said first mentioned legs with the latter legs serving as inner legs and the second mentioned legs serving as outer legs, said outer legs being longer than said inner legs, the opposed inward surfaces of each inner and outer leg having aligned contacting washers mounted thereon and providing axial bearings, and a journal pin bridging said washers and mounted in said bearings and providing a substantially frictionless hinge for said legs, said last named inner and outer legs having inwardly opening sockets aligned with each other and said bearings, said journal pin comprising a hollow smooth-surfaced cylinder, the ends of which are fitted telescopically into their respective sockets, and washers serving also as spacers so that said legs are disposed in spaced parallelism and so that freedom of action between the respective parts is assured and constantly maintained, and a flexible stretchless canvas sling having its upper end attached to an upper corner portion of the first frame and its lower end likewise attached to an upper corner portion of said second frame.

2. A portable folding chair for out-of-doors use comprising a first relatively long generally rectangularly frame embodying a pair of opposed spaced parallel longitudinal rails connected together at their upper ends by an upper cross-piece fastened to said upper ends, a similar cross-piece interposed between and rigidly connecting the lower end portions of said rails, a third cross-piece extending between and fastened to the median portions of said rails, a canvas panel mounted on the upper portions of said rails and ranging between the upper cross-piece and said third named cross-piece and defining a backrest, a second rectangular frame cooperating with said first named frame and shorter than the first named frame and embodying a pair of spaced parallel longitudinal side rails connected at their upper and lower ends by transverse cross-braces, the lower end portions of said first named rails providing a first pair of legs, the rails of the second frame crossing the exterior surfaces of the median portions of

the first named rails and portions providing a second pair of legs, the legs in said second pair being of a length greater than the legs in said first named pair, the opposed inward surfaces of each inner and outer leg having aligned sockets opening through said inner surfaces, the outer ends of the respective sockets being completely closed, contacting washers mounted on the respective inward surfaces of each inner and outer leg and having their central open portions aligned with the respective sockets and providing axially aligned bearings, and a smooth-surface journal pin bridging the openings in the respective washers and having end portions projecting into the respective sockets, a canvas seat attached at one end to the cross-brace at the upper ends of the second named rails, and connected at its opposite end to the cross-piece at the intermediate portion of the first named rails, and a flexible stretchless sling on one side only of the chair and of a length that it serves as a shoulder strap and having its upper end attached to an upper corner portion of the first frame and its lower end attached to an upper corner portion of the second frame.

3. A portable and collapsible multipurpose chair for general out-of-doors and similar use comprising a first rectangular frame having a backrest and paired legs, a second frame having paired legs with their intermediate portions overlapping and crossing the intermediate portions of said first mentioned legs with the latter legs serving as inner legs and the second mentioned legs serving as outer legs, said outer legs being longer than said inner legs, the opposed inward surfaces of each inner and outer leg having aligned contacting washers mounted thereon and providing axial bearings, and a journal pin bridging said washers and mounted in said bearings and providing a substantially frictionless hinge for said legs, said last named inner and outer legs having inwardly opening sockets aligned with each other and said bearings, said journal pin comprising a smooth-surfaced member, the ends of which are fitted telescopically into their respective sockets, said washers serving also as spacers so that said legs are disposed in spaced parallelism and so that freedom of action between the respective parts is assured and constantly maintained, and a flexible stretchless narrow sling constituting a shoulder strap and also a hand strap which facilitates lifting and lowering the chair, said strap having its upper end attached to the upper end of one of the rails of the first named frame and having its lower end attached to the upper end of a companion rail of the second named frame whereby when the upper end of the strap is caught hold of one's hand, it may be used to set the chair down, at which time the then folded chair unfolds and positions itself automatically for use and also serves when lifting the chair up to cause the frames to fold into compact relationship.

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