July 24, 1951 N. RIKELMAN 2,561,886

FOLDING ADJUSTABLE BEACH CHAIR

Filed March 23, 1948 2 Sheets-Sheet 1

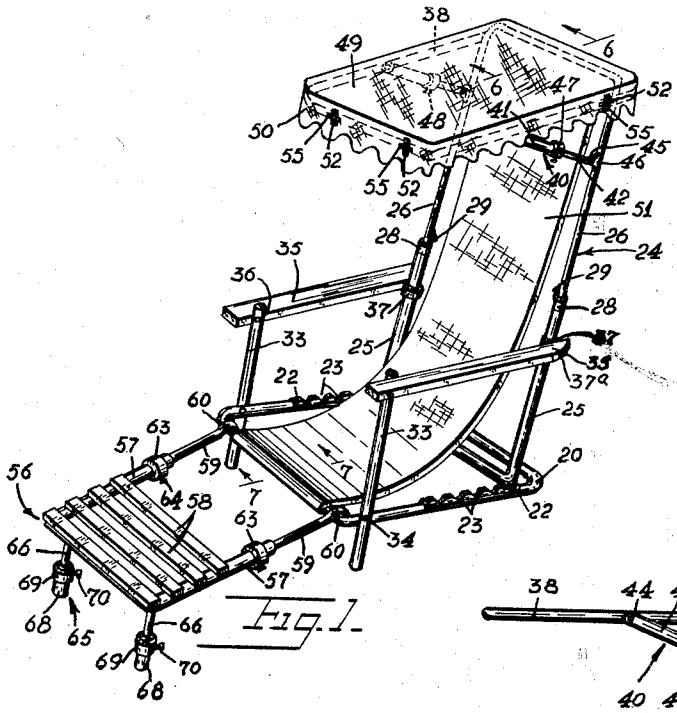


Fig. 1.

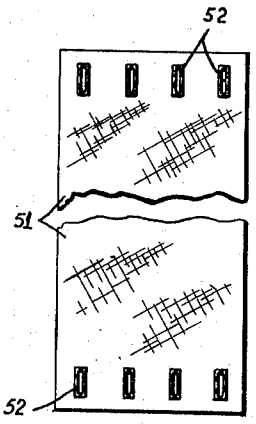
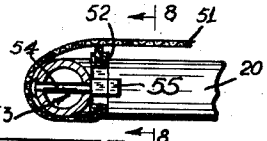


Fig. 12.



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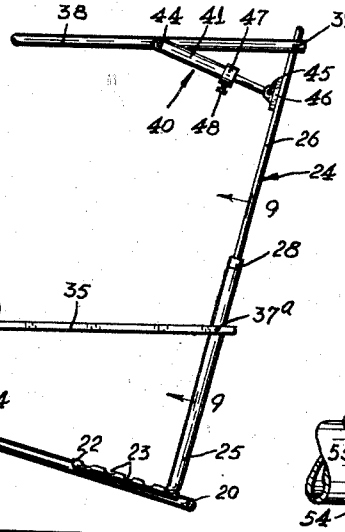
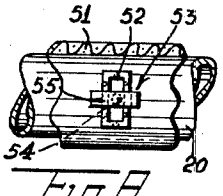


Fig. 2.



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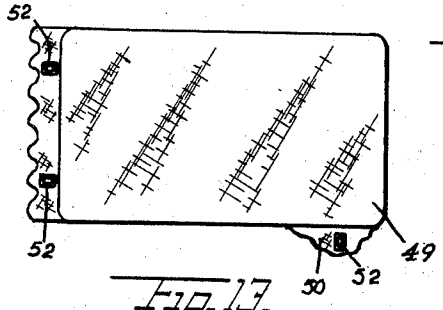

Fig. 13.

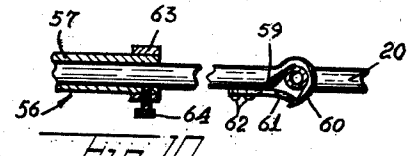

Fig. 10.

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2 Sheets-Sheet 2

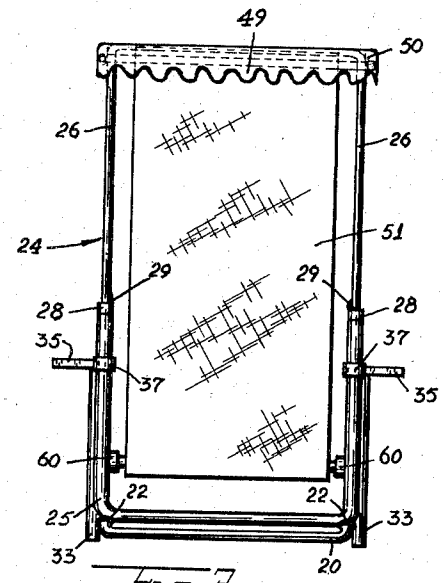
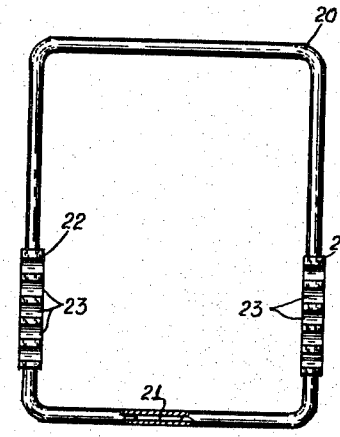


Fig. 3.



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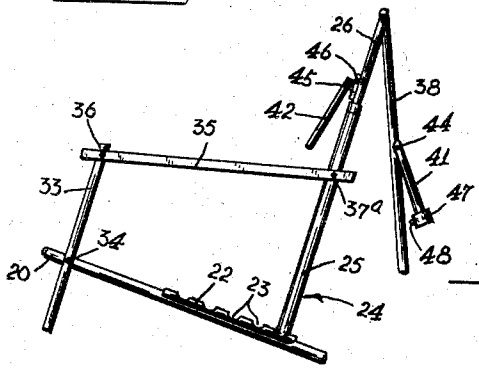

Fig. 14.

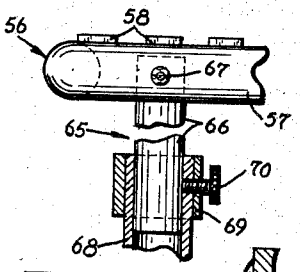

Fig. 11.

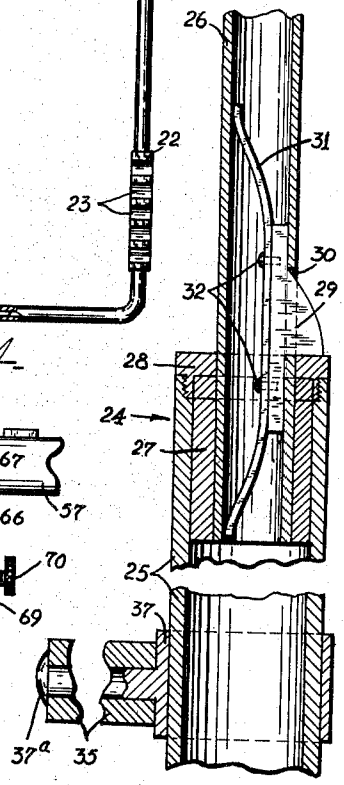

Fig. 9.

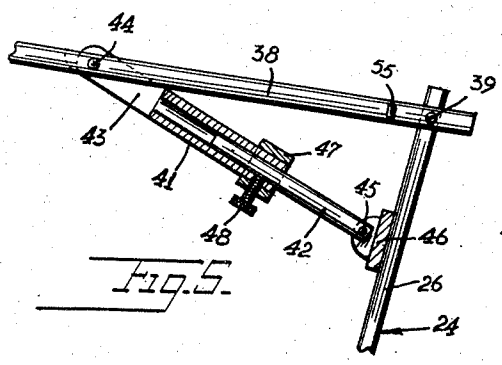

Fig. 5.

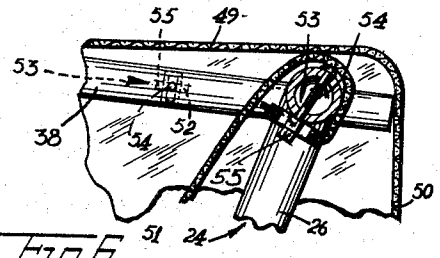

Fig. 6.

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FOLDING ADJUSTABLE BEACH CHAIR

Nathan Rikelman, New York, N. Y.

Application March 23, 1948, Serial No. 16,433

3 Claims. (Cl. 155—154)

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This invention relates to a foldable beach chair.

Heretofore there has been a great deal of bother and trouble with the average beach chair. It is usual for the canvas to tear at points where it wears against the wooden frame. The ordinary man discards the entire beach chair after the canvas rips, due to the difficulty of replacing the canvas. Another difficulty with the conventional chairs is that the hood continually falls down. This is due to the fact that it is long and heavy and is pivoted at one end only and held by friction, and there is not sufficient frictional contact to lock the hood. For this same reason, it is difficult to adjust conventional hoods to the right elevation, which is dependent upon the position of the sun at the time that the beach chair is being used. The wooden frame of conventional beach chairs is faulty, since the wood warps and cracks when it is left exposed to rain and dampness, the varnish comes off, and the rivet holes wear rapidly. Furthermore, conventional beach chairs are of such a length that they cannot be disposed in automobile trunks for transit to the beach.

The object of the present invention is to provide a beach chair which overcomes all of the above faults, the beach chair having a metal telescopic frame which cannot warp or crack and which can be reduced in over-all size for carriage in an automobile trunk. Special means are provided to simplify the replacement of the canvas and to hold the hood.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a perspective view of the foldable beach chair constructed in accordance with this invention.

Fig. 2 is a side elevational view of the chair frame per se with all cloth parts removed.

Fig. 3 is a rear elevational view of the chair.

Fig. 4 is a plan view of the seat frame per se.

Fig. 5 is an enlarged side elevational view of a portion of Fig. 2 having a portion thereof shown in section.

Fig. 6 is an enlarged partial vertical sectional view taken on the line 6—6 of Fig. 1.

Fig. 7 is an enlarged partial vertical sectional view taken on the line 7—7 of Fig. 1.

Fig. 8 is a sectional view taken on the line 8—8 of Fig. 7.

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Fig. 9 is an enlarged partial vertical sectional view taken on the line 9—9 of Fig. 2.

Fig. 10 is a partial sectional view of the connected ends of the seat frame and the foot rest.

Fig. 11 is a side elevational view partly in section of the foot rest and one of its supporting legs.

Fig. 12 is a plan view of the seat cloth per se.

Fig. 13 is a plan view of the hood per se.

Fig. 14 is a partial collapsed view of the chair frame.

The foldable beach chair, according to the present invention, comprises a seat frame 20, shown in detail in Fig. 4, which is rectangular in shape and constructed of aluminum alloy tubing bent to the desired form. The adjacent ends of the tubing at the back of the frame are bridged by a dowel 21. In addition, the adjacent ends of the frame 20 may be welded or in any other similar manner attached together. The side arms of the seat frame 20 adjacent the back of the frame are provided with metal strips 22 provided with notches 23. The notches 23 are arranged in laterally aligned pairs on opposite sides of the seat frame 20.

The foldable beach chair further includes a back frame 24 consisting of a bottom U-shaped frame member 25 and an inverted top U-shaped frame member 26. The frame members 25 and 26 are also constructed of aluminum alloy tubing, and the side arms of the top U-shaped member 26 are extended into the arms of the bottom U-shaped member 25. Thus, the back frame 24 is telescopically constructed to be extended when in use and to be contracted when not in use to reduce the over-all size of the chair when folded, facilitating its storage and its being carried in the luggage compartment of a motor vehicle.

The side arms of the interengaged members 25 and 26 are provided with means for preventing their complete disengagement when extended, and for holding them in the extended position. To prevent the complete disengagement of the members 25 and 26, the ends of the side arms of the top U-shaped member 26, within the ends of the side arms of the bottom U-shaped member 25, carry sleeves 27, which are securely welded to the side arms of the member 26. Upon outward movement of the member 26, the sleeves are adapted to engage inwardly directed flanges 28 screw threaded into the ends of the side arms of the bottom U-shaped member 25. The sleeves 27 are of a considerable length so as to retain the interengaged ends of

the side arms of the members 25 and 26 against wobbling in the fully extended position of the top U-shaped frame member 26.

To retain the top U-shaped frame member 26 in its fully extended position, the member 26 carries catch members 29 extended through slots 30 on the inner sides of the side arms of the frame member 26. The catch members are mounted upon the central portions of leaf springs 31 disposed within the side arms of the frame member 26. The catch members 29 are attached to the leaf springs 31 by means of pins 32, and the free ends of the springs 31 are bent to contact the opposite faces of the side arms of the U-shaped frame member 26 to retain the catch members 29 in their operative position. In the fully extended position of the top U-shaped frame member 26, the catch members are adapted to engage the top faces of the flanges 28 mounted on the ends of the side arms of the bottom U-shaped frame member 25 to prevent the frame member 26 from moving inwardly relative to the frame member 25. When it is desired to collapse these frame members 25 and 26, it is merely necessary to press inwardly on the catch members 29, against the action of the leaf springs 31, until the outer ends of the catch members clear the inner face of the side arms of the bottom U-shaped frame member 25, and then the top U-shaped frame member 26 can be moved toward the frame member 25.

Vertical legs 33 are pivotally attached to the sides of the seat frame 20 adjacent the front thereof, intermediate their ends, by pins 34. The top ends of the vertical legs 33 are in turn pivotally attached to the front ends of flat arm rests 35 by means of pins 36. The rear ends of the arm rests 35 are attached to studs 37a extending from metallic rings 37 welded in position upon the side arms of the bottom U-shaped frame member 25 of the back frame 24. The vertical legs 33 and the arm rests 35 are also preferably constructed of aluminum alloy material and all connections of these parts are pivotal connections.

A hood frame 38 is attached to the top of the back frame 24 and extends forwardly into a superimposed position above the seat frame 20. This hood frame is U-shaped and formed of aluminum alloy tubular material and has the free ends of its side arms pivotally attached to the top ends of the side arms of the top U-shaped frame member 26 of the back frame 24 by means of pins 39. Means is provided for holding the hood frame 38 in various pivoted positions relative to the back frame 24. This means comprises telescopic arms 40 between the hood frame 38 and the back frame 24. Each of the telescopic arms 40 comprises a tubular portion 41 and a stem portion 42. The tubular portion 41 has its outer end bifurcated and the arms 43 thereof extend along opposite sides of the side arms of the hood frame 38 and are pivotally attached thereto by a pin 44. The end of the stem portion 42 is pivotally attached by means of a pin 45 to a bracket 46 welded to the side arm of the top U-shaped frame member 26.

The ends of the stem portions 42 of the telescopic arms 40 are slidably extended into the tubular portions 41, and the ends of the tubular portions 41 are reinforced by means of rings 47 welded in position thereon. Set screws 48 threadedly engage through the rings 47 and the ends of the tubular portions 41 and bear against the stem portions 42 for selectively holding the tubular portions 41 and the stem portions 42 in various

extended positions to adjust the angular position of the hood frame 38.

When folding the beach chair, the set screws 48 are loosened and the stem portions 42 of the telescopic arms 40 are withdrawn from the tubular portions 41, leaving the stem portions 42 free to swing downward into an inoperative position along the side arms of the top U-shaped frame member 26, see Fig. 14. The hood frame 38 is then free to be pivoted into an inoperative position along the back of the back frame 24, also as shown in Fig. 14. The catches 29 on the top U-shaped frame member 26 are then pressed inwardly freeing the frame member 26 to be collapsed into the bottom U-shaped frame member 25. The manner of completing the folding of the beach chair will be obvious to those skilled in the art. It will be appreciated that the present construction provides a convenient chair which can be quickly and easily folded to small size, with none of the parts being entirely separated therefrom to become lost between the times that the chair is used. The small size which the chair folds into permits it to be conveniently stored in small space or carried in the luggage compartment of a motor vehicle.

A hood 49 is provided for engagement over the hood frame 38. The hood 49 is made of canvas, duck or other similar materials and is provided with a depending fringe 50. A combined seat and back 51 is extended between the front arm of the seat frame 20 and the top arm of the top U-shaped frame member 26 of the back frame 24. The combined seat and back 51 is likewise made of canvas, duck, or other similar material, but is preferably made of the same material as the hood 49.

Novel means is provided for securing the hood 49 and the combined seat and back 51 in position upon their respective portions of the beach chair frame. To accomplish this securement, the hood 49 and the combined seat and back 51 are provided at spaced points with metallic grommets 52, and the corresponding portions of the seat frame are provided with complementary turnbuckles 53. All of the turnbuckles 53 are alike in construction and comprise shank portions 54 rotatively extended through the respective portions of the seat frame. Rectangular heads 55 are formed on the shank portions 54 and are adapted to be extended through rectangular openings in the metallic grommets 52. After being passed through the rectangular openings in the grommets 52, the rectangular heads 55 of the turnbuckles 53 are adapted to be turned to extend at right angles to the rectangular openings to hold the grommets against coming off the turnbuckles 53. The construction will serve to releasably attach the hood 49 and the combined seat and back 51 in position permitting their interchange with new hoods and combined seat and backs when the ones being used become torn, faded, or for some other reason cannot be used. With the construction shown, the ends of the combined seat and back are turned partially around their respective portions of the seat frame prior to being attached in position so as to be more rigidly secured in position.

A foot rest 56 is provided for the front of the beach chair, and comprises a U-shaped frame 57, of aluminum alloy material, having spaced slots 58 secured in position across the front end thereof to provide a foot resting surface. Extension members 59 extend from the free ends of the arms of the frame 57 and are provided at their

ends with hooks 60 which engage the front of the seat frame 20. Springs 61 have one of their ends attached to the bottom face of the extensions 59 by means of pins 62, see Fig. 10. The free ends of the springs 61 engage the free ends of the hooks 60 and close the open side of the hooks preventing accidental displacement of the hooks 60 from the seat frame 20. When it is desired to separate the foot rest from the seat frame, it is merely necessary to move the free ends of the springs 61 away from the free ends of the hooks 60 opening the open side of the hooks permitting the hooks to be disengaged from the seat frame 20.

The extensions 59 are slidably extended into the ends of the side arms of the frame, and a ring 63 is engaged about the free end of each side arm of the frame 57. Set screws 64 threadedly pass through the rings 63 and the ends of the side arms of the U-shaped frame 57 for holding the extensions 59 in various extended positions and so vary the length of the foot rest 56.

Supporting legs 65 are provided from the front end of the foot rest 56, and each leg 65 comprises a top portion 66 pivotally attached to the frame 57 by means of a pin 67. The top portions 66 slidably engage into tubular bottom portions 68 which have their top ends reinforced by means of rings 69. Set screws 70 have threaded engagement with the rings 69 and the tubular bottom portions 68 and are adapted to be tightened against the top portions 66 for holding the legs 65 in various adjusted lengths.

Normally, the chair is set up as shown in Fig. 1, with the bottom arm of the U-shaped frame member 25 engaging one aligned pair of notches 23 formed in the strips 22 attached to the side arms to the seat frame 20. The angular position of the back frame 24 can be adjusted relative to the seat frame 20 by engaging the back frame 24 with a desired aligned pair of the notches 23. It will be appreciated that a change in the angular position of the back frame 24 will effect a corresponding change in the angular position of the arms 35.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A foldable beach chair comprising a seat frame, a collapsible back frame, a combined seat and back extended between said seat frame and said back frame, means releasably connecting the ends of said combined seat and back to the adjacent portions of said frame, and means for holding said back frame in various angular positions relative to said seat frame, said back frame being formed of opposed U-shaped frames having the free ends of their arms interengaged, means preventing complete disengagement of said frames, and means for releasably holding said frames in their extended positions.

2. A foldable beach chair comprising a seat frame, a collapsible back frame, a combined seat and back extended between said seat frame and said back frame, means releasably connecting the ends of said combined seat and back to the adjacent portions of said frame, and means for holding said back frame in various angular positions relative to said seat frame, said back frame being formed of opposed U-shaped frames having the free ends of their arms interengaged, means preventing complete disengagement of said frames, and means for releasably holding said frames in their extended positions, said means preventing complete disengagement comprising sleeves fixedly mounted on the ends of the side arms of one of said frames and engageable with complementary flanges on the ends of the side arms of the other of said frames.

3. A foldable beach chair comprising a seat frame, a collapsible back frame, a combined seat and back extended between said seat frame and said back frame, means releasably connecting the ends of said combined seat and back to the adjacent portions of said frame, and means for holding said back frame in various angular positions relative to said seat frame, said back frame being formed of opposed U-shaped frames having the free ends of their arms interengaged, means preventing complete disengagement of said frames, and means for releasably holding said frames in their extended positions, said releasable holding means comprising a spring pressed catch on one of said frames engaging the other of said frames.

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