No. 827,398. PATENTED JULY 31, 1906.

M. F. SCHRENKEISEN.

CHAIR.

APPLICATION FILED JUNE 17, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

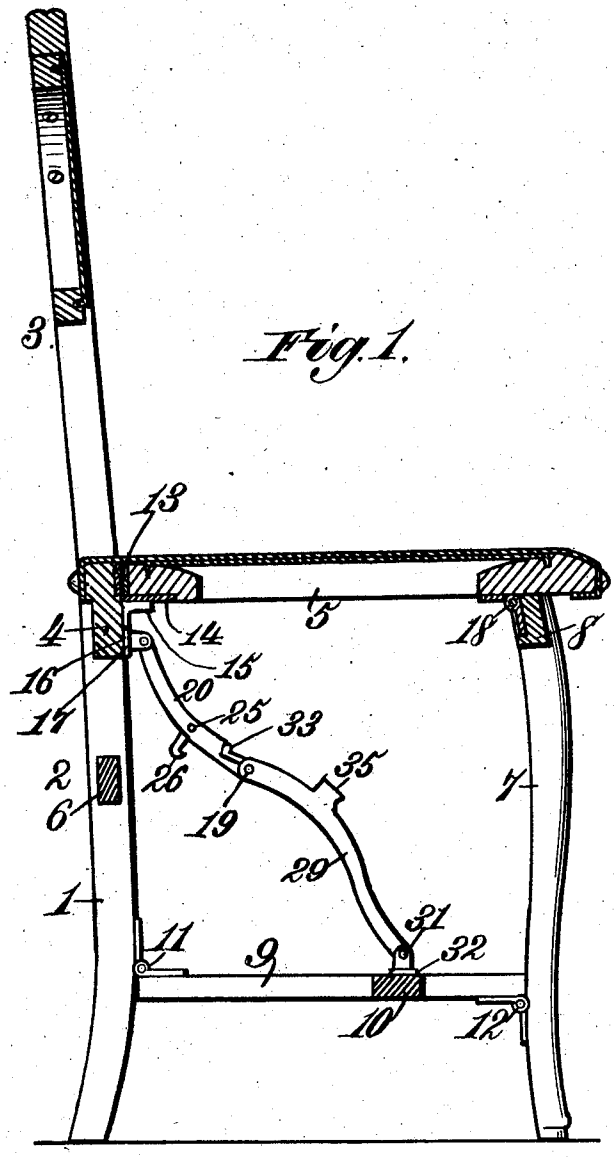
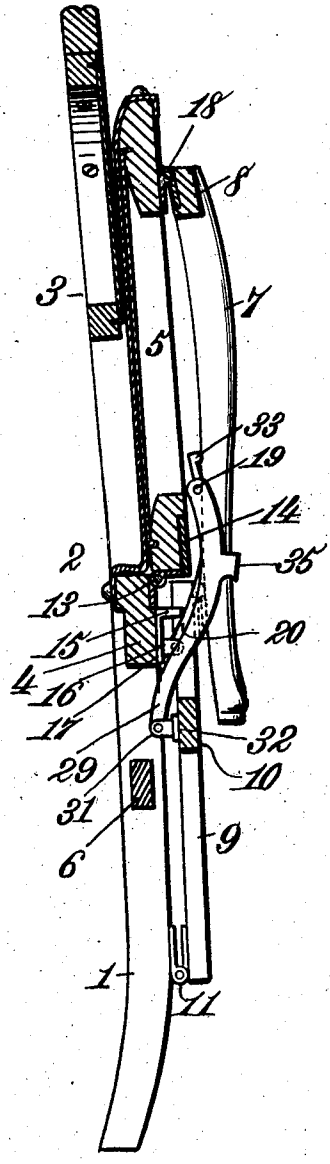


Fig. 2.



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James L. Norris, Jr.

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2 SHEETS—SHEET 2.

Fig. 3.

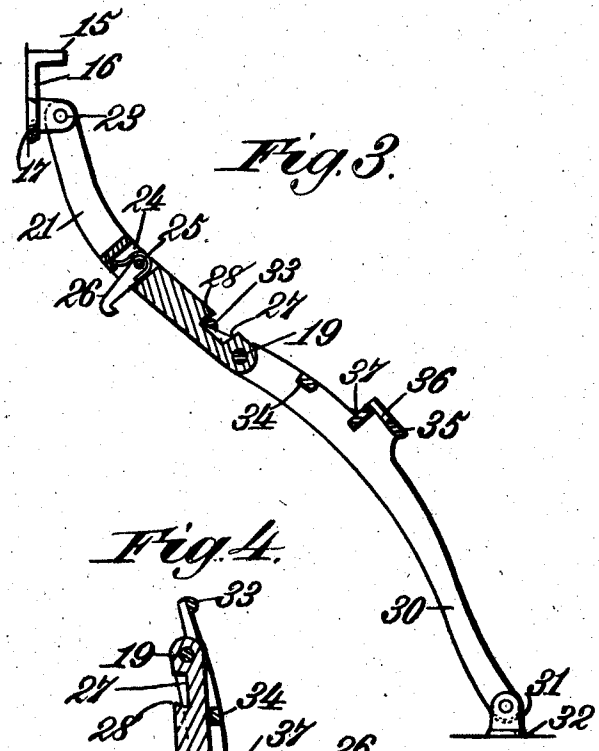


Fig. 5.

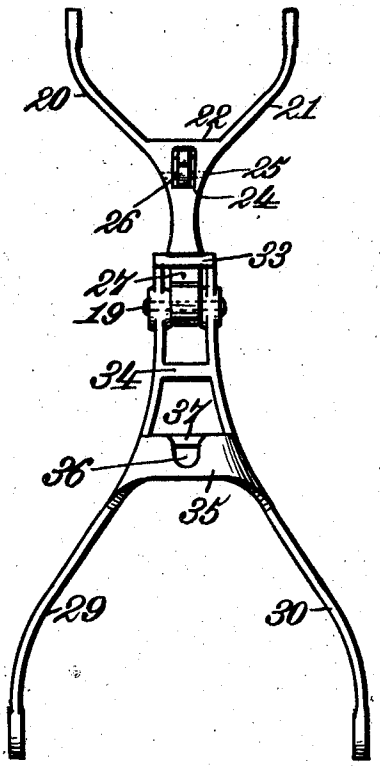


Fig. 4.

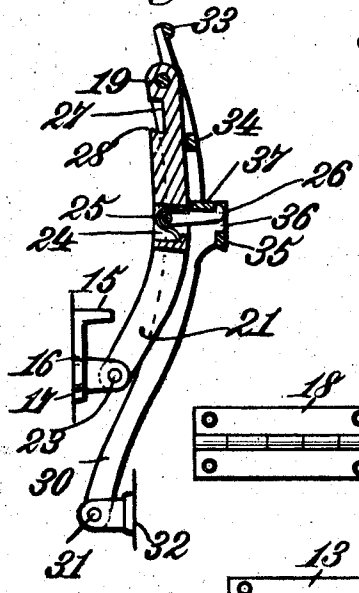


Fig. 6.

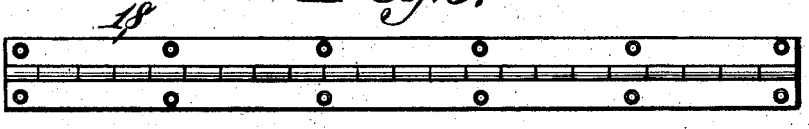
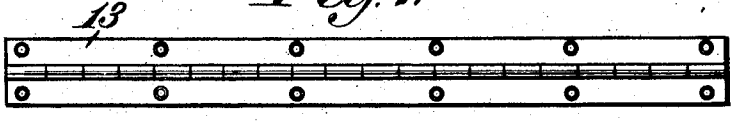


Fig. 7.



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UNITED STATES PATENT OFFICE.

MARTIN F. SCHRENKEISEN, OF NEW YORK, N. Y.

CHAIR.

No. 827,398. Specification of Letters Patent. Patented July 31, 1906.

Application filed June 17, 1905. Serial No. 265,751.

To all whom it may concern:

Be it known that I, MARTIN F. SCHRENKEISEN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Chairs, of which the following is a specification.

This invention relates to chairs of that class termed "folding" chairs; and the object thereof is to construct a chair of such class with means hereinafter set forth, which when the chair is opened to normal position for use will impart unusual strength thereto, as well as making the chair thoroughly rigid, so that no matter to what dangerous position or angle the chair is placed while in use there will be no danger of the chair collapsing or folding upon itself. Furthermore, said means is so constructed and arranged as to enable the chair to be folded into small compass, to enable the seat of the chair to be upholstered all over the top, if desired, or to permit of using a cane seat and back; to provide an absolutely noiseless chair when in use or when opening or closing, which is unusually advantageous where noise is objectionable, and to dispense with the employment of screws, bolts, or any other projections on either side of the chair, which are objectionable for the reason that they invariably catch the garments of a person, consequently injuring them.

The invention further aims to provide a chair of such class which when open or extended for use will have the appearance of a non-foldable chair and will not be recognized as a folding chair except on close scrutiny, and, furthermore, to so construct the chair as to enable the same to be finished in any color or gilt which will make the chair marketable for many purposes at low, medium, and high prices.

The invention further aims to provide a chair of the character referred to which shall be simple in construction, strong, durable, rigid when open or extended, efficient in its use, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel combination, construction, and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, which form a part of this specification, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, in which—

Figure 1 is a central vertical sectional view of a chair constructed in accordance with this invention when open or extended. Fig. 2 is a like view showing the chair folded. Fig. 3 is a central sectional view of the bridge element when extended. Fig. 4 is a like view with the bridge element closed. Fig. 5 is a front elevation of the bridge element when extended, and Figs. 6 and 7 are views of the front and rear seat hinged connections.

In the drawings, wherein like reference characters denote corresponding parts throughout the several views, 1 denotes the rear legs of the chair, which are extended in any suitable manner, so as to form the back-frame 2, to which the back 3 is connected.

4 denotes a rear brace, which is secured between the legs 1 and in such position that the top thereof will be in alinement with the upper face of the seat-frame 5, and 6 denotes another brace for the legs 1, which is secured between the legs 1 at a point below the brace 4.

The reference character 7 denotes the front legs of the chair, which are connected together, as well as being reinforced at the top through the medium of the combined front brace and support 8.

The side braces of the chair are indicated by the reference character 9, and these side braces 9 are arranged between and connected to the front and rear legs near the lower ends thereof, and the manner in which the side braces 9 are connected with the front and rear legs will be hereinafter referred to. The side braces 9 are connected together through the medium of the combined support and brace member 10, said member 10 being arranged at a point toward the forward end of the side braces 9.

Each of the side braces 9 is hinged to its respective front and rear legs, the reference character 11 denoting the hinged connections between the braces 9 and the rear legs, and the reference character 12 denotes the hinged connection between the braces 9 and the front legs. The hinged connections 11 are arranged upon the top of the braces 9, and the hinged connections 12 are arranged

upon the bottom of the braces 9. By such an arrangement when the chair is folded the braces 9 can be moved against the rear legs 1.

The seat-frame 5 is hinged to the rear brace 4, so as to permit of the said frame being folded against the back of the chair, the hinged connection being a continuous one, as indicated by the reference character 13—that is to say, the hinged connection being substantially of a length equal to the width of the seat-frame at the rear threeof and so arranged that when the chair is open or extended the inner edge of the seat-frame abuts against the front face of the brace 4. The seat-frame 5, approximately centrally of its lower face, at the rear thereof, is provided with a reinforcing-plate 14, which when the chair is open or extended is adapted to rest upon a pair of forwardly-projecting lugs 15, formed at the top of a pair of brackets 16, secured, as at 17, to the front of the brace 4. The seat-frame 5 when the chair is open or extended is adapted to have the front thereof supported upon the top of the legs 7 and brace 8, and the said seat-frame 5 is also hinged to the said legs 7 and brace 8, the hinged connection being a continuous one and is indicated by the reference character 18, and the said hinged connection 18 being of a length equal to the combined length of the brace 8 and the width of the legs 7 at the top thereof. The hinged connection 18 is so arranged that when the seat-frame 5 is folded toward the back-frame 2 the legs 3 can be folded toward the seat-frame 5. Owing to the arrangement of the hinged connections 11, 12, 13, and 18, when the chair is folded the seat-frame and side braces 9 will be interposed between the rear legs and the front legs of the chair. The connecting of the seat-frame 5 to the rear brace 4 and to the front legs 7 and brace 8 through the medium of the continuous hinged connections 13 and 18 imparts unusual strength at these points, which would not be the case if a small hinge were used at each side of the seat-frame at the front and rear thereof. The continuous hinged connections also obviate to a great extent liability of the seat-frame separating or breaking at the points of connection between the seat-frame and the brace 4 and the front legs 7 and brace 8. The providing of the continuous hinged connections in the manner as set forth enables the seat-frame to be upholstered all over the top, as would be the case with an ordinary chair, and also permits of the upholstery being carried over the top of the brace 4. It also permits of using a cane seat, if desired.

Means is provided to retain the chair in an open or extended position, but without any strain whatever on the said means, whether the chair is open or closed. Furthermore, said means also acts to connect the parts of the chair together when the latter is folded, so that the chair cannot be opened or extended unless said means is released. Said means consists of what may be termed a "bridge element" for bridging from the brace 4 to the brace 10. Said element comprises two interlocking and interfolding members, and for convenience of description one of said members will be termed the "upper" and the other the "lower." The upper member is pivoted at its lower end to the upper end of the lower member, as at 19. The upper member consists of two arms 20 21, somewhat curvilinear in contour and which converge toward, as well as merge into, each other at their lower ends, as at 22, and at their upper ends are pivoted in the brackets 16, as at 23. The portion 22 of the upper member is provided with an opening 24, in which is pivoted, as at 25, a spring-pressed pawl 26, which is adapted to engage the lower member in a manner as hereinafter set forth, so as to retain the chair in its folded position. The portion 22 of the upper member is also provided with a cut-away portion, as at 27, forming thereby a shoulder 28, against which the lower member abuts in a manner as hereinafter set forth when the chair is open or extended, so as to prevent the chair from collapsing. Said shoulder 28 is formed in such a manner as to have the top edge thereof overlap the remaining portion, so that when the lower member is adjusted so as to abut or bear against the shoulder 28 the said lower member will have to spring past the top edge of the shoulder 28. To obtain this function, the shoulder 28 is slightly curvilinear in contour.

The lower member of the bridge element is formed of two arms 29 30, which are curvilinear in contour and are pivoted at their lower ends in the brackets 31, fixed to the upper face of the brace 10, as at 32. The arms 29 30 converge toward each other at their top and are connected together through the medium of the cross-pieces 33 34 35. The cross-piece 33 is arranged in advance of the point of connection between the lower member and the upper member, and said cross-piece 33 is rounded and is adapted to abut against the shoulder 28. Said cross-piece 34 is arranged at a point below the point of connection between the upper and the lower members, and the said cross-piece 35 is arranged below the cross-piece 34. Said cross-piece 35 projects outwardly from the arms 29 30 and is provided with an opening 36, which forms a seat or catch portion 37, adapted to be engaged by the pawl 26 for connecting the chair together when folded. The opening 35 and catch portion 37 are formed in such a manner in the cross-piece 35 that the pawl 26 will be protected from accidental displacement when the chair is folded, and which is obtained by arranging the catch portion 37 below the plane of the outer face of the cross-piece 35.

The arrangement of the pawl 26 with respect to the opening 36 and catch portion 37 is such that when the chair is folded the pawl 26 will extend through the opening 36 and automatically engage the catch portion 37. When it is desired to open the chair, the person disengages the pawl 26 from the catch portion 37, and the seat and front legs can be lowered, and when the upper and lower members are extended until the cross-piece 33 springs past the top edge of the shoulder 28 and abuts against the said shoulder the chair will then be rigid; but owing to the arrangement of the bridge element there is no strain whatever thereon when using the chair. When the upper and lower members are extended in the manner as hereinbefore set forth and while in such position, it will be impossible to fold the chair or the chair will be prevented from collapsing until the cross-piece 33 is moved away from the shoulder 28, and this can only be had by bending the bridge element through the medium of a manual operation, as the arrangement of the cross-piece 33 with respect to the shoulder 28 is such that when they are in an abutting position they cannot accidentally become separated.

The constructing of a folding chair with the continuous hinged connections and the bridge element in a manner as hereinbefore set forth imparts unusual strength to the chair, as well as makes the chair thoroughly rigid when the chair is open or extended, so that no matter to what dangerous position or angle the chair is placed in while in use there will be no danger of the chair collapsing or folding upon itself. The bridge element is so arranged with respect to the chair that it will not interfere in any manner with the folding of the chair, and when the chair is folded, owing to the curvilinear construction of the upper and lower members, said upper member will fold within the lower member, and the two members will be arranged forward of the seat-frame, but will not project forward of the front legs, so as to offer any obstruction and not to give an unsightly appearance to the chair when folded.

Although the invention is disclosed as applied to an armless chair, yet the invention is particularly adapted for use in connection with armed chairs, settees, or any other article of furniture for which it may be applicable.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A folding chair comprising a bridge element for retaining the chair rigid when open or extended, said bridge element consisting of two members, each pivoted at one end to the chair-body and pivotally connected together at their other end, one of said members provided with a shoulder adapted to be engaged by the other of said members for retaining the members in position when extended and one of said members having means adapted to engage the other of said members for connecting the members together when folded.

2. A folding chair comprising a bridge element for retaining the chair rigid when open or extended, said bridge element consisting of two members, each pivoted at one end to the chair-body and pivotally connected together at their other end, one of said members provided with a shoulder adapted to be engaged by the other of said members for retaining the members in position when extended and one of said members having means adapted to engage the other of said members for connecting the members together when folded, and one of said members adapted to extend in the other of said members when the said members are folded.

3. A chair comprising rear legs, front legs, a brace element for the rear legs, side braces hinged at their ends to the front and rear legs, a supporting brace member connecting the side braces together, a seat, a hinged connection between the seat and said element, a brace for the front legs, a hinged connection between the seat and the said brace for the front legs, and a foldable bridge element pivotally connected at one end to said element and at its other end pivotally connected to said supporting brace member.

4. A chair comprising rear legs, foldable front legs, a brace for the rear legs, brackets secured to said brace and provided with forwardly-extending lugs, a seat hinged to said brace, a reinforcing-plate secured to the seat and adapted to rest upon said lugs when the chair is open or extended, a foldable bridge element pivotally connected at one end to said brackets, and means for connecting the other end of said element with the front legs, said element adapted to retain the chair rigid when open or extended.

5. A chair comprising rear legs, foldable front legs, a brace for the rear legs, brackets secured to said brace and provided with forwardly-extending lugs, a seat hinged to said brace, a reinforcing-plate secured to the seat and adapted to rest upon said lugs when the chair is open or extended, a foldable bridge element pivotally connected at one end to said brackets, and means for connecting the other end to said element with the front legs, said element adapted to retain the chair rigid when open or extended, said element comprising means for retaining the chair in a folded position.

6. A chair comprising a seat, foldable front legs, rear legs, a continuous hinged connection between the seat and the rear legs, a continuous hinged connection between the seat and the front legs, and a foldable and sectional brace element for retaining the chair

rigid when open or extended and provided with means carried by one of the sections and engaging the other of the sections for retaining the chair and said elements in folded position.

7. A chair comprising rear legs, a brace therefor, front legs, a brace therefor, side braces, a hinged connection between the ends of the side braces and the front and rear legs, a seat, a continuous hinged connection between the seat and the brace for the rear legs, a continuous hinged connection between the seat and the front legs and the brace therefor, a supporting brace member for the side braces, and a foldable bridge element pivotally connected at its upper end to the brace for the rear legs and pivotally connected at its lower end to the said member.

8. A chair comprising rear legs, a brace member therefor, front legs, a brace element therefor, side braces, a hinged connection between the ends of the side braces and the front and rear legs, a seat, a continuous hinged connection between the seat and the brace member for the rear legs, a continuous hinged connection between the seat and the front legs and the brace element therefor, a supporting brace member for the side braces, brackets connected to the braces member for the rear legs and provided with forwardly-projecting lugs adapted to support the inner end of the seat, brackets secured to said supporting brace member, and a foldable bridge element pivotally connected at its upper end to the brackets carried by the said brace member for the rear legs and pivotally connected at its lower end to the brackets carried by the said supporting brace member.

9. A chair comprising rear legs, a brace member therefor, front legs, a brace element therefor, side braces, a hinged connection between the ends of the side braces and the front and rear legs, a seat, a continuous hinged connection between the seat and the brace member for the rear legs, a continuous hinged connection between the seat and the front legs and the brace element therefor, a supporting brace member for the side braces, brackets connected to the brace member for the rear legs and provided with forwardly-projecting lugs adapted to support the inner end of the seat, brackets secured to said supporting brace member, and a foldable bridge element pivotally connected at its upper end to the brackets carried by the said brace member for the rear legs and pivotally connected at its lower end to the brackets carried by the said supporting brace member, said bridge element adapted to retain the chair rigid when open or extended and comprising means for retaining the chair in its folded position.

10. A folding chair having a foldable means for retaining the same rigid when open or extended and for retaining the chair in its folded position, said means consisting of an upper and a lower member pivotally connected together, one of said members provided with a shoulder and the other of said members having a cross-piece, said cross-piece adapted to engage said shoulder for retaining the chair rigid when extended and one of said members having a spring-pressed pawl and the other of said members provided with a catch portion adapted to be engaged by said pawl for retaining the chair in its folded position.

11. A folding chair having a foldable means for retaining the same rigid when open or extended and for retaining the chair in its folded position, said means consisting of an upper and a lower member pivotally connected together, one of said members provided with a shoulder and the other of said members having a cross-piece, said cross-piece adapted to engage said shoulder for retaining the chair rigid when extended and one of said members having a spring-pressed pawl and the other of said members provided with a catch portion adapted to be engaged by said pawl for retaining the chair in its folded position, one of said members adapted to receive the other of said members when the chair is folded.

12. A foldable chair having an interlocking and interfoldable sectional bridge element having as a part thereof means adapted to retain the chair rigid when open or extended, said element having one of its sections provided with means adapted to automatically engage the other of the sections for retaining the chair and said element in a folded position.

13. A foldable chair having an interlocking sectional bridge element having as a part thereof means adapted to retain the chair rigid when open or extended, said element having one of its sections provided with means adapted to automatically engage the other of the sections for retaining the chair and said element in folded position.

14. A folding chair comprising rear legs, foldable front legs, a seat, a continuous hinge connecting the seat with the rear legs, a continuous hinge connecting the seat with the front legs, a sectional and foldable bridge element for retaining the chair rigid when extended, and means for solely connecting the bridge element to the front and rear legs.

15. A folding chair comprising rear legs, front legs, side braces hinged to the front and rear legs, a member connecting the side braces together, a seat hinged to the front and rear legs, a foldable bridge element arranged directly below the seat and adapted to retain the chair rigid when extended and to retain the chair in its folded position, and means for connecting the bridge element to the rear legs and to the said member.

16. In a chair, the combination with the

rear legs, a brace therefor, foldable front legs connected with the rear legs, a seat hinged to said brace and to the front legs, a foldable bridge element arranged directly beneath said seat and pivoted at one end to said brace, and means for pivotally connecting the other end of said element with the front legs.

17. A chair comprising rear legs, a member for connecting said legs together, a seat, foldable front legs, a hinge connected to the seat and said member and of a length substantially equal to the length of said member, a front member for connecting the front legs together, a hinge attached to the seat and the said front member and of a length substantially equal to the length of said member, a bridge element for retaining the chair rigid when opened or extended means for connecting the said element solely to the rear and front legs, said element having as a part thereof means for retaining the chair in position when folded.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MARTIN F. SCHRENKEISEN.

Witnesses:

PETER M. SIMON,

JOHN WHALEN.