July 12, 1938. C. H. OERMANN 2,123,613

FOLDING CHAIR

Filed Feb. 24, 1936 4 Sheets-Sheet 1

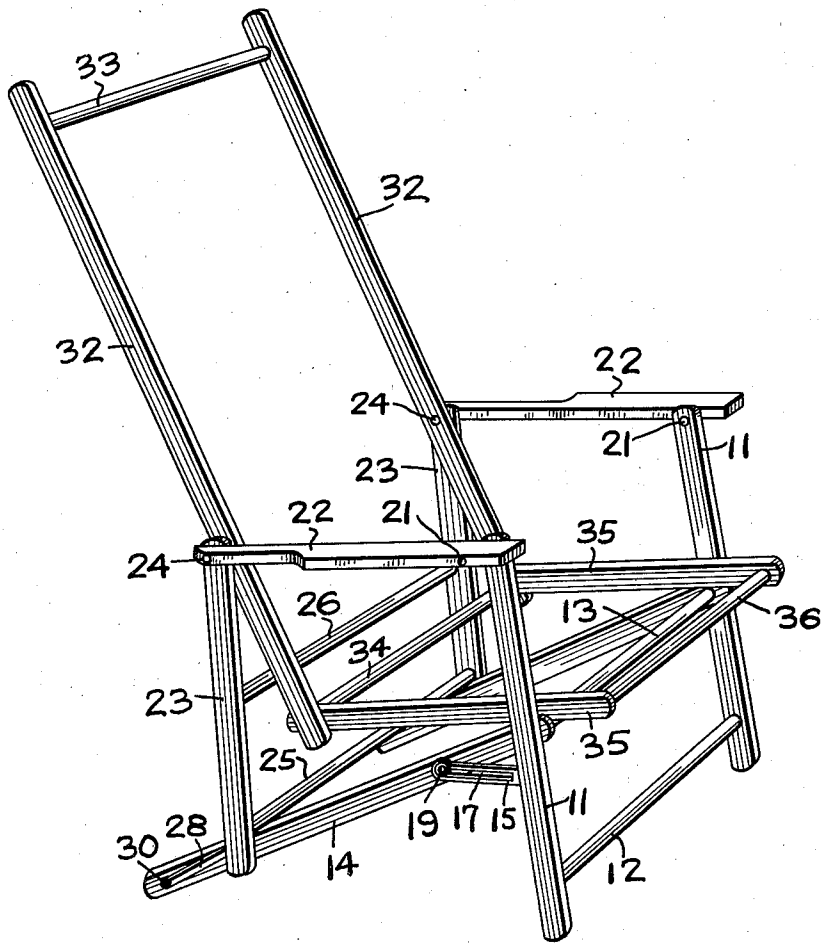

Fig. 1

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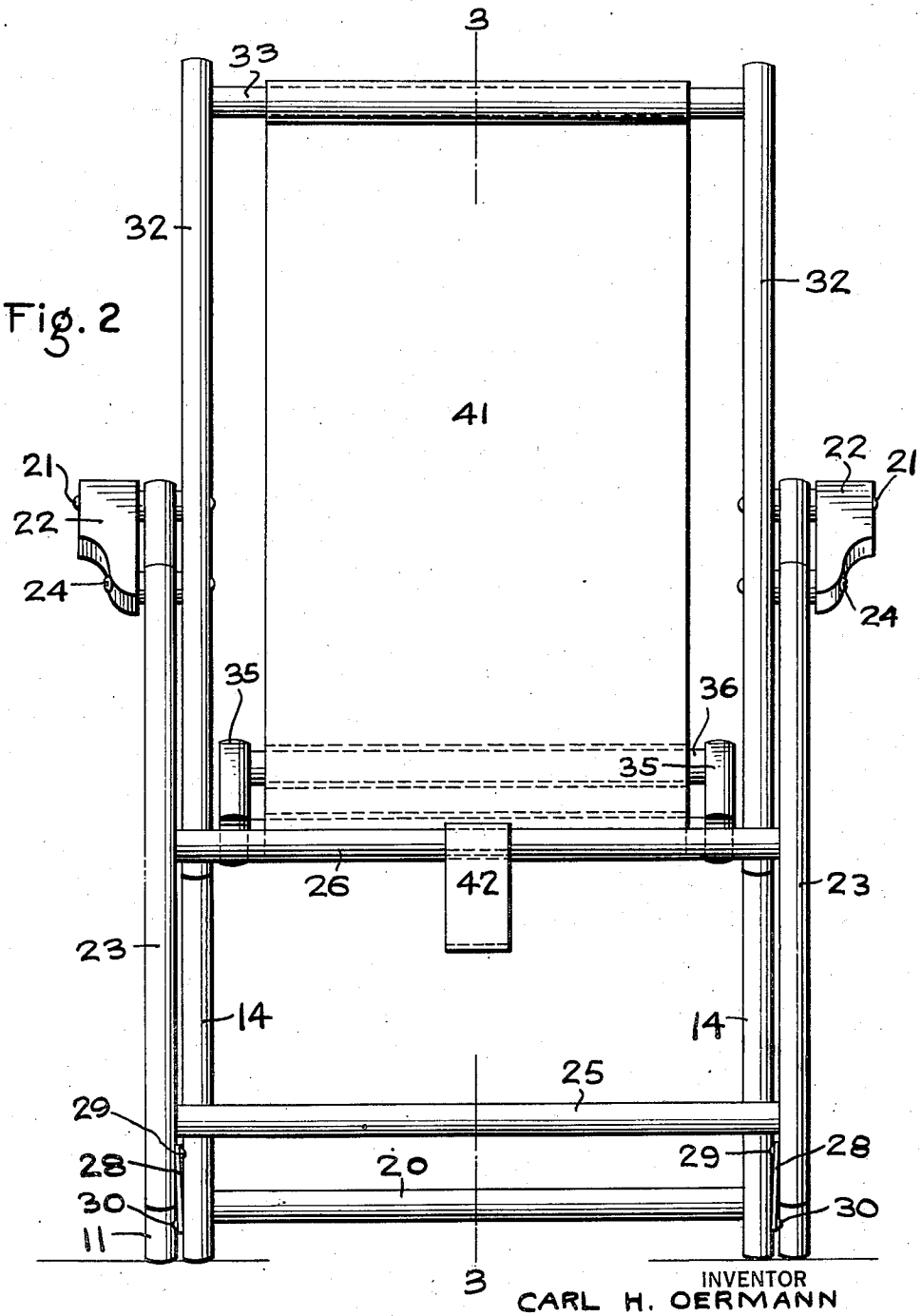
Filed Feb. 24, 1936 4 Sheets-Sheet 2

Fig. 2



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Filed Feb. 24, 1936 4 Sheets-Sheet 3

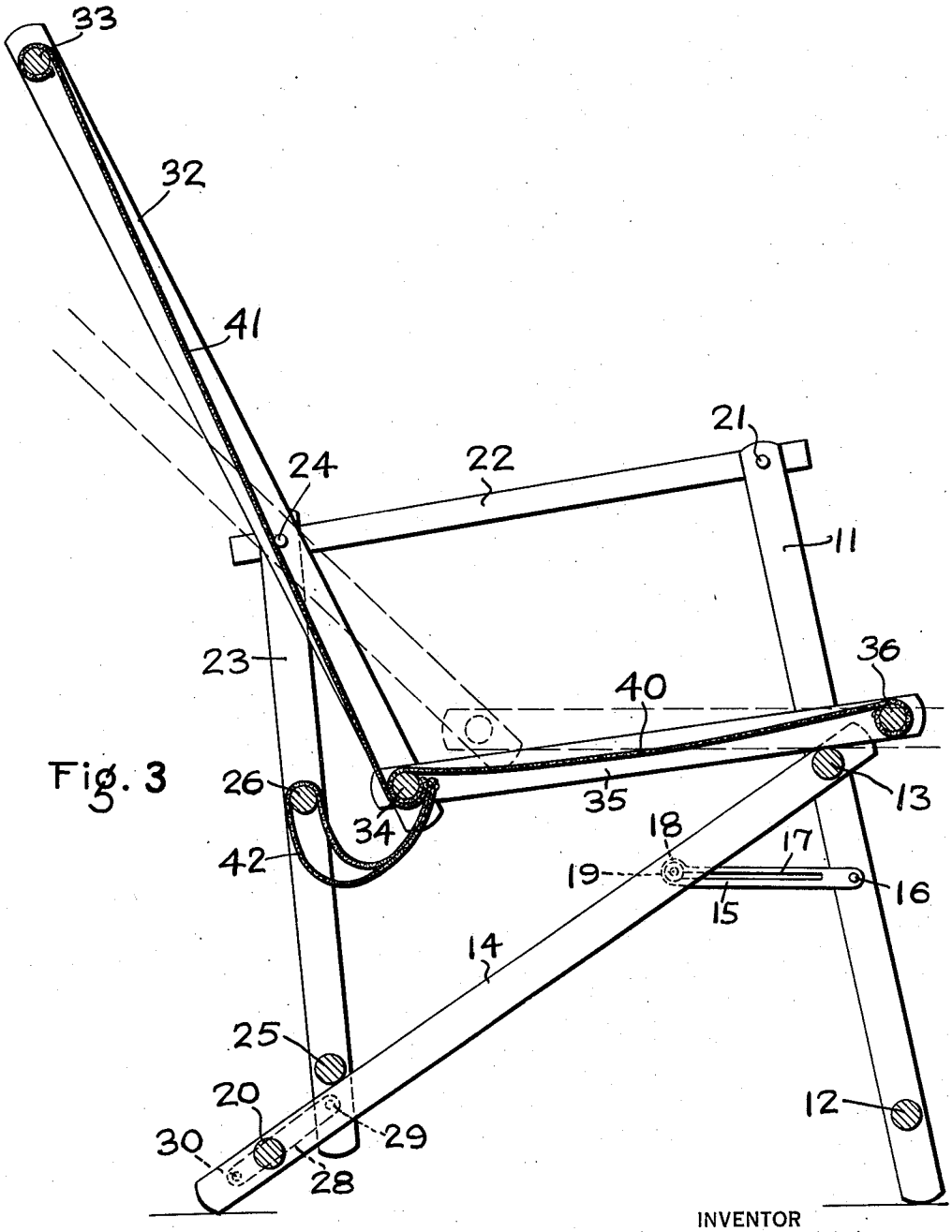

Fig. 3

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FOLDING CHAIR

Filed Feb. 24, 1936 4 Sheets-Sheet 4

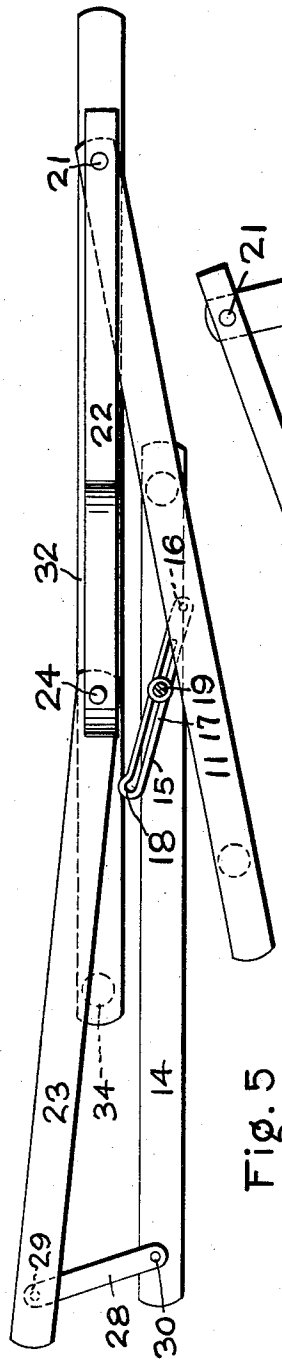

Fig. 5

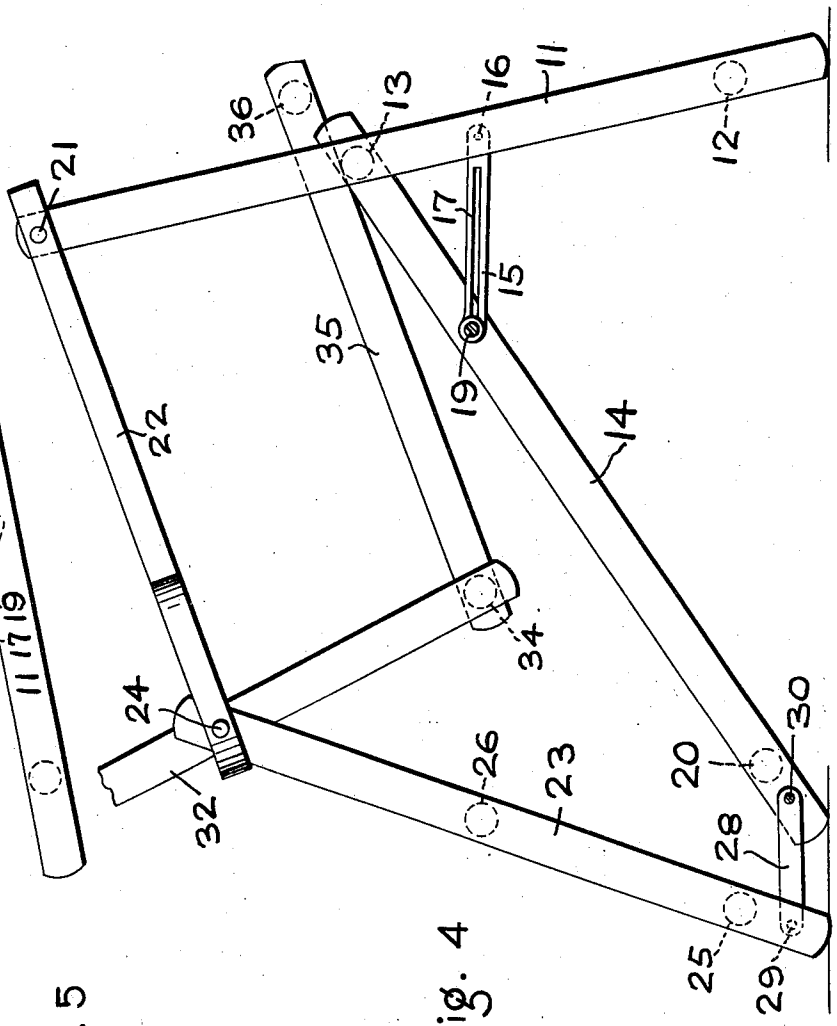

Fig. 4

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UNITED STATES PATENT OFFICE

2,123,613

FOLDING CHAIR

Carl H. Oermann, York, Pa.

Application February 24, 1936, Serial No. 65,448

1 Claim. (Cl. 155—117)

This invention relates to chairs, particularly to folding chairs of the type commonly used on steamers, beaches, lawns, etc.

An object of the invention is to provide an improved chair of the above type which is easily adjustable to various reclining positions and is capable of being folded into a very compact condition when not in use or for transportation.

Another object of the invention is to provide a folding chair of the above type with which are incorporated means for enabling the chair to be either folded or unfolded with a minimum amount of effort.

Another object of the invention is to provide an improved chair of the character mentioned, which is simple in construction, and reliable and exact in function under all conditions of service.

The invention also comprises certain new and useful improvements in the construction, arrangement and combination of the several parts of which it is composed, as will be hereinafter more fully described and claimed.

In the accompanying drawings:—

Figure 1 is a perspective of the frame of a chair constructed according to my invention, the fabric portion of the back and seat being omitted so as to show clearly the underlying structure;

Fig. 2 is an elevation looking at the rear of the chair;

Fig. 3 is a vertical longitudinal section taken on the line 3—3 of Fig. 2;

Fig. 4 is a side elevation of a portion of the chair, showing the position of the parts when certain parts of the chair frame are repositioned preparatory to folding the chair; and

Fig. 5 is an edge view of the chair folded.

Referring to the drawings, the chair comprises front legs 11, positioned parallel to each other and connected by parallel rods 12 and 13 near the bottom and mid points, respectively. As is customary, the rods 12 and 13 are rigidly fixed in any suitable manner to the legs 11.

A pair of rear legs 14 are pivotally mounted at their forward ends on the rod 13. When the chair is set up, the rear legs 14 extend rearwardly and downwardly at a suitable angle, and said rear legs are retained rigidly in position with respect to the front legs, by means of links 15.

Each link 15 is preferably formed from suitable material, such as flat bar metal of suitable strength. One end of the link 15 is connected to front leg 11 by a pivot pin 16 (see Fig. 3), located a suitable distance below rod 13.

As shown best in Fig. 5, link 15 is formed with an elongated slot 17, which extends from a point adjacent pivot pin 16 to the outer end of the link. The outer end of slot 17 is formed with an offset portion 18 that provides a notch for receiving a pin 19 carried by rear leg 14. The construction is such that when pin 19 is disposed in the offset portion or notch 18, movement of the rear legs relative to the front legs of the chair will be prevented.

Spreading or relative movement of the rear legs 14 with respect to each other, is prevented by a tie rod 20, which connects the outer end portions of said legs, as shown in Figs. 2 and 3.

Pivoted by pins 21 mounted in the upper ends of the front legs 11, are the front ends of arm rests 22. These arm rests extend rearwardly, and, as is customary, lie in a substantially horizontal plane when the chair is set up, as shown in Fig. 3.

The rear ends of the arm rests 22 are supported from the rear legs 14, by brace members 23. The upper ends of the braces 23 are pivotally connected to the rear ends of the arm rests 22 by bolts or pins 24. The braces 23 are connected by parallel rods 25 and 26 near the bottom and mid points, respectively, said rods 25 and 26 being rigidly fixed in any suitable manner to the braces 23.

The lower ends of the braces 23 are connected to the lower or outer ends of the rear legs 14, by links 28. One end of each link 28 is pivoted to brace 23 by a pin 29, and the opposite end of said link is pivoted to rear leg 14 by a pin 30. The links 28 have a suitable length and the purpose of said links will be hereinafter more fully described.

The back is formed of side members 32 pivoted intermediate their length on the pins 24. The upper ends of the side members 32 are connected by a rod 33, and the lower ends of said side members are connected by a rod 34.

The seat is formed of side rails 35 connected at their front ends by a rod 36. The rear ends of the side rails 35 are mounted on rod 34, so that the seat frame is pivotally connected at one end to the lower end of the back frame. The side rails 35 rest on bar 13, thereby permitting free sliding movement of the seat forwardly and backwardly.

As shown in Fig. 3, extending from rod 36 at the front of the seat to the upper back rod 33 and fastened to said rods and also to rod 34, is a strip of suitable fabric, such as canvas, duck, or the like. This canvas provides a seat 40 and a back support 41 for an occupant of the chair.

The glide of the seat is limited by means of a loop member 42, fastened to rod 34 and looped

around rod **26**, as shown in Figs. 2 and 3. Loop member **42** may be formed from a suitable flexible material or fabric, such as canvas, duck, and the like.

With the back pivoted at the point indicated by bolts or pins **24**, a smooth easy gliding back and seat is provided, and which is self-adjusting by merely shifting of the occupant's body. The pressure of the side rails **35** on the rod **13** holds the seat in position, the extent of the forward movement being controlled by the loop **42** and the extent of the rearward movement being limited when the ends of the side rails **35** abut rod **26**.

The parts of the frame of the chair are so arranged and positioned relatively to each other as to permit the chair to be easily folded. Looking at the chair from the rear (see Fig. 2), front legs **11** and braces **23** are disposed in substantially the same plane, rear legs **14** and the side members **32** of the back are disposed in substantially the same plane, and the side rails **35** of the seat lie between the side members **32**.

When it is desired to fold the chair, the braces **23** are first moved from the position shown in Fig. 3 to the position shown in Fig. 4. In thus shifting the position of the braces **23**, said braces will swing about the pivots provided by the bolts or pins **24**, and bar **25** will be disengaged from the rear legs **14**.

The outward swinging movement of the braces **23** is limited, due to the fact that the lower ends of said braces are connected to the extremities of the rear legs **14** by the links **28**. By so connecting the braces **23** and rear legs **14** together, the amount or distance the braces can be moved or swung will be limited, and, therefore, this construction permits ready and easy shifting of the parts during the folding operation, since the braces are tied or connected to the rear legs and can only move or swing a limited amount relative thereto.

When the braces **23** have thus been detached from the rear legs, said braces will rest on the ground or floor, as shown in Fig. 4, and the back and arm rests will have been swung downwardly slightly, as shown.

The next operation in order to completely fold the chair, consists in releasing the notched ends **18** of the links **15** from the pins **19**. The front legs **11** can now be moved towards the rear legs **14** and during such movement, rear legs **14** are moved towards the braces **23**. This action folds or swings the seat inwardly about the pivot provided by rod **34** so that said seat occupies a position within and between the side members **32** of the back.

When completely folded the chair has the appearance illustrated in Fig. 5, in which it will be noted that the several parts of the frame are nested together compactly.

Due to the provision of the links **28**, when the chair is folded, braces **23**, arm rests **22**, and the side members **32** of the back will be retained in position with respect to the rear and front legs, since both ends of the collapsed frame of the chair will be joined together, one end by pivot pins **21**, and the other end by links **28**, as shown in Fig. 5.

When it is desired to unfold and set-up the chair, the front legs **11** can be pulled outwardly from the rear legs **14**, such outward movement being arrested when the pins **19** drop into the notches **18** of the links **15**. The legs will then be locked in extended position. The back can then be swung upwardly and rearwardly to move the parts to the position shown in Fig. 4. Then the seat can be swung down until its front end rests on bar **13**. The next and final operation consists in moving the braces from the position shown in Fig. 4 to the position shown in Fig. 3, in which latter position bar **25** rests on the rear legs **14**, thereby rigidly supporting the rear portion of the frame of the chair. The above operation can be readily accomplished by any inexperienced person, due to the fact that the several parts of the chair frame are connected together in the manner heretofore described.

Changes may be made in the details of construction and in the arrangement of the parts above described within certain limits without departing from the spirit of the invention.

Having thus described my invention, what I claim is:—

A collapsible chair of the class described, comprising front legs connected by a pair of transverse bars disposed, respectively, adjacent the lower end and mid point of said front legs, rear legs pivotally mounted on the upper front leg bar, link means pivotally connected to the front legs and detachably connected to the rear legs for retaining said legs in extended position, arm rests pivotally connected at their front ends to the upper ends of said front legs, braces having their upper ends pivotally connected to the rear portions of said arm rests, means supporting said braces from the rear legs, links connecting the lower ends of said braces with the rear legs and permitting limited movements of the braces relative to said rear legs to effect folding and unfolding of the chair, a back frame pivotally connected intermediate its length to said arm rests, a cross bar connecting said braces at a point adjacent the lower ends of said back frame, a seat frame pivotally connected to said back frame by a cross bar and slidably supported at its front portion by the upper front leg bar, and a loop extending from the rear of the seat frame around the cross bar connecting said braces for limiting the outward movement of the seat frame.

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