Feb. 10, 1942. R. K. MERRILL 2,272,307

FOLDING CHAIR

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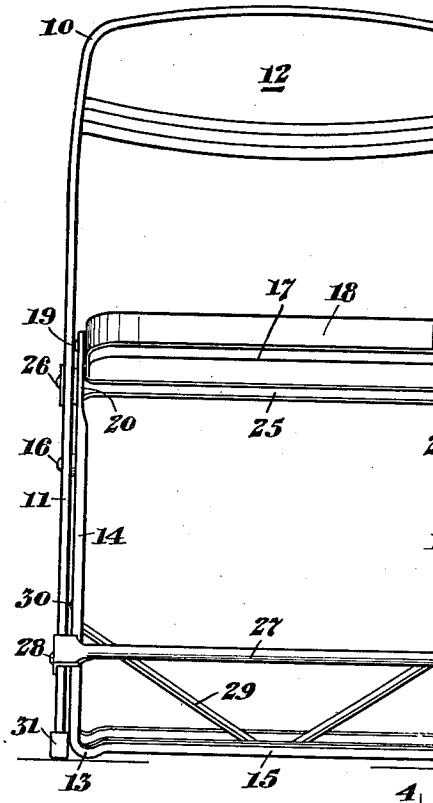


Fig. 1

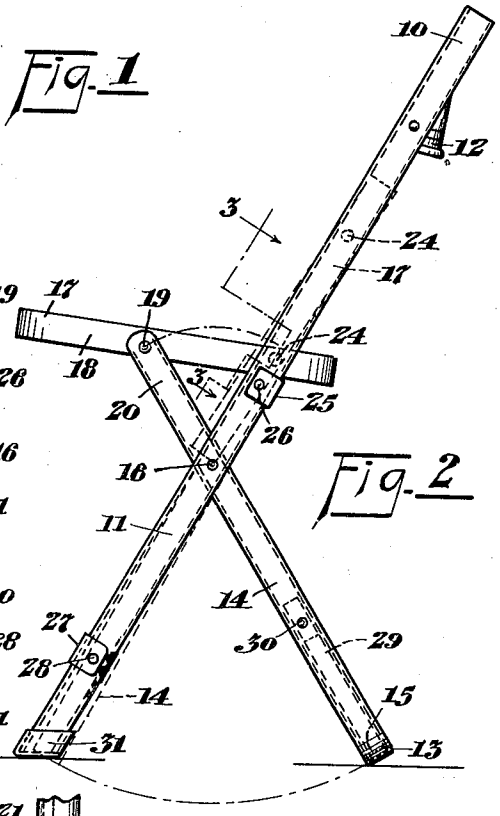


Fig. 2

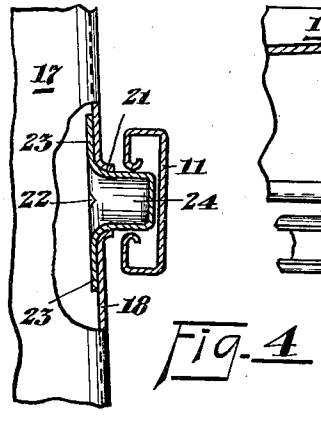


Fig. 4

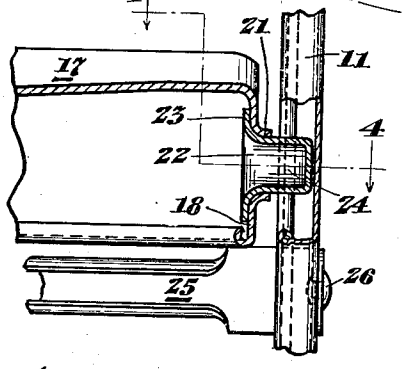


Fig. 3

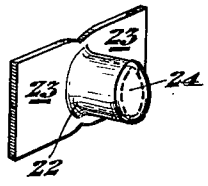


Fig. 5

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Fig. 6

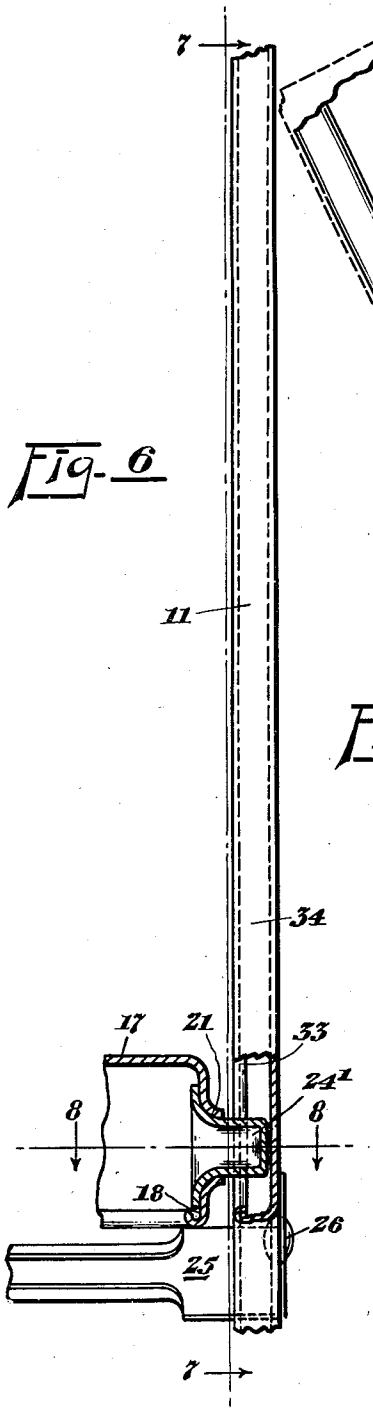


Fig. 7

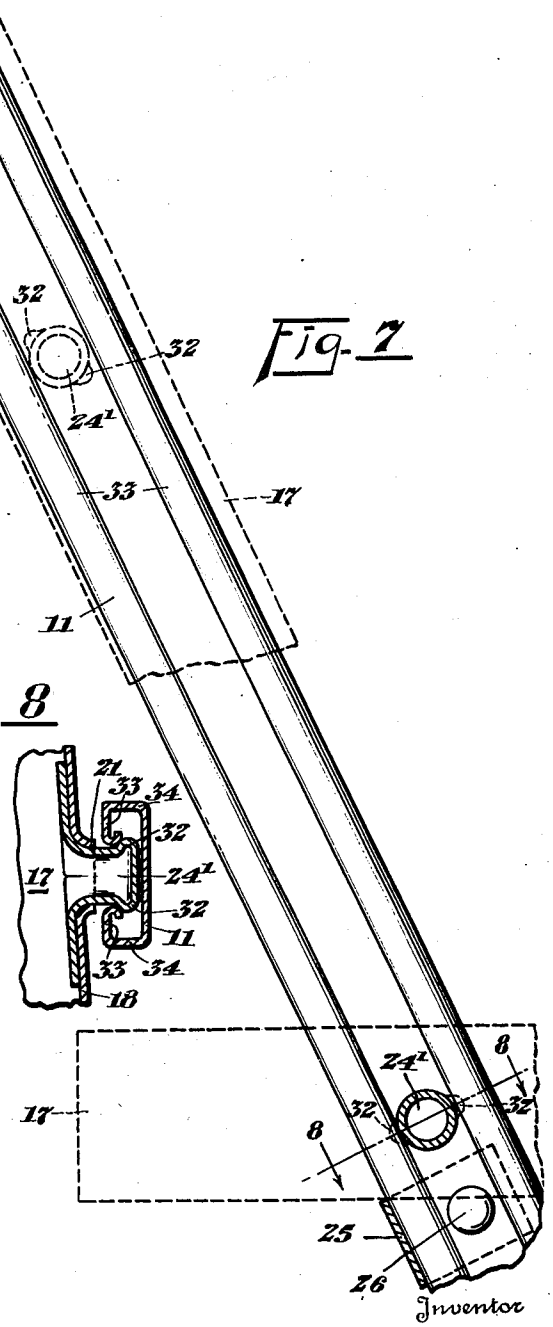


Fig. 8

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FOLDING CHAIR

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2 Claims. (Cl. 155—143)

The present invention relates to folding chairs and more particularly to folding chairs of metal construction.

The primary objects of the instant invention are to provide a folding chair whose pivotally connected frames may be folded together and whose seat may be folded between the sides of the frames in a single operation; to provide a folding chair of the X-type having pivotally connected frames and a seat having a pivotal connection with one frame and a sliding connection with the other frame; to provide such a folding chair having simple and economical sliding connections between the seat and one of the chair frames; and, to provide a folding chair which is sturdy in construction, attractive in appearance and economical in manufacture.

Illustrative embodiments of the invention are shown in the accompanying drawings, wherein:

Figure 1 is a front elevational view of the folding chair in its unfolded position for occupancy;

Figure 2 is a side elevational view of the same, the folded positions of the seat and rear frame relative to the front frame being indicated in dotted lines;

Figure 3 is a fragmentary enlarged sectional view of parts thereof on line 3—3 of Figure 2;

Figure 4 is a sectional view of said parts on line 4—4 of Figure 3;

Figure 5 is a perspective view of a stud member per se adapted for installation on a chair seat of the present invention;

Figure 6 is a fragmentary sectional view similar to Figure 3 of a modified form of the invention;

Figure 7 is a sectional view thereof on line 7—7 of Figure 6; and

Figure 8 is a sectional view thereof on lines 8—8 of Figures 6 and 7.

Referring to these drawings in which like parts of the structure are designated by the same numerals in the several views, and referring firstly to Figures 1–5 inclusive, the folding chair there shown comprises an inverted U-shaped channel frame 10 forming spaced front legs 11, and having a chair back 12 secured to the upper portion of the channel frame 10 in any suitable manner.

A second U-shaped frame 13 forms spaced rear legs 14 connected at their lower ends by the medial portion 15 of this frame 13, the spaced rear legs 14 being pivotally connected at 16 to the front legs 11 respectively. It will be noted that the pivots 16 are located intermediate the ends of the legs of both frames.

A seat 17 provided with a lateral peripheral flange 18 is pivotally connected at 19 to the upper end portions 20 of the rear legs 14, said pivots 19 being thus located above the pivots 16 and forwardly of the front legs 11 of the chair. The lateral peripheral flange 18 of the seat 17 is provided with circular apertures 21 therein on opposite sides of the seat 17 and rearwardly of the pivots 19.

Stud member generally designated 22 are provided with flanges 23 secured as by spot welding to the inner surfaces of the lateral flange or side wall 18 of the hollow seat 17, said members 22 having studs or spindle portions 24 extending through the circular apertures 21 in the flange 18 and into the channels in the front legs 11 of the chair, in which channels the studs 24 are turnably and slidably movable during the folding or unfolding of the chair.

Folding of the chair from its position of use shown in full lines in Figure 2 to its folded position shown in dotted lines in the same view is accomplished by tilting the chair slightly forwardly on its front legs 11 and then raising the seat 17 at the rear edge thereof. Studs 24 are thus moved upwardly in the front leg channels and the upper portions 20 of the rear legs 14 are swung rearwardly while the lower portions of the rear legs 14 are swung forwardly as indicated by dotted lines in Figure 2. The seat 17 and U-shaped frame 13 are thus swung between the front legs 11 of the chair and the chair is thus compactly folded.

A cross bar 25 secured as by rivets 26 interjacent the front legs 11 serves as a stop for the lowering movement of the rearward portion of the seat 17, thus limiting the unfolding movement of the chair to proper position. This cross bar 25 further serves to strengthen the inverted U-shaped frame 10 and in like manner a cross brace 27 secured interjacent the front legs 11 as by rivets 28 further strengthens the frame 10. A V-shaped strut 29 has its vertex in abutment against the medial portion 15 of the U-shaped frame 13 and has its opposite ends secured as by rivets 30 between the rear legs 14 of the chair to thus strengthen the frame 13.

Rubber feet 31 are preferably provided for the lower extremities of the front legs 11 of the chair.

In the modified form of the invention shown in Figures 6–8 inclusive, the studs 24^1 have diametrically opposite projections 32 on the outer ends thereof. When this chair is assembled the studs 24^1 are inserted into the front leg channels while the seat is held slightly rotated from

its folded position. In other words, the seat is held parallel to the frame 10 with one of the studs 24¹ lower than the opposite stud. As shown in dotted lines in the upper portion of Figure 7 and during the aforesaid assembly, the projections 32 on the outer ends of the studs 24¹ easily enter the front leg channels between retaining walls 33 formed by the laterally flanged marginal edges of the side flanges 34 of the front legs 11.

As the seat 17 is lowered to its unfolded position of use as indicated in dotted lines in the lower portion of Figure 7, studs 24¹ rotate relative to the front legs 11 of the chair and the projections 32 engage behind the retaining walls 33. The studs 24¹ are thus positively prevented from slipping out of the front leg channels when the chair is in use.

It will thus be seen that the folding chair herein shown and described may be readily folded or unfolded in a single operation, that the sliding connections between the seat and front legs of the chair are effective and at the same time simple and economical in construction, and that the chair is sturdy in construction and attractive in appearance.

While but two specific embodiments of the invention have been herein shown and described, it will be understood that certain details of the constructions shown may be altered or omitted without departing from the spirit of the invention as the same is defined by the following claims.

I claim:

1. A folding chair comprising a frame forming a back support and a pair of laterally spaced front legs having in their inner sides channels extending longitudinally thereof, the side walls of the channels having mutually approaching flanges; a second frame forming a pair of laterally spaced rear legs disposed between the pair of front legs and pivotally connected thereto medially of the length of said pairs; a seat pivotally connected to the inner sides of the rear legs adjacent the upper ends thereof and having at its sides spindles extending into the channels, turnable and slidable therein and having transaxially extending projections, the spindles being freely movable into and out of the channels in one turned position of the spindles relatively to the front legs, and held in another turned position against removal from the channels by the engagement of said projections with said flanges; and a stop secured adjacent the inner side of each of the spaced front legs below the seat.

2. A folding chair comprising a frame forming a back support and a pair of laterally spaced front legs having in their inner sides channels extending longitudinally thereof; a second frame forming a pair of laterally spaced rear legs disposed between the pair of front legs and pivotally connected thereto medially of the length of said pairs; a hollow seat pivotally connected to the inner sides of the rear legs adjacent the upper ends thereof and having side walls with apertures therethrough and hollow spindles having at their inner ends radial flange portions secured to the inner sides of said side walls and circular outer end portions extending through said apertures into the channels respectively and turnable and slidable therein in the folding and unfolding of the chair frames; and a stop secured adjacent the inner side of each of the spaced front legs below the seat.

RALPH K. MERRILL.