March 6, 1934. G. D. SCHERMERHORN 1,949,492

FOLDING CHAIR

Filed Aug. 26, 1931 2 Sheets-Sheet 1

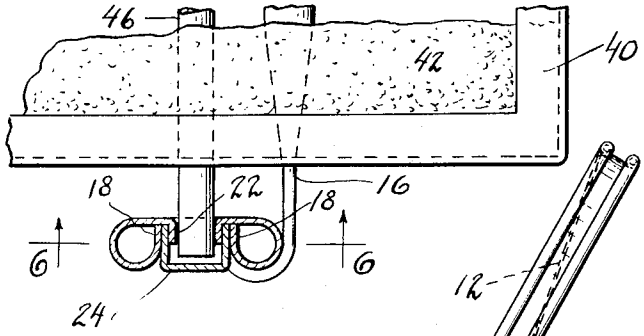


Fig. 3

Fig. 2

Fig. 1

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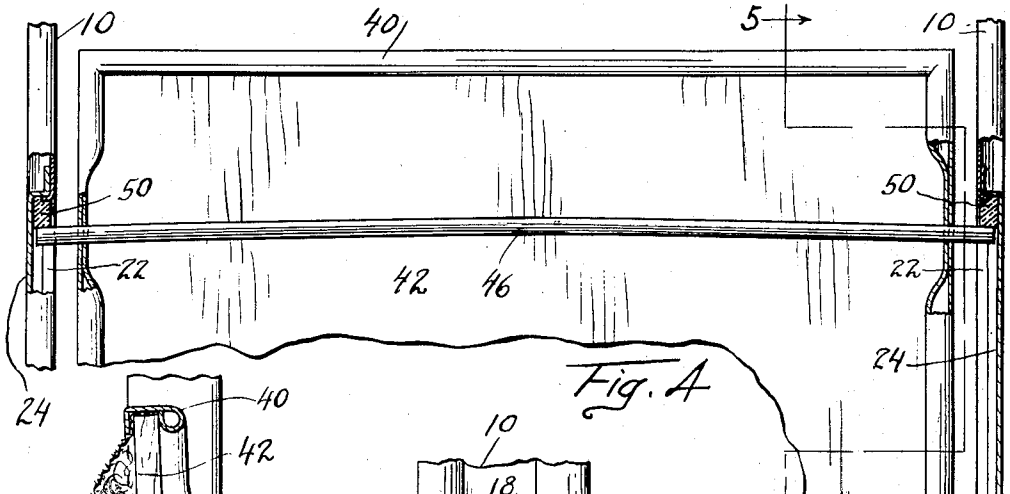


Fig. 4

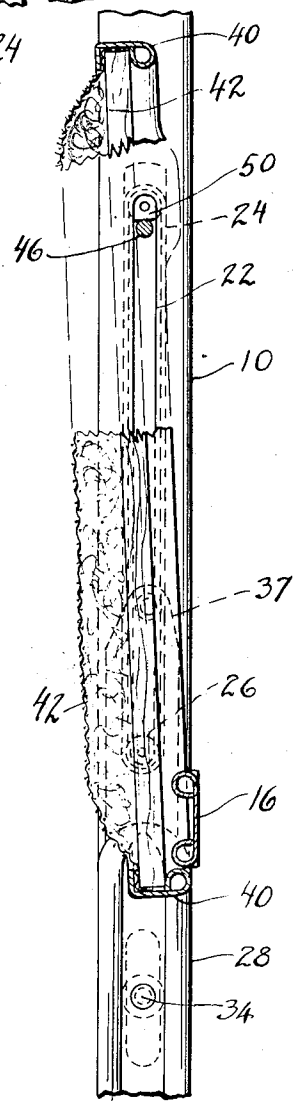


Fig. 5

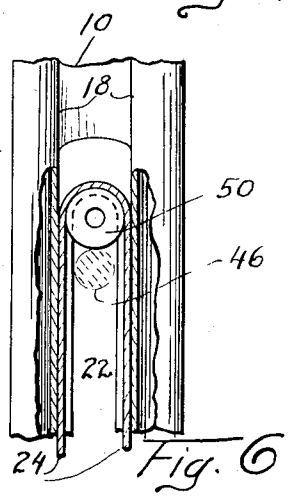


Fig. 6

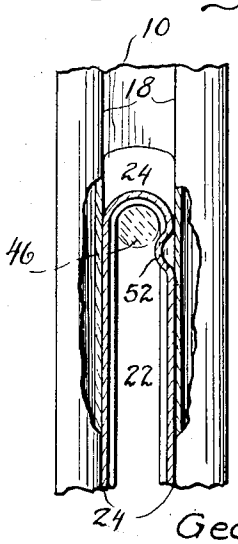
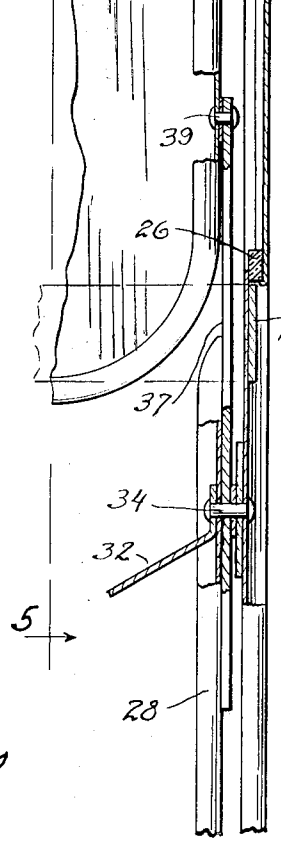


Fig. 7



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UNITED STATES PATENT OFFICE

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FOLDING CHAIR

George D. Schermerhorn, Reading, Mich.

Application August 26, 1931, Serial No. 559,517

2 Claims. (Cl. 155—143)

My invention relates to improvements in folding chairs. It is here shown and embodied in a folding metal chair but is adaptable in large measure to folding wood chairs.

An object is to provide a simple, inexpensive, sturdy, folding chair of the variety adapted to fold flat within the plane of the uprights, which includes improved and meritorious characteristics that add materially to its utility.

An important feature resides in that construction whereby the chair is caused to readily assume and releasably retain its folded relationship.

A further important feature pertains to the means employed to maintain a yieldable tension on the folding parts while folded to maintain their folded relationship and to prevent rattle.

A meritorious characteristic is the provision of means to insure quiet folding and unfolding movement of the chair.

Other important and meritorious characteristics will more fully appear from the following description, appended claims, and accompanying drawings, wherein:

Fig. 1 is a side elevation of my improved chair,

Fig. 2 is a front elevation of a longitudinal fragment of my chair,

Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 1,

Fig. 4 is a rear elevation of a fragment of the chair showing the parts in the folded relationship,

Fig. 5 is a vertical sectional view taken on line 5—5 of Fig. 4, and

Figs. 6 and 7 are vertical sectional views taken on the line 6—6 of Fig. 3 except that Fig. 7 illustrates a modified form of construction.

My improved chair comprises a pair of uprights 10 which are braced at the top by a back member 12 secured at the upper ends of the uprights within the curved portion thereof and adjacent the lower ends by a brace member 14 and at an intermediate portion by brace member 16. The uprights here shown are formed from a single strip of metal bent as indicated and the longitudinal edges are rolled over outwardly as shown at 18, forming an outward channel like section. The uprights constitute the front legs of the chair and their lower ends are tipped with suitable cushion feet 20.

Each upright is provided with a guide slot 22 which extends longitudinally through the bottom of the so-called channel portion. This guide slot is covered on the outside by a plate 24. This plate is here shown as being of channel shape and so arranged that its channel superimposes the guide slot 22. This channel plate may be held in place as appears in Fig. 3, the side margins of the slot 22 in the upright being turned into and over the side walls of the channel plate as there shown.

A rubber cushion bumper element 26 is shown seated in the lower end of the slot and held in place by the plate 24 between the plate and the upright, see Fig. 4. This bumper element is adapted to cushion the seating of the seat gudgeons when the seat is opened to the occupant supporting position and insures silent operation in this movement.

I provide a pair of rear legs 28 which are suitably braced by a lower cross member 30 and diagonally extending braces 32. These legs are pivoted between the uprights as at 34. They are provided with cushion feet 36. The legs proper are of the same channel like rolled margin construction as are the uprights but the upper portion of each leg is reinforced by a plate 37 which extends up to the seat and is pivoted to the seat frame as at 39.

A suitable seat is provided having a frame portion 40 which carries a seat panel 42. A resilient metal rod 46 extends through the side rails of the seat frame across the seat panel and the ends of the rods project into and travel through the guide slots 22 in the uprights.

The slots in the uprights are of such a length that when the chair is folded to bring the seat and rear legs within the uprights, that the resilient guide rod carried by the seat, the ends of which travel through the slots, reaches the upper ends of the slots before the folding operation is completed, so that such operation is completed against the yielding tension of the rod and the intermediate portion of the rod is flexed upwardly so that the rod is held under tension when the chair is folded and thereby exerts a tension on the folded parts which prevent rattle and which serve to releasably retain the folded parts in the folded relationship. This is shown in Fig. 4 of the drawings.

In addition to the resilient bumper 26 mounted in the lower ends of the slots 22, a yielding compressible resilient bumper 50 is mounted in the upper end of each slot 22 to be engaged by the end of the rod 46 before the folding movement is completed as heretofore described. These bumpers may be formed of material such as rubber. They not only insure silent operation but the bumpers 50 augment the resiliency of the

rod 46 to releasably lock the folding parts in the folded relationship. In this construction rod 46 may be replaced by substantially less flexible gudgeons or a less flexible rod, in which case the resilient bumper 50 would serve to exert the yielding tension on the folding parts for retaining them folded as described.

An inspection of Fig. 5 illustrates that the folding parts are thrown off center when folded wherein the pivot connection of the seat with the rear legs passes beyond the straight medium line of the slot 22 and beyond the straight line that connects the center of the pivotal connection of the rear legs with the uprights and the center of the gudgeon like ends of the rod 46 that travel through the slots 22. This throwing off center also serves to maintain the parts releasably in the folded relationship.

In the construction shown in Fig. 7 the plate 24 is provided with a part 52 which projects slightly over the guide slot 22 in the upright and engages the gudgeon or end of the guide rod carried by the seat, as the folding operation is completed, so that as the gudgeon slides beyond this part 52 it is frictionally held to retain the seat in the folded relationship.

What I claim:

1. In a folding chair, a pair of uprights having longitudinal edges rolled over outwardly whereby the upright is of channel form in cross section, each upright provided with a longitudinally extending guide slot through the bottom of said channel, a pair of legs pivoted between the uprights and to a seat slidably supported between the uprights by pivots slidably mounted in said guide slots, and a channeled plate secured between the rolled over edges of each upright covering the slot therein with the channel in the plate superimposing the slot in the upright.

2. In a folding chair, a pair of uprights having longitudinal edges rolled over outwardly whereby the upright is of channel form in cross section and having rolled side walls, each upright provided with a guide slot extending longitudinally through the bottom of said channel, a pair of legs pivoted between the uprights, a seat pivoted to the legs and slidably supported between the uprights by pivots slidably mounted in said guide slots, and a channeled plate secured between the rolled over edges of each upright covering the slot therein with the channel in the plate superimposing the slot in the upright, and a bumper secured within the channel of the upright between the rolled over edges thereof by said plate at the end of the slot in the upright and overhanging said slot.

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