Dec. 6, 1949 W. M. MADDOCKS 2,490,367

FOLDING CHAIR

Filed Dec. 19, 1944 4 Sheets-Sheet 1

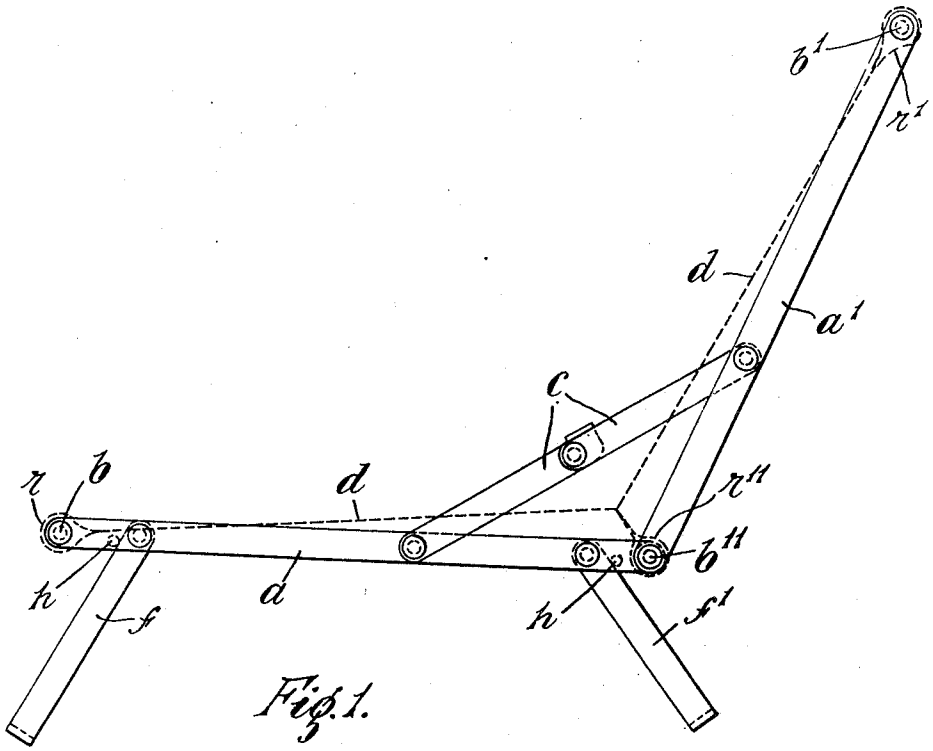


Fig. 1.

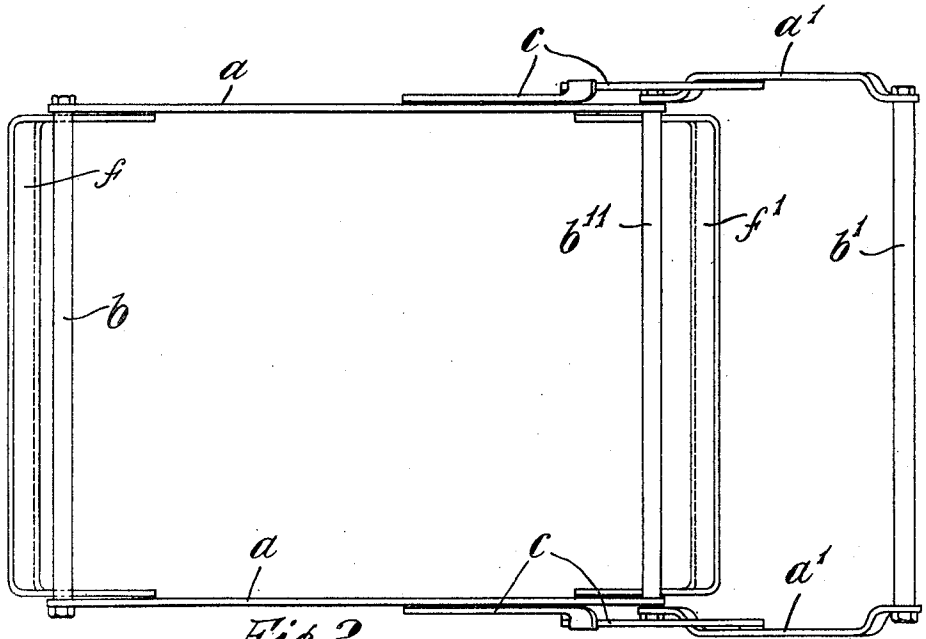


Fig. 2.

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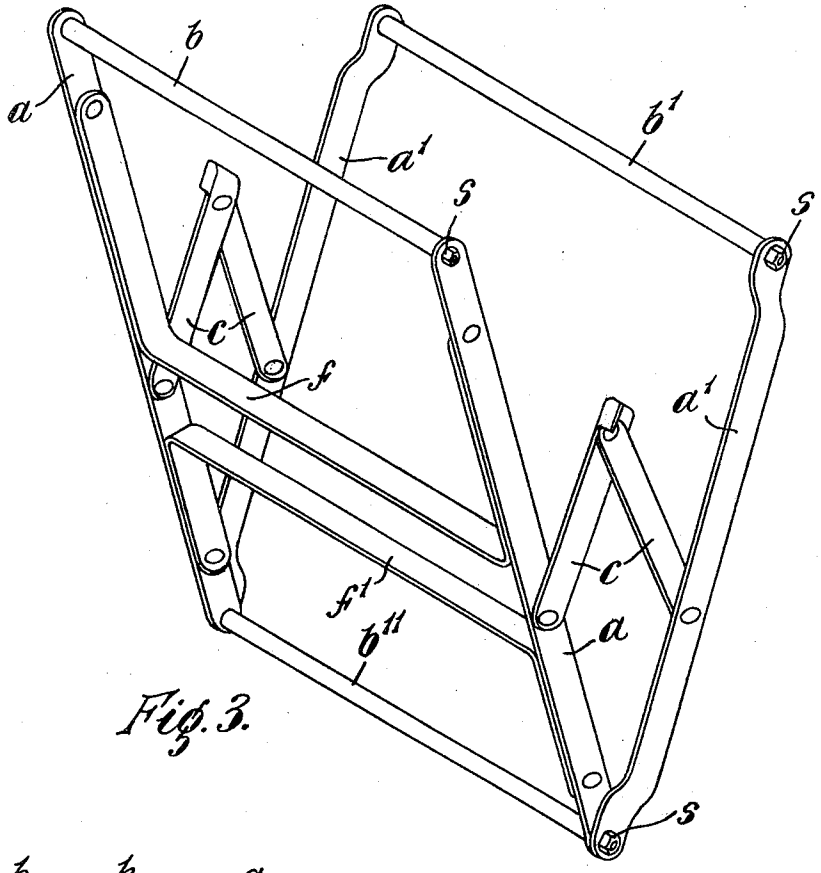


Fig. 3.

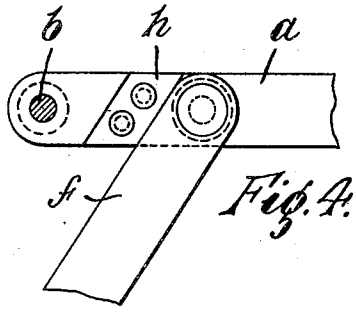


Fig. 4.

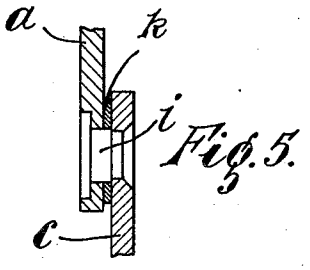


Fig. 5.

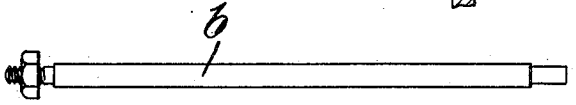


Fig. 6.

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FOLDING CHAIR

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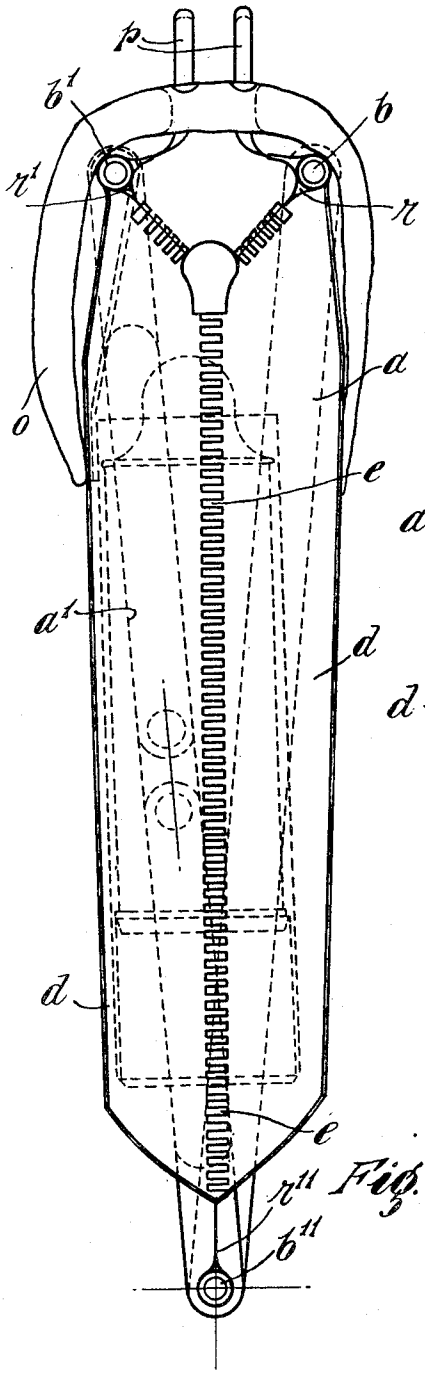


Fig. 7.

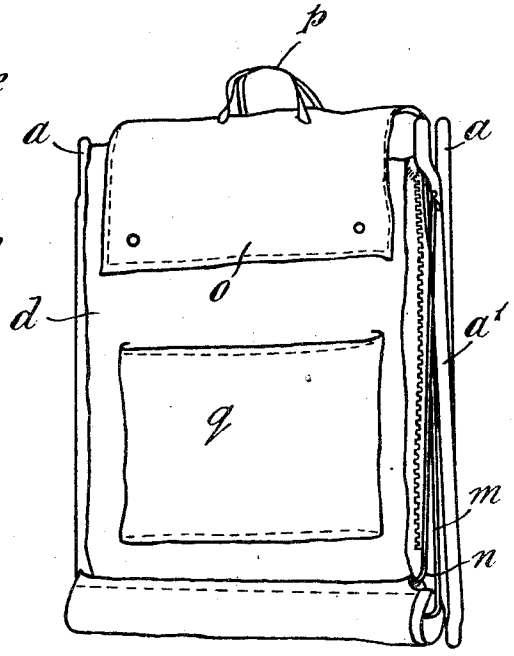


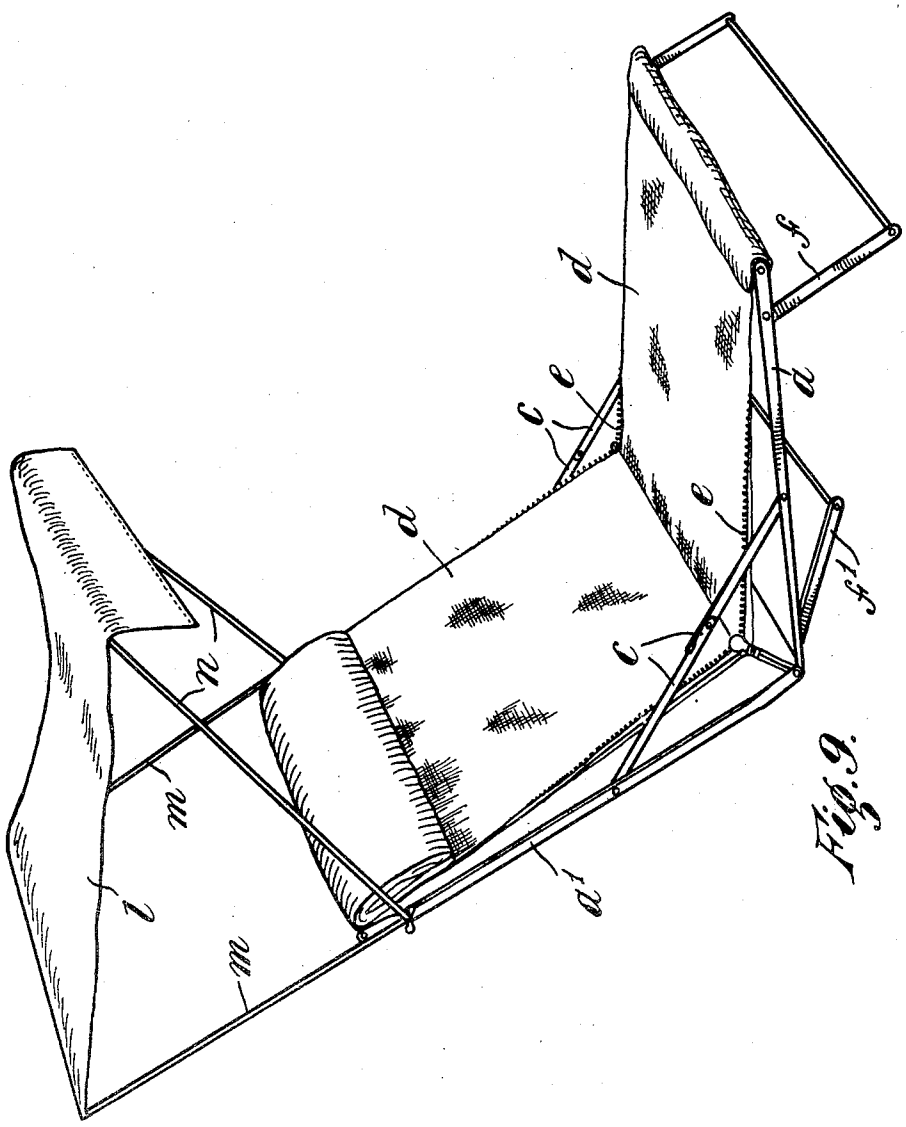
Fig. 8.

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FOLDING CHAIR

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Patented Dec. 6, 1949 2,490,367

UNITED STATES PATENT OFFICE

2,490,367

FOLDING CHAIR

William Michael Maddocks, Coventry, England

Application December 19, 1944, Serial No. 568,807
In Great Britain April 8, 1944

4 Claims. (Cl. 155—148)

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This invention relates to a new or improved article of manufacture consisting of a folding chair which is adapted when collapsed to function as a readily portable and capacious hold-all.

The improved chair, which may be of any suitable construction that will allow the seat and back-rest to be folded up parallel with each other, comprises a folding framework, flexible sheet material associated therewith and adapted, when the framework is extended, to form a seat and a back-rest, and means associated with said material whereby, when the chair is folded, the seat portion of said material and the portion thereof forming the back-rest, can be releasably secured together at the sides to function as and for the purposes of a hold-all.

The said framework may comprise a pair of frames hinged together end to end about a transverse axis and adapted to fold together about said axis in substantially parallel planes, relative movement of said frames when opened out or extended being limited by means of folding stays of the elbow-jointed type.

In the accompanying drawings,

Figure 1 is a view in side elevation of the frame of the improved chair in its extended state.

Figure 2 is a plan view thereof.

Figure 3 is a general view illustrating the manner in which the chair is folded.

Figure 4 is a detail view showing the stops for the legs.

Figure 5 is a detail view in section of one of the flexible joints.

Figure 6 is a detail view of one of the transverse members of the frame of the chair.

Figure 7 is an edge view showing the improved chair in its fully folded state as a hold-all with certain frame members removed to show construction.

Figure 8 is a view of the same.

Figure 9 illustrates the improved chair in a reclining position and provided with a canopy.

Throughout the drawings like parts are designated by similar reference characters. Figures 4, 5 and 7 are drawn to a larger scale and Figures 6 and 8 to a smaller scale than Figures 1, 2 and 3.

Referring to the drawings, the improved chair comprises two main frames, each consisting of side members a, a^1 of metal strip connected together parallel with each other at a suitable distance apart by means of transverse members b, b^1, b^{11} bolted thereto. One of these members is shown in detail in Figure 6. The transverse member b^{11} is common to both frames and constitutes

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a pivotal connection between them. Relative pivotal movement between the two frames is limited by means of inwardly folding elbow-jointed stays c. Associated with the said frames is a length of canvas webbing or other suitable flexible material d which is looped at or about the middle of its length to engage the transverse member b^{11} which as aforesaid is common to both frames. The free ends of the webbing are also looped to engage the front and upper transverse members b, b^1 so that when the chair is in the extended state the said webbing or the like forms the seat and back rest proper as shown in dotted lines in Figure 1. The manner in which the two frames fold together is shown in Figure 3 and when the chair is in the completely folded state shown in Figure 7 (in which figure the frame members a, a^1 of the end of the chair shown have been removed for the sake of clarity) the adjacent free edges of the portions of the flexible material forming the seat and back rest respectively are adapted to be secured together at the sides to form a hold-all by means of readily manipulated releasable fastening devices e, of the sliding clasp type.

In order to enable the edges of the portions of the flexible material to be secured together by a fastener of the sliding clasp type, the flexible sheet material is secured at substantially its mid portion to the common transverse member b^{11} by means of securing the material together to form the loop r^{11} which is introduced onto the said member b^{11}. In this way, when the chair frame is folded the adjacent edges of the flexible material are anchored at their lower ends and thus enable the sliding clasp to be drawn up the adjacent edges and to secure same together to form a bag or hold-all.

The seat frame is provided with independent front and rear legs f, f^1 which, as shown in Figure 3, fold up inside the frame members a. In the form shown each leg consists of a length of metal strip bent into the form of three sides of a parallelogram.

When the chair is in the extended state shown in Figure 1 the legs are prevented from spreading in a fore and aft direction under the weight of the occupant, by means of stops h secured to the frame members a in the vicinity of the pivoted ends of the legs as shown in detail in Figure 4. By using both front and rear legs or the front legs only, as shown in Figure 9, the occupant of the seat can either sit or recline as desired, the back rest providing a support in either case. The articulated members of the frame and

stays can be secured together in the manner shown in sectional detail in Figure 5, that is to say, by means of rivets *i* with intermediate washers *k* separating adjacent members.

The back support may be furnished with or adapted to receive a folding canopy or sunshade. In the arrangement shown in Figure 9 the canopy *l* can be supported by arms *m* and stays *n* which when the chair is collapsed fold up with it.

The chair may be secured in its folded state as a hold-all in any suitable manner, as by means of a flap *o* attached to the back of the flexible material at one side of the folded chair and adapted to be passed over the top of the latter and to be detachably secured to the back of the flexible material at the other side of the folded chair by means of straps, press buttons or the like. For convenience in carrying the folded chair and for other purposes a suitable handle *p* may be provided attached either to the said flap or more preferably, to the transverse members *b*, b^1 of the frame.

As a further convenience the back of the flexible material may be provided with one or more pockets *q* which are available for use when the chair is in the folded state.

In assembling the combined folding chair and hold-all the flexible material is preferably introduced onto the transverse members by the loops *r*, r^1, r^{11}, Figure 1, at the ends and intermediate part of the said material and is retained in position thereon by bolting the side members *a*, a^1 to said transverse members. This arrangement has the useful advantage that by removing the nuts *s*, Figure 3, and temporarily disconnecting the said side members the flexible material can be readily removed from the transverse members intact and used as a separate carrier or hold-all independently of the chair.

I claim:

1. Improvements in folding chairs of the kind wherein the seat comprises a portion of flexible material suspended between two transverse members of a chair frame including a back portion and a seat portion pivotally connected at their adjacent edges, comprising in combination therewith of an attachment of the flexible seat member to the chair frame at each side thereof to a point thereon between the two supporting ends of said chair frame for the seat member, fasteners of the sliding clasp type attached at each side of the seat member, the sliding clasps of said fasteners operating from the points of attachment of the flexible seat member to the chair frame to permit of the adjacent edges of the flexible material being secured together when the chair is in the folded condition to form a bag.

2. Improvements in folding chairs of the kind wherein the seat comprises a portion of flexible material suspended between two transverse members of the chair frame said chair frame comprising back and seat frames pivoted about a common transverse member, comprising in combination therewith of a transverse loop formed substantially across the length of said flexible seat material and on the back thereof, said loop being introduced onto said common transverse frame member for attachment of the seat material to said common transverse member, fasteners of the sliding clasp type attached at each side of the flexible seat material, the sliding clasps of said fasteners operating from the looped point of attachment of the flexible seat material to the common transverse frame member to permit of the adjacent edges of the flexible material being secured together when the chair is in its folded condition to form a bag.

3. A folding chair comprising in combination a seat frame forming a substantially rectangular seat surface; a back frame forming a substantially rectangular back surface; pivoting means attaching said frames to each other turnably about a common pivoting axis so as to enable folding of the same; a strip of flexible material having a length being substantially equal to the combined length of said seat surface and said back surface and being attached at its front edge to the front edge of said seat frame and at its rear edge to the rear edge of said back frame; attaching means securing to said pivoting means at least the longitudinal edges of said strip of flexible material at those points which are adjacent to said pivoting means; and sliding clasp fasteners attached to said longitudinal edges of said strip of flexible material in such a manner that the sliding clasps of said sliding clasp fasteners operate from said attaching means toward said front and rear edges of said strip of flexible material so as to secure the adjacent longitudinal edge portions of said strip of flexible material to each other, thus forming a bag when said chair frames are in folded position.

4. A folding chair comprising in combination a seat frame forming a substantially rectangular seat surface; a back frame forming a substantially rectangular back surface and having substantially the same size as said seat frame; pivoting means attaching said frames to each other turnably about a common pivoting axis so as to enable folding of the same; a strip of flexible material having a length being substantially equal to the combined length of said seat surface and said back surface and being attached at its front edge to the front edge of said seat frame and at its rear edge to the rear edge of said back frame; attaching means securing at least the longitudinal edges of said strip of flexible material substantially midway between its front and rear edges to said pivoting means; and sliding clasp fasteners attached to said longitudinal edges of said strip of flexible material in such a manner that the sliding clasps of said sliding clasp fasteners operate from said attaching means toward said front and rear edges of said strip of flexible material so as to secure the adjacent longitudinal edge portions of said strip of flexible material to each other, thus forming a bag when said chair frames are in folded position.

WILLIAM MICHAEL MADDOCKS.

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