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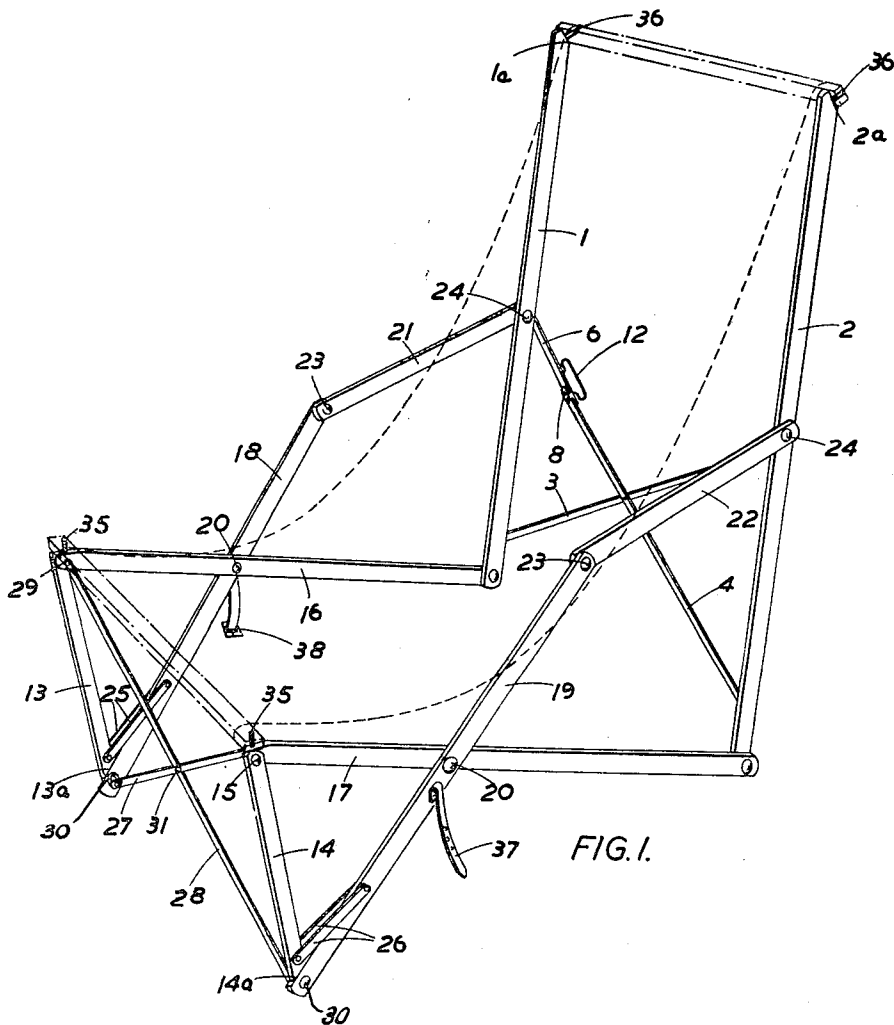
I. D. F. MOSS

2,690,792

FOLDING CHAIR

Filed March 23, 1953

3 Sheets-Sheet 1



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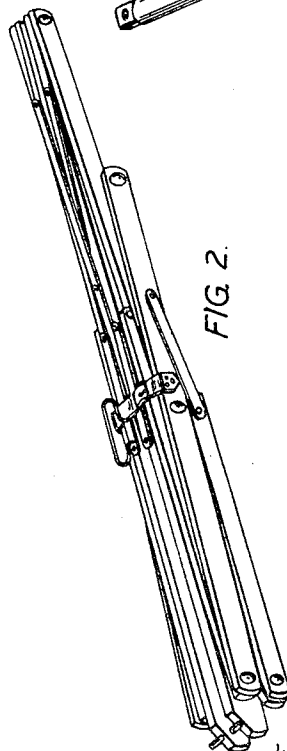
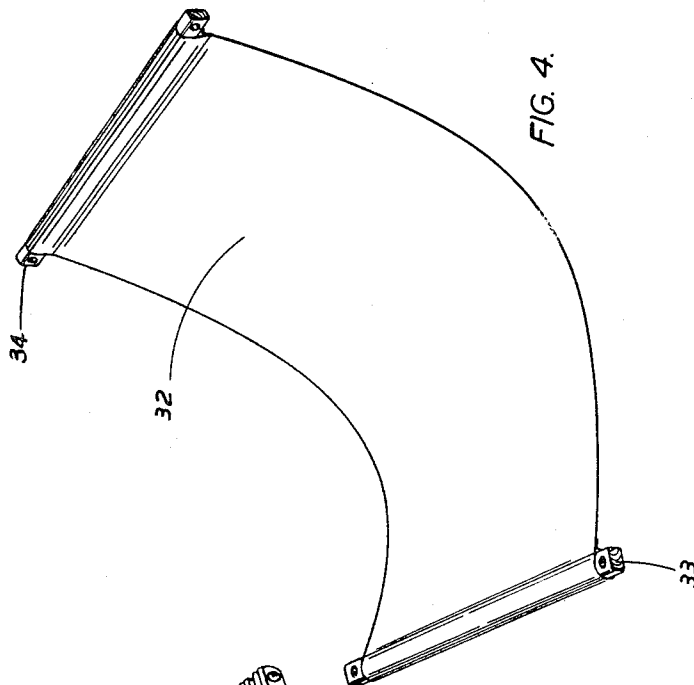
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3 Sheets-Sheet 2



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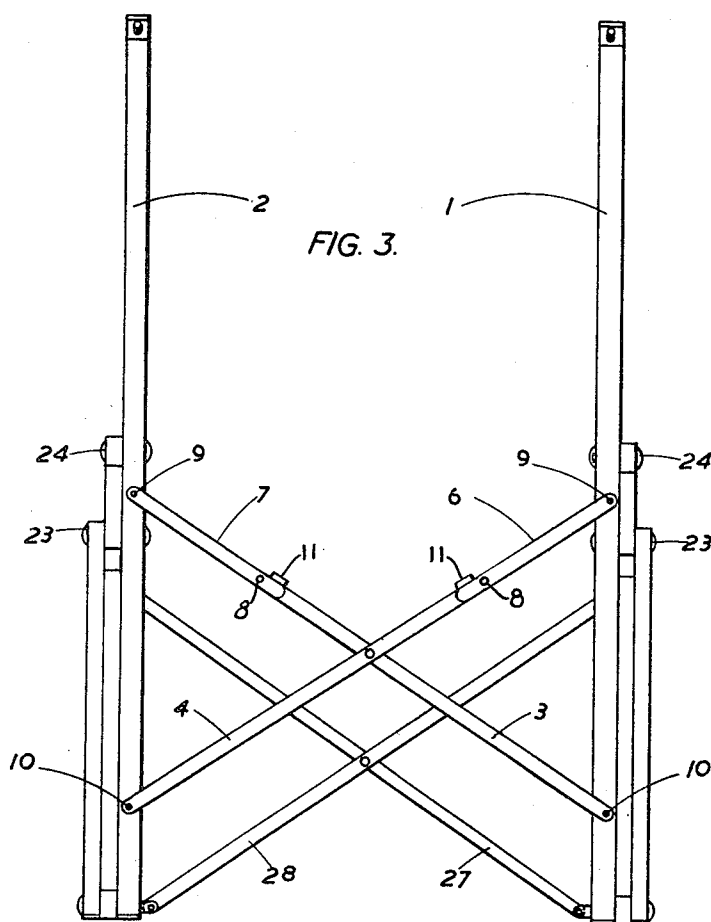
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UNITED STATES PATENT OFFICE

2,690,792

FOLDING CHAIR

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Claims priority, application Great Britain
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3 Claims. (Cl. 155-140)

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This invention relates to folding chairs generally known as garden or deck chairs and more particularly to the type of such chair in which a pair of foldable side X frame parts are connected to fore and aft frame sections across which a flexible combined seat and back rest is connected, the whole being collapsible into a bundle in which the frame elements are located close alongside each other.

An object of the present invention is to afford a collapsible chair of the foregoing type which can afford adequate width for the comfortable accommodation of adult persons of normal or heavy build whilst still being capable of folding up into a compact bundle. A further object of the present invention is to obviate telescopic and complicated parts liable to accumulate or collect sand and other foreign matter. A still further object of the present invention is to provide a folding chair of the type mentioned which will afford a comfortable upright position for its occupant.

According to the present invention a folding chair of the type specified above comprises a pair of rear uprights parallel with each other when the chair is unfolded, a rear collapsible X frame strutting the uprights when the chair is in use, a pivot member connecting together the two intersecting elements of said frame together at their point of intersection, a pivot joint between the ends of the intersecting elements located above the pivoted connection of the elements so that each such element comprises a bar or rod and a relatively linear short co-extensive link pivoted to a median part of the adjacent rear upright at the end remote from its pivoted connection to the associated bar of the X frame, a front pair of uprights substantially shorter than said rear pair, a pair of foldable side frames pivoted together at their points of intersection and connected across the rear uprights and the front pair of uprights, the lower ends of the front uprights being foldably connected by links to the front end parts of the downwardly and forwardly inclined elements of the said X frames, a pair of arm-rests, pivoted break-joints with said latter mentioned elements of the side X frames and located between the said pivoted connections of the side X frame elements and the rear uprights to afford a folding action of the said arm-rests, strutting means for the front pair of uprights comprising a foldable X frame connected across the front ends of the said side X frames, the lower ends of the front pair of uprights abut-

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ting against the lower front parts of the said side X frames when the chair is unfolded for use, and a flexible combined seat and back rest secured detachably across the top front end, and top rear end corners of the chair frame.

An embodiment of the invention will now be described with reference to the accompanying drawings, wherein,

Figure 1 is a perspective view showing the chair frame unfolded for use.

Figure 2 is a perspective view showing the chair collapsed.

Figure 3 is a rear elevation of the unfolded frame and

Figure 4 is a perspective rear of the detachable combined seat and back rest.

Referring to the drawings, the chair frame is preferably composed predominantly of wooden bars with metal links, although it will be apparent that it may be composed entirely of metal bars or tubes or with some of the frame members of wood and some of metal.

The rear uprights 1 and 2 are parallel with each other when the chair is in use, as shown in Figure 1 and, as shown in Figure 2, substantially parallel with each other when the chair is collapsed. By having this parallel relationship of the rear uprights it is possible to have, for a given length of conveniently hand portable collapsed chair, a wider span of chair than when the rear uprights converge towards each other when erected, and also by an X form of strutting for the rear uprights to have a rigid and reliable structure.

The latter mentioned X form of strutting for the rear uprights comprises two light metal bars 3 and 4 pivoted by a riveted over pivot pin 5 at their point of intersection, and between the pivot 5 and the upper ends of the X frame being provided with a break-joint, for which purpose a pair of links 6 and 7 are pivoted at one end to the upper ends of the members 3 and 4 by pins 8, and at the other end pivoted by pins 9 to the rear edges of the median parts of the uprights, the lower ends of the members 3 and 4 being pivoted by pins 10 to the rear edges of the lower end parts of the uprights. Thus, when the chair is in use, the links 6 and 7 are co-extensive and in linear alignment with the members 3 and 4, this condition being maintained by lateral lugs 11 on the upper edges of the lower ends of the links 6 and 7 abutting against the upper edges of the members 3 and 4 below the pivot pins 9.

A rearwardly projecting handle 12 is secured across the upper edge of the lower end of the

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link 6 for use in carrying the chair when collapsed, and, when the chair is to be opened out for use, it is sufficient to merely grip the handle 12 and allow the various parts to fall into the fully extended or "in-use" relationship with each other.

The chair has a pair of front uprights 13 and 14 much shorter than the rear pair of uprights, and their upper ends are pivoted by bolts 15 to the front ends of two rigid bars 16 and 17 comprising unbroken members of two side X frames, the other two members 18 and 19 respectively of which are pivoted to the bars 16 and 17 by pivot pins 20, but as distinct from the bars 16 and 17 are formed with break-joints between the pivots 20 and the rear uprights to afford two arm-rests 21 and 22. This is effected by foreshortening the bars 18 and 19 relatively to the bars 16 and 17 and connecting the front ends of the arm-rest bars 21 and 22 by pivot pins 23 to the upper ends of the X frame members 18 and 19, and the rear ends of the arm-rest bars by pivot pins 24 to the side faces of the uprights 1 and 2 in juxtaposition to the upper ends of the links 6 and 7.

The lower ends of the front uprights 13 and 14 are trimmed at an angle as at 13a and 14a respectively to abut against the upper edges of the bars 18 and 19 of the side X frames, and they are brought into this position by two pairs of links 25 and 26 connected pivotally across the lower end parts of the front uprights and to the side X frame members 18 and 19 below the pivots 20.

The front pair of uprights 13 and 14 are strutted by a collapsible X frame comprising two light metal bars 27 and 28, pivoted by pins or bolts 29 at their ends to lug-like heads of the pivot pins or bolts 15 and of bolts or pins 30 passed through the lower ends of the bars 18 and 19 of the side X frame, a pivot pin 31 pivotally connecting the two bars 27 and 28 together.

The combined seat and back rest can comprise a length of canvas 32 with sleeves at its ends receiving bars 33 and 34 apertured at their exposed ends to fit detachably over anchorage pins 35 and 36 projecting upwardly from the front ends of the bars 17 of the side X frames and also from rearwardly inclined upper ends 1a, 2a of the rear uprights 1 and 2 respectively.

A strap 37 and buckle 38 can be provided with the side X frames for securing the elements of the collapsed chair against unintentional opening out.

I claim:

1. A folding chair comprising a pair of rear uprights parallel with each other when the chair is unfolded, a rear collapsible X frame strutting

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the uprights when the chair is in use, a pivot member connecting together the two intersecting elements of said frame at their point of intersection, a pivot joint between the ends of each intersecting element located above the pivoted connection of each of said elements so that each such element comprises a bar and a relatively linear short co-extensive link pivoted to a median part of the adjacent rear upright at the end remote from the pivoted connection of said link to the associated bar of the X frame, a front pair of uprights substantially shorter than said rear pair of uprights, a pair of foldable side X-shaped frames pivoted together at their points of intersection and connected between the rear uprights and the front pair of uprights, links by which the lower ends of the front uprights are foldably connected to the front end parts of the downwardly and forwardly inclined elements of the side X frames, a pair of arm-rests having pivoted break-joints with said latter mentioned elements of the side X frames and located between the said pivoted connections of the side X frame elements and the rear uprights to afford a folding action of the said arm-rests, strutting means for the front pair of uprights comprising a foldable X frame connected across the front ends of the said side X frames, the lower ends of the front pair of uprights abutting against the lower front parts of the said side X frames when the chair is unfolded for use, and a flexible combined seat and back rest secured detachably across the top front end, and top rear end corners of the chair.

2. A folding chair according to claim 1 including a carrying handle attached to one of the elements of the rear collapsible X-shaped frame so as to be exposed for carrying the chair when folded.

3. A folding chair according to claim 1 including pins projecting from the front upper corners of the side X frames and the tops of the rear uprights, a pair of bars carried by the ends of the flexible combined seat and back rest and eyes in the ends of these bars to engage over said projecting pins.

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