Nov. 6, 1934. U. B. McMURTRY 1,979,278

CHAIR

Filed March 31, 1933 2 Sheets-Sheet 1

FIG. 1.

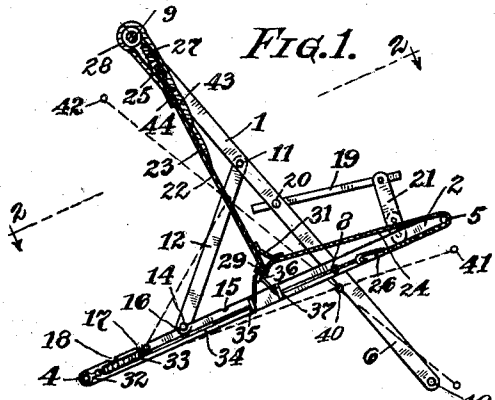


FIG. 2.

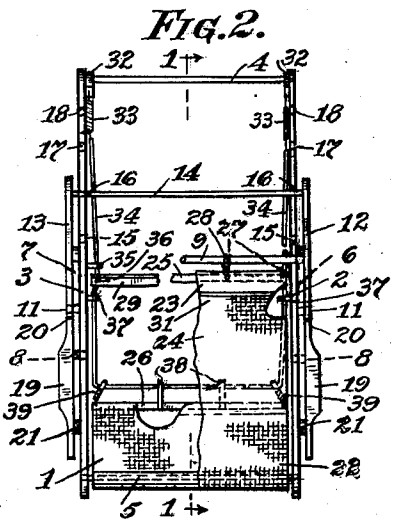


FIG. 3.

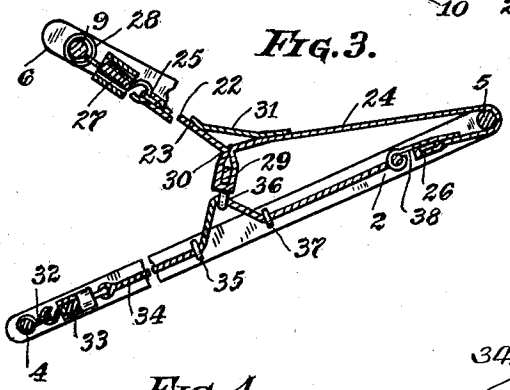


FIG. 13.

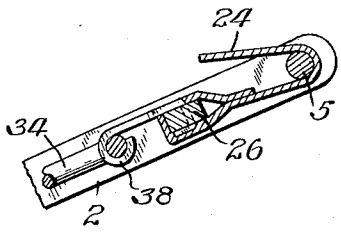


FIG. 4.

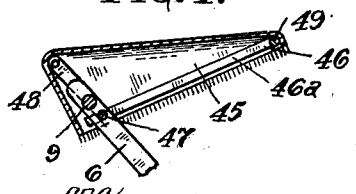


FIG. 5.

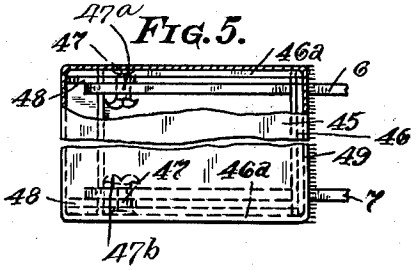
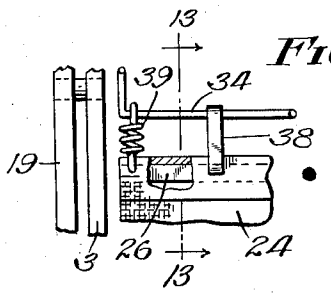


FIG. 14.



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FIG. 6.

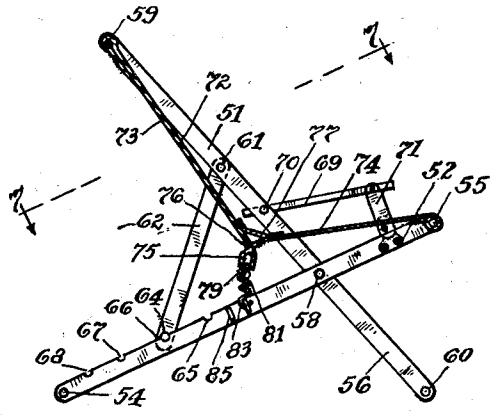


FIG. 7.

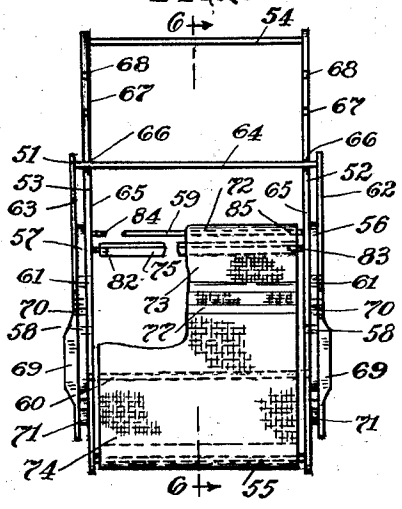


FIG. 8.

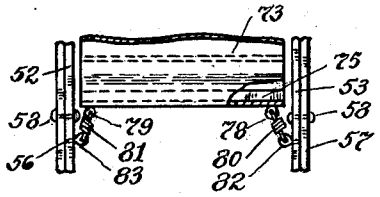


FIG. 9.

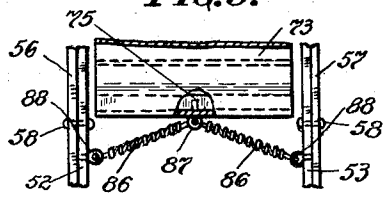


FIG. 10.

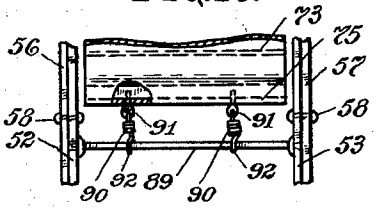


FIG. 11.

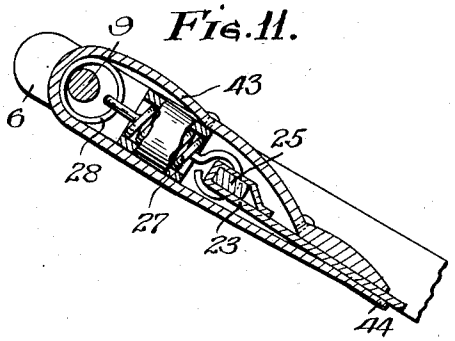
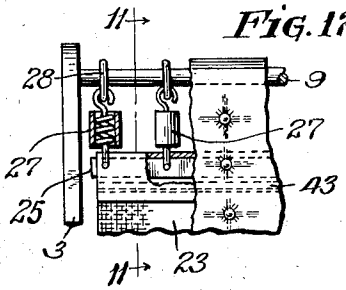


FIG. 12.



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Patented Nov. 6, 1934 1,979,278

UNITED STATES PATENT OFFICE

1,979,278

CHAIR

Ulysses B. McMurtry, Toronto, Ontario, Canada

Application March 31, 1933, Serial No. 663,831
In Canada April 1, 1932

5 Claims. (Cl. 155—119)

The present invention relates to foldable camp furniture, and more particularly to what is known as camp chairs, and has for its object the provision of a chair which has a tightly drawn seat therein, and resilient means for holding said seat in position.

In the present description, I have shown two forms or types of chairs, which will be described in turn.

One of the principal distinctions between the two types of chairs herein lies in the means for holding the continuous strip of flexible seat material under tension, and other differences of construction will more particularly appear as the description proceeds herein.

Both types of chairs may be placed in several reclining positions, with the back and seat material in each case held in a taut angular relation to each other.

In the first form of the device in hand, a head rest is provided on the back portion of the chair, and a sun shade may be mounted on the upper extremity of same, as will be further explained below.

In the accompanying drawings, forming part of this specification, I have shown the two forms of my invention.

The first form of my invention, I have shown in Figures 1 to 5 of the drawings, in which;

Figure 1 is a central longitudinal section of my invention taken on line 1—1 of Figure 2.

Figure 2 is a plan view of the chair shown in Figure 1, taken on a plane 2—2 of Figure 1.

Figure 3 shows enlarged sectional details of parts of the chair shown in Figure 1.

Figure 4 shows a longitudinal sectional detail of an awning with its supports, used with my invention.

Figure 5 is a plan view of Figure 4.

The second form of my invention is shown in Figures 6 to 10 inclusive, in which;

Figure 6 is a central longitudinal section of the second form of my invention, taken on line 6—6 of Figure 7.

Figure 7 is a plan view of the chair shown in Figure 6, taken on a plane parallel with 7—7 of Figure 6.

Figure 8 is an elevational view of the seat cross-bar and associated parts, which is shown in Figure 6, taken from the left of same.

Figure 9 is a similar elevational view to that of Figure 8, showing a modified type of means for holding the seat cross-bar in position.

Figure 10 is another modified means of holding cross-bar 75 in position, said view being similar to Figure 8.

Figure 11 is an enlarged section on 11—11 of Fig. 12.

Figure 12 is an enlarged partial front view of a portion of the top of the chair.

Figure 13 is an enlarged section on 13—13 of Fig. 14.

Figure 14 is a partial enlarged plan view of the end of the chair seat, attached to a cable used with the invention.

The first form of the invention, shown in Figures 1 to 5 inclusive of the drawings will be first described.

In the drawings, Figures 1 to 5 inclusive, the numeral 1 indicates a jointed foldable chair of a usual type, having the inclined bars 2, 3 which are joined together at their ends by the cross-bars 4 and 5, forming a frame. The cross-bar 5 is preferably made of a roller, which is revolvably mounted in the ends of cross-bars 2 and 3 as shown.

Adjacent to the bars 2 and 3 just described, are the bars 6, 7 which are pivotally attached to the said bars 2 and 3 at the points 8, 8. The bars 6 and 7 are joined at their ends by their cross-bars 9, 10 forming a similar frame-work to that first described.

Pivotally mounted on the bars 6 and 7 at points 11, 11 is a supporting frame comprising the two support bars 12, 13 which are joined together at their lower extremities by the cross-bar 14. It is noted that in the bars 2 and 3 are the notches 15, 16, 17 and 18, which are adapted to receive the cross-bar 14, and support the bars 6 and 7 in various inclined positions.

The chair is also provided with pivotally mounted arms 19, 19 which are attached to the bars 6 and 7 at points 20, 20, and to the bars 2 and 3 by means of the pivotally mounted connecting bars 21, 21.

The supporting back and seat portion of the chair consists preferably of any cloth or canvas material, illustrated at 22 of the drawings, and it will be seen that the back portion 23 and the seat portion 24 comprise preferably a continuous strip of material from the point where the flat metal bar 25 is attached to the back portion 23, to the point where a corresponding bar 26 is attached to the end of the seat portion 24. It will be noted that the metal part 25 is resiliently attached to the cross-bar 9 by means of the springs 27, 27, etc., and the metal rings 28, 28, etc.

The back and seat material, it is seen from Figure 3, passes around a cross-bar 29, and is

joined to itself at point 30, and then passes over a roller 5 as shown. A reinforcing piece of material 31 is mounted on the portions 23 and 24 of the back and seat material.

Mounted on the cross-bar 4, are two bent metal bands 32, 32 to which are attached the helical springs 33, 33, which in turn are connected with a preferably small wire cable 34, on each side of the chair. The wire cable 34, passes through a pair of ring bolts 35, 35, which are mounted in the bars 2 and 3, thence passes through a pair of ring bolts 36, 36 mounted near the ends of the cross-bar 29, thence passes through another pair of ring bolts 37, 37 mounted in the bars 2, 3.

It will be seen in Figures 2 and 3 of the drawings, that the metal cross-bar 26 is provided with a pair of looped guide bars 38, 38, and a pair of helical springs 39, 39, both the said springs and loop bars being adapted to permit the slidable operation of the cable 34 therethrough.

It is seen that after the cable 34 passes through the ring bolts 37, 37 that same passes through the helical springs 39 and the looped bars 38, thus resiliently connecting the end of the seat material 24, which is adjacent to the metal bar 26, with the cross-bar 4.

From the above description, it is evident that the back and seat material 23 and 24 of the chair is always under a resilient tension, due to the action of the springs 33, 33 and the springs 27, 27, and the action of the cable 34 passing through the ring bolts 36 in the ends of the cross-bar 29. This is true whether the chair is occupied by a person or is merely empty. When the chair is occupied, the seat portion 24 is downwardly depressed, the material passing over the roller 5 moving to the left, as seen in Figure 3, while at the same time the back portion 23 descends, due to the elasticity of the springs 27, 27. As a result of these two motions, the cross-bar 29 descends and any shortening of the cable 34 between the ring bolt 36 and the cross-bar 4 being taken up by the springs 33, 33, as is readily understood.

It will be noted in the Figure 1, the cross-bar 14 may be removed from the notches 16, 16 and placed in the notches 17, 17, in which case the pivotal points 8, 8 take the location indicated by 40, Figure 1, the roller 5 takes the position 41, and the cross-bar 9 position 42. In this position however, the back 23 and the seat 24 of the chair are always held in taut position by the action of the cross-bar 29 and the resiliently held cable 34 and its associated parts, and this is one of the major features of the present device, in that the seat material always presents a very neat and attractive appearance.

In Figure 1, it is seen that a head cushion 43 is attached at 44 to the back 23, and is carried around the cross-bar 9, and is padded on its uppermost face to form a head rest as shown.

The canvas used to form the back, seat and head rest of the chair is preferably made of attractively colored or striped material, thereby adding to the attractiveness of the chair.

Figure 4 shows a canopy 45, which is mounted on the upper end of the bars 6 and 7 by means of a frame 46, having a pivoted connection at 47, 47 with each of said parts, and a pair of upwardly projecting arms 48, 48, also pivoted at 47 to the bars 6 and 7. A cross-bar 49 joins the two side bars 46*a*, 46*a*, forming the frontal support for the canopy.

It will be noted that the pivoted connection at 47, 47 is made by the use of bolts 47*a*, 47*a* which preferably have butterfly nuts 47*b*, 47*b*, so that the canopy 45 may be adjusted in a variety of positions with reference to the bars 6, 7 and locked in position by means of said butterfly nuts 47*b*, 47*b*. It is further seen that the rear corners of the canopy 45 are merely supported by the upwardly disposed members 48, 48 which are held in spaced relation to each other due to the cross-bar 9, which holds the side bars 6, 7 in proper position.

The second form of my invention, shown in Figures 6 to 10 inclusive of the drawings, follows;

In the drawings, Figures 6 to 10 inclusive, the numeral 51 indicates a jointed foldable chair of the usual type of camp furniture, having the inclined bars 52, 53 which are joined together at their ends by the cross-bars 54 and 55 forming a frame.

Adjacent to the bars 52 and 53 just described, are the bars 56, 57, which are pivotally attached to the said bars 52 and 53 at the points 58, 58. The bars 56 and 57 are joined at their ends by their cross-bars 59, 60 forming a similar framework to that first described.

Pivotally mounted on the bars 56 and 57 at points 61, 61 is a supporting frame comprising the two support bars 62, 63 which are joined together at their lower extremities by the cross-bar 64. It is noted that in the cross-bars 52 and 53 are the notches 65, 66, 67 and 68, which are adapted to receive the cross-bar 64, and support the bars 56 and 57 in various inclined positions.

The chair is also provided with pivotally mounted arms 69, 69 which are attached to the bars 56 and 57 at points 70, 70, and to the bars 52 and 53 by means of the pivotally mounted connecting bars 71, 71.

The supporting back and seat portion of the chair consists preferably of any cloth or canvas material, illustrated at 72 of the drawings, and it will be seen that the back portion 73 and the seat portion 74 comprise preferably a continuous strip of material from the point where the back material is mounted on the cross-bar 59 to where the end of the seat material is secured on the cross-bar 55. It is noted that the back and seat material may be looped around the cross-bars 59 and 55 respectively or, said material may be nailed or otherwise secured to said bars.

It is seen that the back material passes around the cross-bar 75 and is joined to itself at point 76, and thence extends to form the seat 74. A reinforcing strip 77 of material joins the seat and back together.

The cross-bar 75 is provided with a pair of ring bolts 78, 79, as shown in Figure 8, and each ring-bolt carries a preferably helical spring 80, 81, which in turn are connected with the ring bolts 82, 83 in the side bars of the inner frame of the chair.

It is seen from the description just given herein, that the back and seat material 73 and 74 respectively of the chair, is always under a resilient tension due to the action of the springs 80, 81. This is true whether the chair is occupied or not, and in order to accomplish this purpose two additional ring bolts 84, 85 are mounted in the inner frame side bars.

It is evident that when the cross-bar 64, is placed in the upper sets of recesses 65, 66, etc., which are formed in the side bars 52, 53 the ring bolts 82, 83 may be used for attaching the springs 80, 81, thereto, while when the cross-bar 64 is placed in the lower sets of recesses 67, 68, etc., the ring bolts 84, 85 may be used.

When the chair is occupied the back and seat being resiliently held at the angular junction of same, can accommodate themselves to the body of the occupant somewhat, but it is found that a chair having the features of the present invention is much more comfortable to sit in than the ordinary flexible back and seat type of camp chair (not shown). The appearance of the present type of chair is much more attractive than the ordinary camp chair, and this is one of the principal advantages of the present invention.

As the new type of chair with the flexible back and seat rigidly secured to the cross-bars of the chair, in combination with a very simple holding means for the flexible material, may be constructed at little extra cost over the ordinary camp chair, my invention is desirable from a commercial point of view.

In Figure 9, is shown an alternate means for holding the cross-bar 75 in position which may be used in lieu of the type shown in Figure 8. 86, 86 in the Figure 9 represent two springs which are both attached to a ring bolt 87 located centrally with reference to the cross-bar 75, the ends of said springs being attached also to the ring bolts 88, 88 mounted in the inner side-bars 52, 53 of the chair. It is found that in this type of resilient fastening means, due to the length of the springs 86, 86 and their greater elasticity than the springs 80, 81 first described, only one pair of ring bolts 88, 88 are required, in lieu of a double set of ring bolts 82, 83 and 84, 85 shown in Figure 6. That is to say, the cross-bar 64 may be placed in any of the notches 65 to 68 inclusive, with the back and seat material rigidly secured to the cross-bars 59 and 55 respectively, while the springs 86, 86 are permanently attached, as shown in Figure 9.

In the Figure 10, is shown a still further modification of the means used to secure the cross-bar 75 in position, in which a cross-bar 89 is rigidly mounted in the inner side bars 52, 53 and a pair of springs 90, 90 is used to connect said bar 89 with the cross-bar 75 of the seat of the chair. Said springs 90, 90 are attached to the ring bolts 91, 91 mounted in the cross-bar 75 and their opposite ends 92, 92 looped about the cross-bar 89.

I claim:

1. In a foldable chair, an inner rectangular frame, an outer rectangular frame pivotally connected to the inner frame, means supported by the inner frame and pivoted to the outer frame for supporting the said frames in a number of different positions of elevation, a back and seat of flexible material, the ends of which are mounted on the outer and inner frames respectively, and resilient means connected with the back and seat at their point of angular junction, comprising a continuous cable resiliently attached at its ends to the inner frame, and slidably connected to the end of the seat material, said means being adapted to hold the back and seat of the chair under elastic tension, for various relative positions at which the inner and outer frames may be placed.

2. In a foldable chair, an inner rectangular frame, having a rear and a front cross-bar, and a pair of side-bars each provided with a pair of ring bolts intermediate their length, an outer rectangular frame having an upper and a lower cross-bar therein, and pivotally connected to the side bars of the inner frame, means supported by the inner frame for holding the two frames in angular relation to each other, a back and seat of continuous flexible material for said chair, resilient means connecting the upper end of the back material with the upper cross-bar of the outer frame, a continuous cable for maintaining a tension on the back and seat material having a pair of oppositely disposed ends, each of which passes through a pair of ring bolts mounted on the inner frame, and is slidably connected with the back and seat material at their point of angular junction, a transverse portion on said cable slidably and resiliently connected with the end of the seat material, and resilient means connecting the ends of said cable with the rear cross-bar of the inner frame.

3. In a foldable chair, an inner rectangular frame having a revolvable front and a rear cross-bar, an outer rectangular frame having an upper and a lower cross-bar therein, pivotally connected to the inner frame, means supported by the inner frame for holding the two frames in selective angular relation to each other, a back and seat composed of a strip of continuous flexible material, one end of which is resiliently mounted on the upper cross-bar of the outer frame, a free end on the seat material in revolvable engagement with the front cross-bar of the inner frame, means carried on the inner frame for resiliently holding the seat and back material under tension, attached to the back and seat material at the point of their angular junction with each other, slidably connected to the free end of the seat material, and resiliently connected to the rear cross-bar of the inner frame, and a head rest secured to the under side of the flexible back material at its upper end, and in engagement with the upper cross-bar of the outer frame, and a padded end on said head rest in engagement with the upper surface of the flexible back of the chair.

4. In a foldable chair, an inner rectangular frame having a lower cross-bar therein, a revolvable cross-bar mounted in the upper end of the inner frame, an outer rectangular frame pivotally connected to the inner frame, and having a pair of cross-bars forming the ends of same, means supported by the inner frame for holding the two frames in angular relation to each other, a back and a seat composed of a continuous strip of flexible material, a free end on the seat material in engagement with the revolvable cross-bar of the inner frame, resilient means connecting the end of the back material with the upper cross-bar of said outer frame, a cross-bar mounted in the back and seat material at their point of junction, and resilient means connecting the last named cross-bar with the free end of the seat material, and the lower cross-bar of the inner frame, for holding the back and seat material of the chair under tension.

5. In a foldable chair, an inner rectangular frame composed of a pair of longitudinal side bars, each having a pair of ring bolts mounted therein, intermediate their length, and a rear cross bar, a revolvable front cross-bar mounted in the inner frame, an outer rectangular frame having a pair of side bars pivotally mounted on the side bars of the inner frame at a point intermediate their length, a front and rear cross-bar in said outer frame, means supported by the inner frame for holding the frames in angular relation to each other, a seat and back for said chair composed of flexible material, an upper end on the back material resiliently mounted on the rear cross-bar of the outer frame, a free end on the said material in engagement with the said revolvable cross-bar of the inner frame, a transverse cross

bar provided with a pair of ring bolts mounted in the back and seat material at their point of junction, a continuous cable for maintaining a tension on the back and seat material mounted on the side bars of the inner frame, the ends of which are resiliently attached to the rear cross bar of said inner frame, said cable having a pair of parallel portions each passing through a pair of the ring bolts in the inner frame, and through one of the ring bolts of the transverse cross-bar which is mounted in the seat material, and a transverse portion on said cable slidably and resiliently attached to the free end of the seat material.

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