

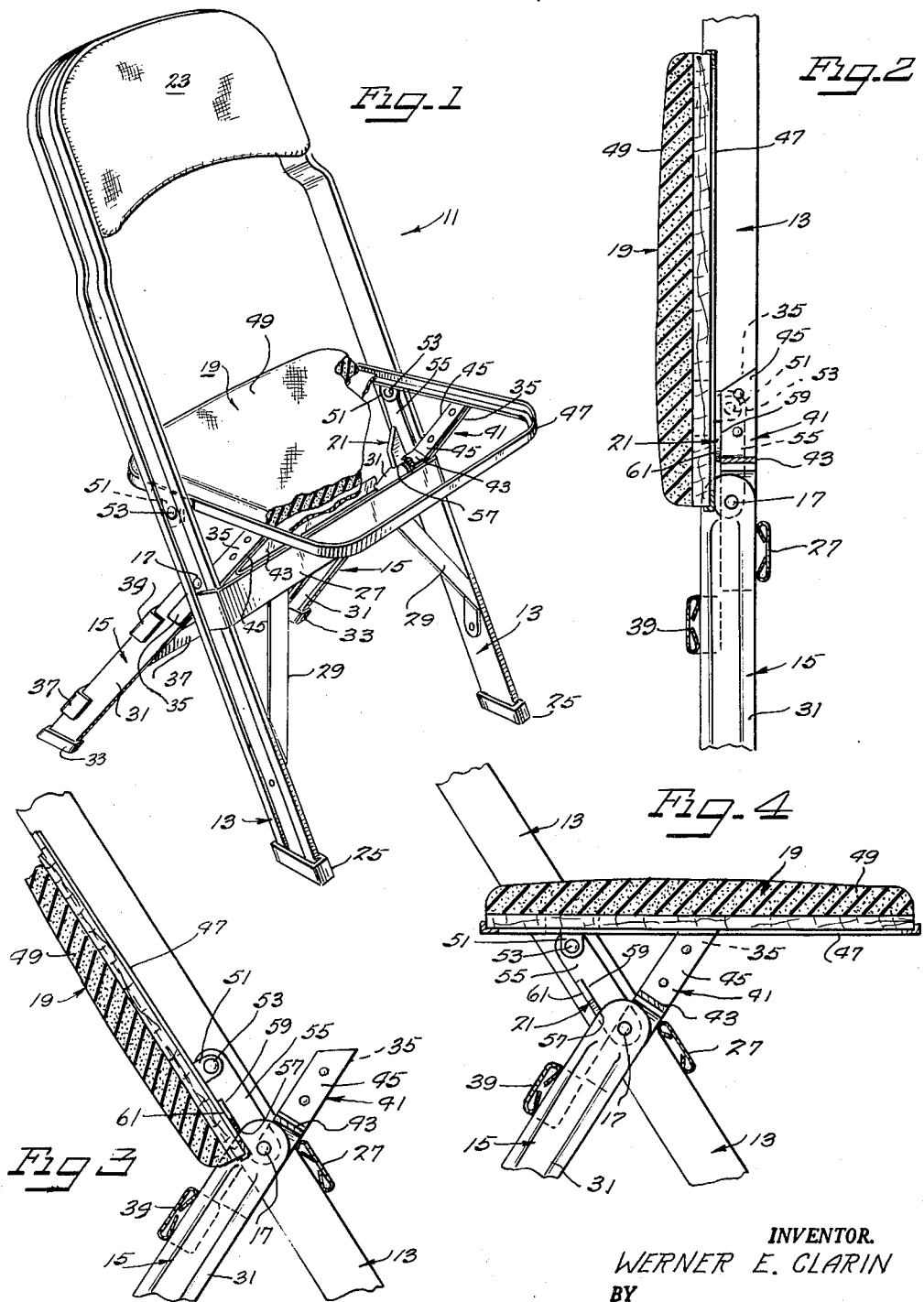
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FOLDING CHAIR

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FOLDING CHAIR

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This invention relates generally to folding chairs. More particularly, the invention relates to and has for its principal object an improved and more economical construction for folding chairs.

Another object is the provision of an improved folding chair incorporating a seat which is positionable between a seating position and an upright position when the chair is in its unfolded or extended condition. A further object of the invention is the provision in a folding chair of a unitary stop for determining both the extended and collapsed relation between the supporting front and rear legs, and when the seat is swingable upwardly from its seat-forming position, as for instance, for the purpose of increasing the aisle space between parallel rows of chairs, for determining the upward extent of such swinging movement.

A still further object of the invention is the provision of a folding chair which is fabricated to provide standing room between the forwardly extending front legs when the seat is raised, and which is of generally neat and pleasing appearance as well as of sturdy and rugged construction. Other objects and advantages of the invention will become apparent by reference to the following description and accompanying drawings in which:

FIGURE 1 is a perspective view of a folding chair in accordance with the invention, with portions broken away;

FIGURE 2 is an enlarged vertical section through the chair shown in FIGURE 1 when in its folded condition;

FIGURE 3 is an enlarged view, partially in section, of a portion of the chair shown in FIGURE 1, with the seat in raised condition; and

FIGURE 4 is a view similar to FIGURE 3, showing the seat in its forwardly extending position.

Generally, the drawings are illustrative of one embodiment of a folding chair 11 which incorporates the features of the invention, and which includes pairs of front and rear legs 13 and 15, respectively, which are swingably connected by a pivot 17 intermediate their ends, and a seat 19 hingedly carried by the front legs 13, at a point above the pivot 17, for swinging movement between a forwardly extending seat-forming position and an upwardly extending position which materially increases the aisle space available in front of the chair. The illustrated construction incorporates stops 21 which are fixedly attached to the front legs 13 and which serve in the three-fold capacity of establishing both the extended and collapsed relation between the interconnected front and rear legs, and the maximum throw of the seat 19 upwardly from its seat-forming position.

Considering the construction of the chair 11 in greater detail, the front legs 13 are provided by an inverted generally U-shaped frame member which supports an upholstered back rest 23 within its arched portion, and which is provided with rubber shoes 25 or the like at the bottom of its legs to facilitate reliable traction without marring or otherwise damaging the floor or other supporting surfaces.

Cross bracing of the front legs 13 to provide an especially sturdy construction is provided by a transverse bar 27, interconnecting the front legs slightly below the pivot 17, and by a pair of diagonal braces 29 connecting the bar 27 with the lower extremities of the front legs. This bracing arrangement provides an exceptionally rigid

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construction coupled with ample clearance between the front legs 13 to permit the occupant of the chair to stand well within the forwardmost projection of the front legs at the floor.

The rear legs 15 are each formed, in part, by a lower leg member 31 which is fitted at its bottom with a rubber shoe 33 and which terminates immediately above the pivot 17. Fixedly secured to the upper end of the lower leg members 31 are extensions 35 which are of lesser width than the lower members 31 and which project upwardly and forwardly beyond the pivot 17 to a position for supporting engagement with the front part of the seat 19 when in its seat-forming position. Of course, the rear legs 15 could easily be of unitary construction rather than the two-piece construction illustrated.

The rear legs 15 are cross braced for increased sturdiness by a pair of cross bars 37 and 39 extending between the lower leg members 31, and by a U-shaped bracket 41 which interconnects the extensions 35. The bracket 41 includes a cross rail 43 which is located slightly above the pivot 17 to avoid projection in the open area in front of the transverse bar 27, and a pair of arms 45 which are secured to and generally coextensive with the leg extensions 35 so as to provide a common end in position for support of the seat when in its seat-forming position.

The seat 19 comprises essentially a frame 47 which removably supports an upholstered seat assembly 49. Depending from each side of the frame 47, intermediate its front and rear ends, is a bracket 51 which is journaled on a pivot 53 extending from the adjacent front leg 13 in spaced above relation to the pivot 17 interconnecting the front and rear legs.

Determination of the relation between the front and rear legs 13 and 15, when the chair is in either its extended or collapsed condition, together with the establishment of the rearwardmost position of the seat 19 when upwardly folded, is provided by the pair of dogs or stops 21, each of which comprises, in the illustrated embodiment, a flange projecting inwardly of the front legs 13 from the rearward edge of one of a pair of straps 55 which, for convenience and strengthening effect, are secured in fixed relation to the inside of the front legs by the pivots 17 and 53.

The stops 21 each include a lower edge 57 which is contacted by the upper edge of the adjacent rear leg member 31 when the chair legs are swung outwardly from each other into the extended condition. Each stop 21 also includes front and rear surfaces 59 and 61, with the front surface 59 being positioned for engagement by the upper edge of the rear leg extensions 35, when the chair legs are swung toward one another, to thereby establish a compact, parallel relationship between the front and rear legs when they are in their folded condition. The rear surface 61 is positioned for engagement by the underside of the seat frame 47, when the seat is swung upwardly, to thereby limit the upward and rearward swinging of the seat 19 to a position generally parallel to and at least partially within the upper portions of the front legs 13.

The sturdiness of the chair 11 when extended can be further increased, as in the illustrated embodiment, by positioning the cross bar 27 for engagement of its upper edge by the lower edge of the rear leg extensions 35 simultaneously with the engagement of the lower edge 57 of the stops 21 with the upper edge of the rear leg extensions 35, so that the bar 27 cooperates with the stops 21 in maintaining the chair in its proper seat-forming position.

By way of résumé, when the chair is in its folded storage position, as seen in FIGURE 2, the rear legs 15 lie in parallel relation to and generally within the confines

of the front legs 13. This position is determined by engagement of the rear leg extensions 35 with the front surface 59 of the stops 21. In this connection, the compactness and neat appearance of the chair, when in its folded condition, is due, at least in part, to the parallel relation of the front and rear legs 13 and 15 and is accommodated, despite the inward projection of the stops 21 by the aforementioned narrowed width of the extensions 35 as compared to the width of the lower leg members 31. When in the folded condition, the seat 19 is also positioned in generally parallel relation to the front legs 13, with the frame 47 of the seat 19 in engagement with the rear surface 61 of the stops 21.

When the legs are swung apart to extend the chair to the standing position, the outward swinging of the front and rear legs relative to each other is limited by engagement of the top edge of the leg members 31 with the lower edge 57 of the stops 21 and preferably also by concurrent engagement of the lower edge of the rear leg extensions 35 with the bar 27. When the legs are thus extended, the seat 19 can be located in its forwardly extending disposition ready for occupancy or in an upright position providing increased aisle width between parallel rows of chairs. In its seat-forming position, the seat is supported at its front by the upper ends of the rear legs 15 and at its rear by the pivots 53. When swung rearwardly from its seat-forming position, the frame 47 of the seat 19 engages the rear surface 61 of the stops 21 to limit movement of the seat to a position in generally parallel relation to the front legs 13.

The disclosed construction provides a neat and attractive folding chair which is also of economical and sturdy construction. In addition, the chair incorporates a seat which is swingable, independently of the legs, from a seat-forming position to an upright position affording increased aisle space between rows. In this connection, the rigidifying cross bracing is arranged so as to provide, between the front legs, a maximum amount of space within which an occupant can stand to facilitate passage of another person between adjacent parallel rows. Finally, the construction incorporates a unitary stop member which serves to establish the relationship of the legs when the chair is in either of its folded or extended conditions, and to establish the rearwardmost position to which the seat can be swung to provide increased aisle space.

Although shown and described with respect to a particular form of construction, various modifications will be apparent without departing from the principles of the invention. Various features of the invention are set out in the appended claim.

I claim:

A chair which is foldable between a collapsed storage condition and an extended seating condition, said chair comprising pairs of front and rear legs pivotally connected intermediate their ends, with the front pair of said legs extending upwardly and rearwardly to support a back rest for the chair, a seat hinged intermediate its forward and rearward edges to said front legs at a position below said seat and above the pivotal connection of said front and rear legs for swinging movement of the seat between a forwardly extending seating position and an upwardly folded position in generally parallel relation with said front legs, a stop means comprising a horizontally extending member fixedly carried by each of said front legs at positions thereon above the pivotal connection of said front and rear legs and below the hinged connection of said seat to said front legs, said stop member having a downwardly facing surface positioned for engagement with the upper edge of said rear legs to at least partially determine the angular relation of said front legs to said rear legs when said chair is in its extended condition, having a rearwardly facing surface positioned for engagement with the rearward part of said seat to prevent over-travel of said seat from its seating position and beyond its folded position in generally parallel relation to said front legs, and having a forwardly facing surface positioned for engagement with said rear legs to limit inward folding of said rear legs relative to said front legs when collapsing said chair to its storage condition, and a cross brace connecting said front legs at a position below the pivotal connection of said front and rear legs and in position for engagement with the lower edge of said rear legs to cooperate with said stop members in determining the angular relation of said legs to each other when said chair is in its extended condition, said rear legs extending upwardly and forwardly from the pivotal connection of said front and rear legs in supporting engagement with the forward part of said seat when said chair is in its extended condition and said seat is in its seating position.

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