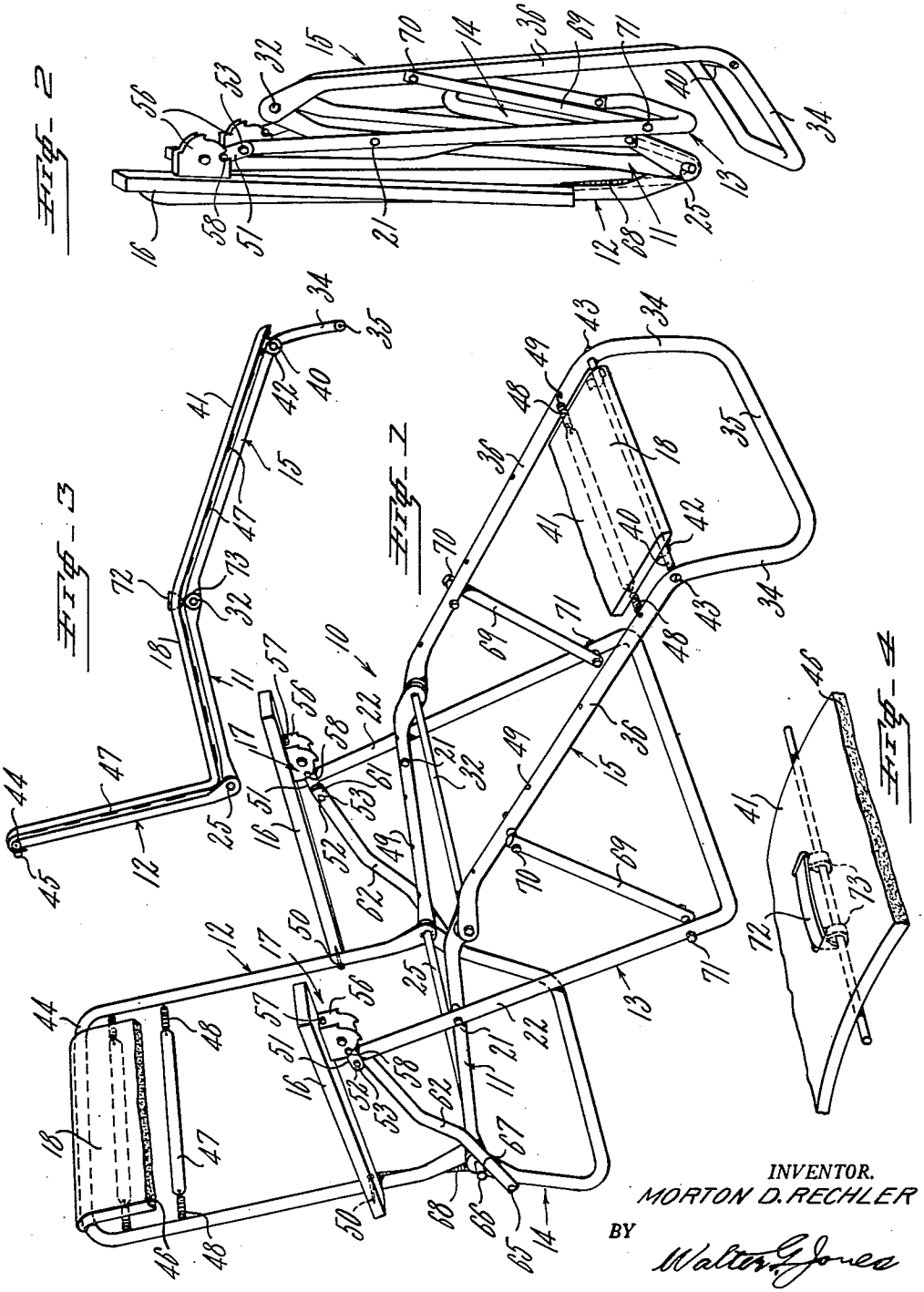
Sept. 4, 1956 M. D. RECHLER 2,761,492

FOLDING STEAMER CHAIR

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INVENTOR.
MORTON D. RECHLER
BY
Walter G. Jones
ATTORNEY

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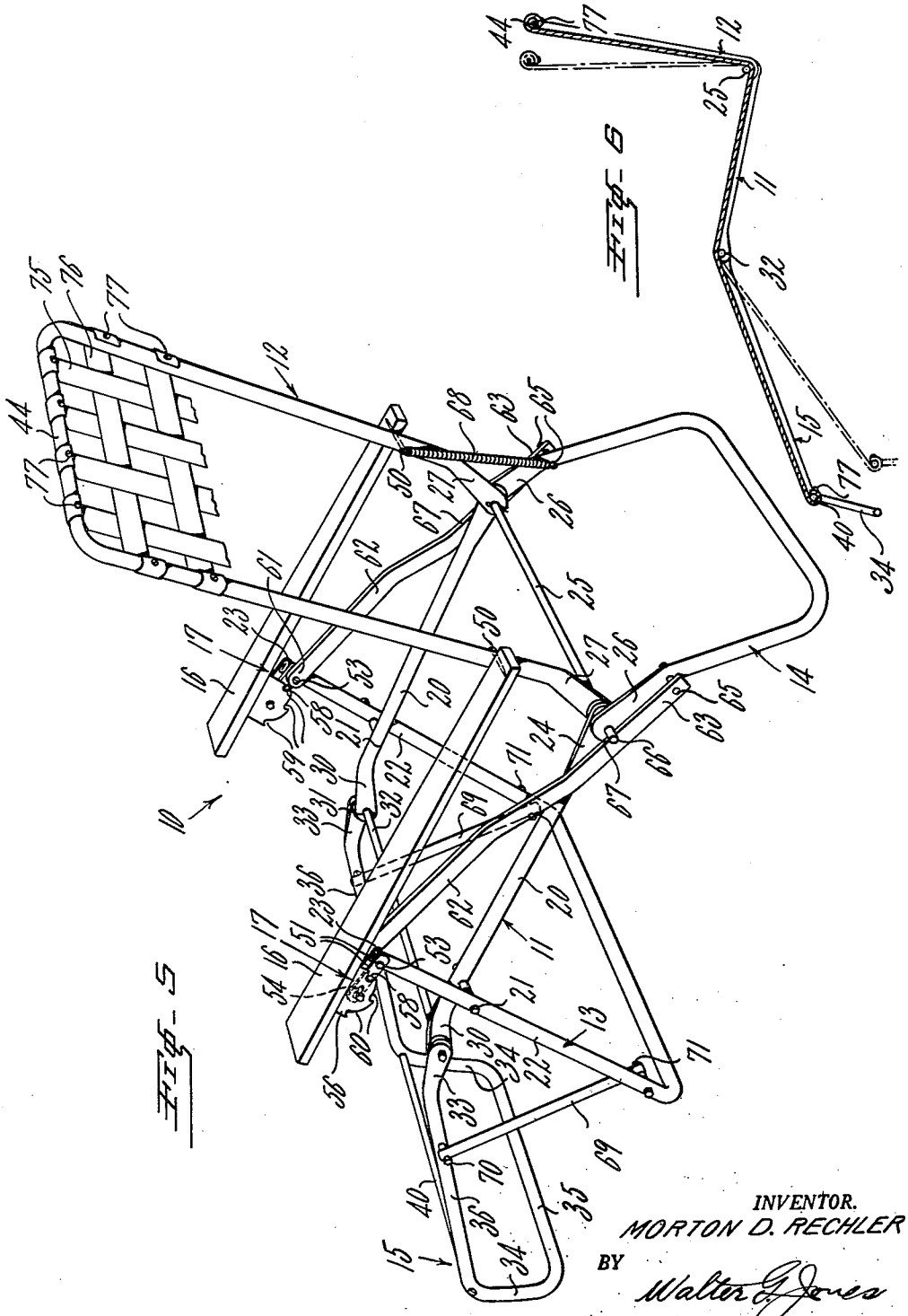


Fig. 5

Fig. 6

INVENTOR.
MORTON D. RECHLER
BY
Walter G. Jones
ATTORNEY

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FOLDING STEAMER CHAIR

Morton D. Rechler, New York, N. Y., assignor to Rexart Metal Industries, Inc., New York, N. Y., a corporation of New York

Application February 10, 1953, Serial No. 336,082

1 Claim. (Cl. 155—139)

This invention relates to folding chairs, one of the objects being to provide a light weight chair of this type with a foot rest which is easy to open and close and requiring only small space when the chair is folded.

Another object is to produce a chair of this type which will give the comfort and roominess of a lounging or steamer chair, with the additional advantages of foldability and attractive appearance.

Another object is to provide a foot rest and framework in which the various parts move automatically in timed relation to the open and closed positions by a single folding action imparted to the seat and back frames. In this chair a leg rest is pivoted to the front of the seat frame, and a simplified linkage acts to swing the foot rest into a folded position against the other parts of the folded chair.

A further object is to provide a tightly upholstered cover which will follow the contour of the framework from the top of the back frame to the front of the foot rest without interfering with the folding action.

Various other objects and features of advantage will appear as the description proceeds, reference being made to the accompanying drawings in which:

Fig. 1 is a front view in perspective of a folding chair made according to my invention.

Fig. 2 is a side view showing the chair parts in folded condition.

Fig. 3 is a lengthwise sectional view of the opened framework with a cover in place.

Fig. 4 is a detail of the cover shown in Fig. 3.

Fig. 5 is a three quarter back view of the chair in perspective with portions of another style of cover.

Fig. 6 illustrates a type of cover foldable around pivot points of the chair.

In the drawings the numeral 10 designates a chair embodying the invention and including in its general construction a seat frame 11, back frame 12, front leg frame 13, rear leg frame 14, U-shaped foot rest frame 15, arm rests 16, back adjusting linkages 17, and covering material 18, there being operating connections between the various parts of the chair to fold it into the Fig. 2 closed position.

The frames are made preferably from light weight stock such as aluminum tubing bent to shape as required. The seat frame 11 may be in the form of a pair of side members or rails 20 having their forward portions connected by pivot bolts 21 to the legs 22 substantially below the ends 23 thereof. The rear ends of rails 20 are flattened at 24 and receive the cross rod 25 which latter also provides pivotal mountings for the upper flattened ends 26 of rear leg frame 14 and the lower flattened ends 27 of back frame 12, there being suitable openings through these flattened ends to accommodate the cross rod. The forward terminal ends of rails 20 are downwardly inclined and flattened at 30 and drilled at 31 to receive cross rod 32 which also provides a pivotal axis for the drilled and downwardly inclined flattened ends 33 of foot rest frame 15, the latter having leg portions 34 and cross portion 35 forming support for the side rails 36. The

inclined flattened ends 30 and 33 constitute offset portions which space the seat frame from the foot rest sufficiently to accommodate the front leg frame when the chair is folded as in Fig. 2. A brace rod 40 bridges the end between the rails 36, reinforces the structure and provides anchorage for the front end of a seat cover 41. This anchorage may be attained by sewing a loop 42 to the sea cover and passing the rod 40 therethrough, fastening the rod in place by screws 43. The cover as shown in Fig. 3 passes over the mid-rod 32, then rearward to the vicinity of rod 25 where it rises to the top of back frame 12 and is anchored to top rail 44 by screws 45. The cover may be padded as indicated at 46 and backed by slats 47 spanning the frames 11, 12 and 15. Coil springs 48 connect the opposite ends of the slats to the frames, there being spaced holes 49 therealong to receive the outer hooked ends of the springs.

The arm rests 16 are pivotally secured to the back frame 12 by means of screws 50. The front ends of the arm rests are preferably connected to the top ends 23 of front legs 22 by linkages designed to provide for angular adjustment of the back frame within a desired range. In the illustrated example a pair of link straps 51 are pivoted at 52 by a bolt 53 to the top end 23 of each front leg. The other ends of the straps 51 are slotted lengthwise at 54 for slidable mounting on a transverse bolt carried by U-shaped brackets 56 secured underneath the arm rests by screws 57. A cross pin 58 through the link straps of each leg is adapted to engage selectively the notches 59 in rounded edges 60 of the bracket. Slots 54 allow the pins 58 to be shifted into or out of the notches 59, and this is accomplished by pulling the arm rests while seated in the chair.

Pivot bolts 53 also provide mountings for the forward ends 61 of two oppositely disposed tie rods 62 which extend rearward and downward at the sides of the chair and have their back ends 63 connected by pivot bolts 65 to the outer sides of leg frame 14 below cross rod 25, the latter including extensions 66 at opposite sides resting upon the upper edges 67 of tie rods 62 when the chair is in open position as shown in Figs. 1 and 5. A coil spring 68 of suitable tension is bridged between screw 50 and bolt 65 for yieldingly holding the chair open for use. During the closing operation this spring wraps around rod 25 as rear leg frame 14 moves about its pivots toward the seat frame 11. A connecting link 69 is pivoted at its upper end by a pivot bolt 70 to the outer side of foot rest 15 and at its lower end by pivot bolt 71 to the inside of leg frame 13 so the parts will nest when folded, there being suitable spacers between the various frame parts to give necessary clearances.

The chair is folded by taking hold of the back frame with one hand while the other hand grasps strap 72 which extends through openings in the cover is looped at 73 around cross rod 32, and then moving the seat frame upward toward the back frame. During this movement the tie rods 62 move the rear leg frame forward while the front leg frame swings backward to a position beneath the seat frame. At the same time the connecting link or links 69 move the downwardly directed outer end or leg portions 34 of foot rest frame 15 to position rearwardly beneath the front leg frame and the seat frame, bringing the side rails 36 substantially parallel with frames 11 and 13, and to nested position with the other parts as shown in Fig. 2. It will be noted in Fig. 2 that the distance between the pivot bolts 70 and 71 of link 69 is less than the distance between bolt 71 and bolt 21 which latter pivots the front leg frame 13 to the seat frame 11. Also, that the distance between pivot bolt 21 and cross rod 32 is less than the distance between said cross rod and the pivot bolt 70. These pivotal arrangements increase the motion imparted to the relatively long foot-rest frame which has to swing through a large arc, and causes the

foot-rest frame to reach the collapsed Fig. 2 position at the same time as the other parts of the chair, carrying out the timed relation above referred to.

Another form of cover is shown in Figs. 5 and 6, consisting of cross laced tapes **75** and **76** secured to the frames by screws **77**, and extending from top rail **44** downward under cross rod **25**, forwardly over cross rod **32**, then over the foot rest **15** where it is secured to rod **40** by screws **77**. According to this disposition of the tapes around the cross rods the cover is given only a minimum stretch when the chair is folded.

During the folding operation the spring **68** wraps a half turn around cross rod **25** and imposes very little resistance to folding. When the chair is being opened by moving seat frame **11** away from back frame **12** the spring **68** exerts a pull on the rear leg frame **14** to move it to its rearmost position of use and to hold all of the frames in their extended positions while extensions **66** rest upon upper edges **67** of tie rods **62** giving stability to the chair structure.

The arm adjusting linkages shown herein are described and claimed in my co-pending application Ser. No. 336,081 filed February 10, 1953.

I claim:

In a folding chair the combination of a seat frame including side members having terminal ends extending forwardly at the front of the chair, a U-shaped foot-rest frame having side rails and terminal ends, means for swingably connecting the terminal ends of the foot-rest frame to the terminal ends of the seat frame, said connecting means defining a pivotal axis about which the foot-rest frame and the seat frame are swingable to folded and open positions, said foot-rest frame having an outer end directed downwardly and providing a support for engaging the ground, a front leg frame pivoted to said side members rearwardly of the terminal ends of the seat frame, and a link having an upper pivot connected to a side rail of the foot-rest frame, said link having a lower pivot connected to the front leg frame below the pivot of the latter to the seat frame, said pivotal axis of the foot-rest frame being closer to the front leg pivot than it is to the upper pivot of the link, the distance between the upper pivot and the lower pivot of the link being less than the distance between said lower pivot of the link and the front leg pivot, said foot-rest frame being relatively long in comparison to the length of the front leg frame and the seat frame, said downwardly directed support of the foot-rest frame extending beneath the front leg frame and the seat frame when the foot-rest frame is folded, while the side rails of said foot-rest frame extend substantially parallel with the front leg frame and the side members of the seat frame, said swingably connected terminal ends being downwardly offset to space the side rails of the foot-rest frame from the seat frame and provide clearance for the folded leg frame.

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