

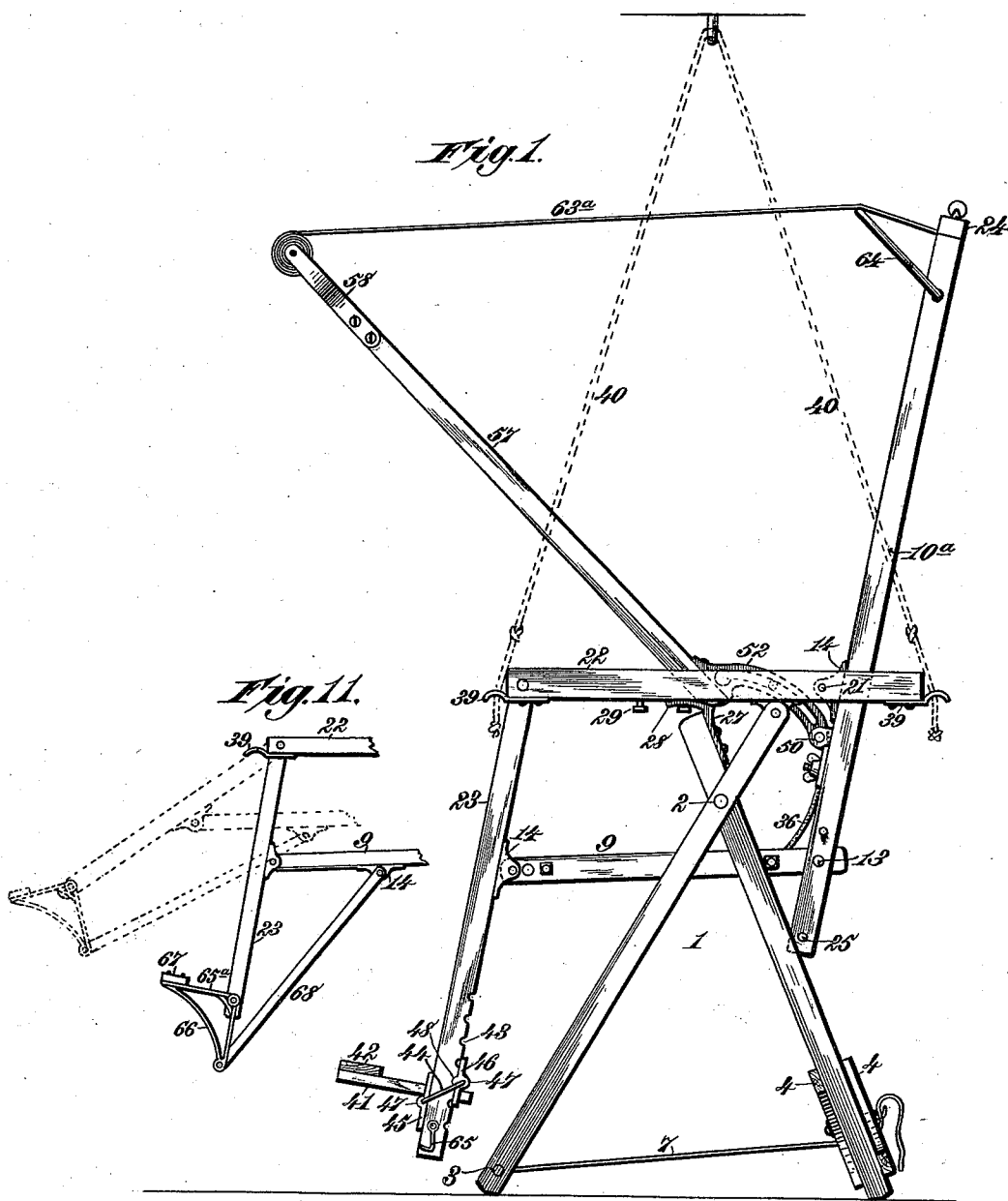
(No Model.)

3 Sheets—Sheet 1

W. F. PARMELEE.
CONVERTIBLE CHAIR.

No. 417,681.

Patented Dec. 17, 1889.



Witnesses:
Robert G. Smith

J. A. Rutherford

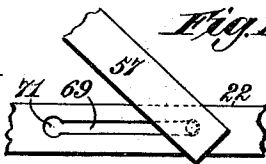
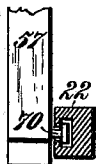


Fig. 12.



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By *James L. Norris*
Atty.

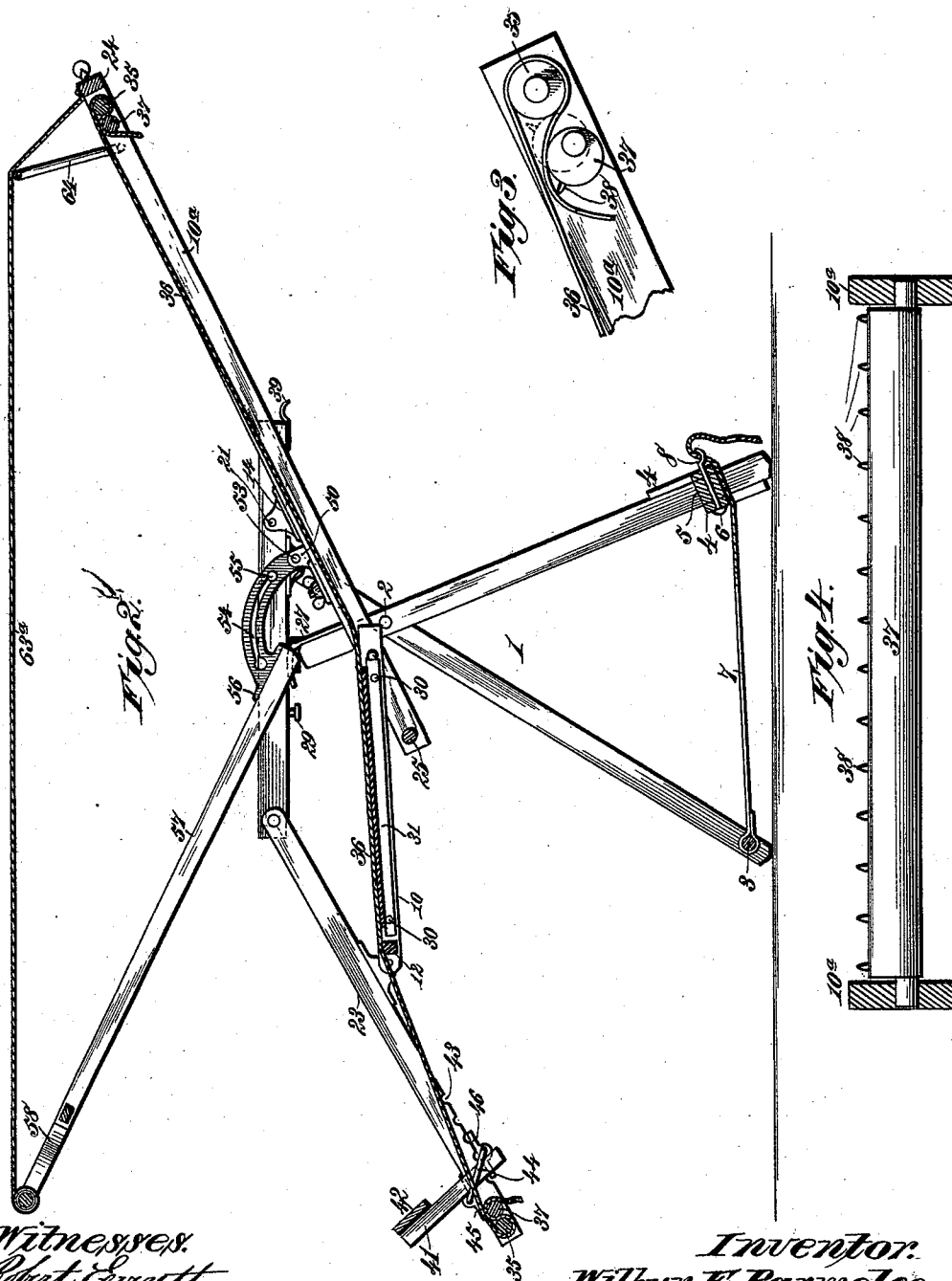
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W. F. PARMELEE.
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Patented Dec. 17, 1889.



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(No Model.)

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Fig. 5.

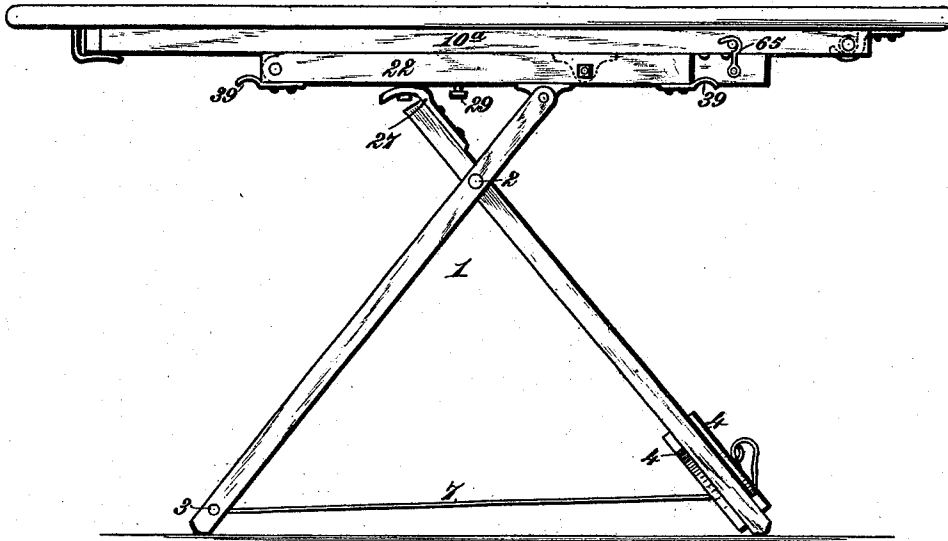


Fig. 6.

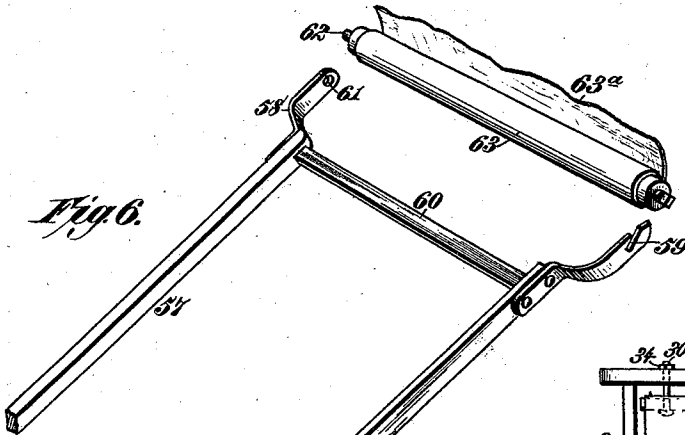


Fig. 7.

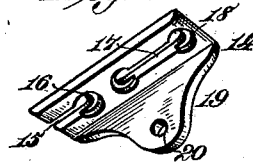


Fig. 9.

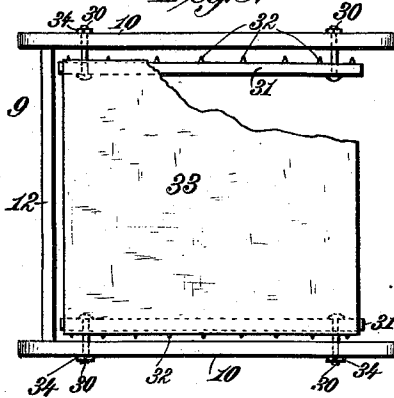


Fig. 8.

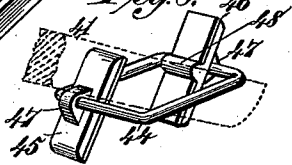
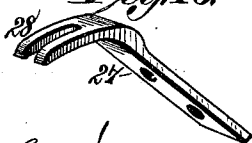


Fig. 10.



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UNITED STATES PATENT OFFICE.

WILBUR F. PARMELEE, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO
DWIGHT J. PAYNE, OF SAME PLACE.

CONVERTIBLE CHAIR.

SPECIFICATION forming part of Letters Patent No. 417,681, dated December 17, 1889.

Application filed February 7, 1889. Serial No. 298,995. (No model.)

To all whom it may concern:

Be it known that I, WILBUR F. PARMELEE, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented new and useful Improvements in Convertible Chairs, of which the following is a specification.

My invention relates to that class of chairs which are so constructed that they may be converted into other articles of furniture, or so changed in form that they may be adapted to other useful purposes.

It is the object of my invention to provide a chair of this character which shall be capable of use as a reclining-chair, adjustable at various angles of inclination, and also adapted to serve in this capacity as a swinging chair. It is my purpose also to provide simple means for protecting said chair with an awning which shall be adjustable and extensible by simple and convenient means.

It is my further purpose to so construct and combine the parts composing the chair that the latter may be readily converted into a table, the structure being light, strong, and without complication.

My invention also includes various novel features of construction whereby I secure a more perfect and convenient adjustment of the foot-rest, and whereby also the several parts composing the chair are connected together and adjusted relatively to each other.

It includes, also, novel means whereby the chair may be suspended to form a swing, and whereby the awning may be attached, adjusted, and retained under proper tension.

It is a feature of my invention, moreover, to provide simple and convenient means whereby the canvas forming the seat, back, and leg-rest may be attached at its ends in such manner as to enable any one using the chair to easily and quickly adjust its tension or detach it altogether. I aim also to provide a cheap and convenient method of securing the canvas of the seat proper to the seat-frame and enable it to be readily adjusted to give a suitable tension at any time.

My invention also comprises various novel features of construction and new combinations of parts, all as hereinafter more fully described and shown, and then specifically

pointed out and defined in the claims following this specification.

Referring to the accompanying drawings, Figure 1 is a side elevation of the chair, showing its parts, the awning, and the means for suspending the same. Fig. 2 is a central vertical section of the same in an inclined position. Fig. 3 is a detail elevation of the end of one of the back pieces of the frame, showing the means for fastening the canvas. Fig. 4 is a transverse section of the back, taken a little below the attaching devices shown in Fig. 3. Fig. 5 is a side elevation of the parts forming the chair, showing its conversion into a table. Fig. 6 is a detail perspective of the awning-frame and roller detached. Fig. 7 is a detail section of one of the castings connecting the back-frame and seat-frame, and the latter with the leg-frame. Fig. 8 is a detail perspective of the parts holding the foot-rest and rendering it adjustable on the leg-frame. Fig. 9 is a detail plan view of the seat-frame, showing the manner of attaching the canvas thereto. Fig. 10 is a detail view of one of the castings forming the attachments connecting the adjustable member of the leg-frame to the seat-frame. Fig. 11 is a detail side elevation of the preferred form of foot-rest. Fig. 12 is a detail view showing a modified construction of the awning-bar.

In the said drawings the reference-numeral 1 denotes what may be termed the "leg-frame," which is composed of two pairs of inclined bars, the members of each pair crossing each other near their upper extremities and connected at the point of intersection by a pivot 2. The cross-bars are connected rigidly to the corresponding bars of the other pair by braces 3 and by cross-braces 4, the latter being applied to opposite sides of the rearward bars and being connected by a block 5 and bolt 6 at the point of their intersection. To the cross-brace 3 is attached one end of a strap 7, which is brought under the cross-braces 4 and attached to a hook 8, which may form part of the bolt 6, the function of the strap being to prevent the pivoted leg-frame from collapsing under the weight of the sitter.

The numeral 9 denotes the seat-frame, which is composed of two parallel members

10, connected at their forward ends by a brace or bar 12. The bars 10 are connected to the bars of the back-frame by pivots 13, attached a little above the lower ends of the bars 10^a, composing the back-frame. At their forward ends these bars are pivotally connected to the median portions of the leg-rest bars by means hereinafter described. The bars 10^a of the back-frame are provided with castings 14, (shown in Fig. 7,) and each consisting of a flat plate having at one end an open slot 15, having a seat 16 at its closed end adapted to receive the head of a screw. The plate is also provided with a key-hole slot 17, having a similar seat 18, and upon one side of the plate is joined an angular bracket 19, having an eye 20, which receives a pivot-pin 21, attaching the bar 10^a to the arm-piece 22. The castings 14 are applied detachably to headed pins or bolts set in the bars 10^a above the point of attachment of the seat-frame.

Castings similar in all essential respects to those just described are attached to the bars 23 of the leg-rest frame and form the pivotal attachments for the ends of the bars of the seat-frame.

To the upper ends of the bars 10^a is detachably secured a cross-piece 24, to which one end of the awning is attached. At their lower ends the bars 10^a are connected by a round or brace 25, said lower ends dropping a short distance below the point of attachment of the seat-frame, thus bracing the back without interfering with the seat.

The leg-rest frame is composed of two parallel bars 23, pivotally connected at their upper ends to the forward ends of the arm-rests and extending downward a distance below the point where the seat-frame is pivotally connected. To the upper ends of the rearward legs are rigidly attached castings 27, having slotted or forked projecting ends 28, (see Fig. 10,) which engage headed pins 29 on the under faces of the arm rests or pieces 22. A series of these pins are set in each arm-piece to permit the leg-frame to be extended and the seat-frame to be lowered and raised.

By the connections shown the arm-pieces become practically rigid parts of the leg-frame, as shown in Figs. 1 and 2, and also in Fig. 5.

Parallel with the inner faces of the bars 10 of the seat-frame and connected thereto by bolts 30 are bars 31, having a series of points 32, projecting toward the bars 10. The canvas 33 of the seat is drawn over the bars 31 and down between the latter and the bars 10, whereupon by turning up the nuts 34 upon the ends of the said bolts the bars 31 are drawn toward the bars of the seat-frame and the points 32 are not only forced through the canvas, but into the wood of the bars 10, thereby securely fastening the canvas 33. Secured between and connecting the upper portions of the bars 10^a is a stationary rod or brace 35, over which

the end of a strip of canvas 36 is carried. In close proximity to the rod 35 is journaled a roller 37, its journal-bearings being eccentric to the axis of the said roll, upon the periphery of which at the point most remote from the eccentric axis of the roll are mounted a series of short sharp points 38. The canvas 36 is carried over the rod or brace 35 and its end is then drawn over the upper and forward face of the roller 37 and between it and the canvas 36. By drawing on the end of the canvas the roller 37 may be caused to revolve in such manner as to release its bite upon the rod or brace 35 and turn the points 38 into such position as to enable the canvas to be released therefrom. The canvas may then be tightened, and when the end is released any tension on the main portion thereof would partly rotate the roller 37, draw the points 38 through the canvas, and cause the latter to bite upon the rod or brace 35, by which the end of the canvas will be securely held. A similar arrangement of parts is provided at the lower end of the leg-rest frame for the attachment of the canvas 36 at that point, and a similar device may be used to hold the canvas of the seat, if desired.

Upon the projecting rearward end of the arm-pieces are mounted castings 39, the projecting ends of which are slotted or forked and preferably curved to present a convex upper face, and similar castings are also applied to the forward ends of said arm-pieces. The forked ends of these castings receive the ends of suspending-ropes 40, said ropes having knots which lie in the concave faces of the projecting ends of the castings, the rope lying in the slot. When used as a swing, the leg-frame may be detached.

Upon the lower ends of the leg-rest bars 23 is mounted a foot-rest 41, composed of a strip 42, on which the feet may be placed, said strip having the bars 41 at its ends rigidly attached thereto at right angles with the length of the strip. Upon the rear faces of the leg-rest bars 23 are formed half-round notches 43 at regular intervals, and a substantially rectangular yoke-frame 44, having two parallel plates 45 and 46, which are connected to opposite parallel arms of the yoke by lugs 47, through which the yoke passes, and lie on opposite sides of the leg-rest bars 23, and one of said plates is provided with a transverse rib 48, which lies in the half-round notches 43. The yoke-frames 44 are extended laterally, as shown in Fig. 8, to admit the ends of the bars 41 inside the leg-rest bars 23. It will readily be seen that the gravity of the strip 42 will cause the plates 45 and 46 to approach the opposite faces of the leg-rest bars, thereby causing the rib 48 to enter one of the notches 43, thus firmly binding the foot-rest at any point desired, any downward pressure on the strip 42 only serving to lock the parts more closely.

Upon the bars 10^a of the back-frame, between the seat-frame 9 and arm-pieces 22, are

mounted brackets, each having a slot 49 at one end and a forked or bifurcated ear 50 at the other end, said ear being pierced with an opening 51. (See Fig. 6.) Between the two members of this ear is inserted the end of a curved arm 52, fastened by a pivot-pin 53, Figs. 1 and 2. This arm is curved upward and forward and provided with a longitudinal curved slot 54, which receives a pin 55, projecting from the face of the arm-piece 22. The forward end of each arm is provided with a beveled or inclined plate 56, to which is bolted the end of a bar 57, which is caused by the inclination of the plate 56 to extend upward and forward, as shown in Fig. 1. Upon the upper end of said bar 57 is mounted an elastic plate 58, Fig. 6, curved laterally, and then upward or in substantial parallelism with the bar 57, and provided with an open slot 59. A cross-brace 60 connects the ends of the bars 57, which are both provided with the spring bearing-plate 58, the sole difference being that while an open slot 59 is formed in one plate the other is provided with an eye 61. This eye receives one journal 62 of a roll 63, the other journal being inserted in the slot 59. Upon the roll is wound a strip of canvas 63^a, which is extended over a stretcher 64, having its ends journaled in the arms 10^a of the back-frame, and from this stretcher the canvas passes to the cross-brace 24, to which it is attached in any suitable manner.

If desired, the roll 63 may be made a spring-roll, winding automatically, after the manner of a curtain-roller, whereby the several adjustments of inclination of the chair will be accompanied by an automatic winding or unwinding of the canvas forming the awning. As the chair is inclined backward, the casting 52 moves with the hinged or pivoted back-frame, the slotted casting 52 running on the pin 55 and inclining the bar 57 in exact proportion to the inclination of the back-frame, as will be seen by comparing Figs. 1 and 2.

When it is desired to convert the chair into a table, the upper end of the back-frame is drawn forward into a horizontal position and into parallelism with the arm-pieces 22. By this movement the leg-rest frame 23 will be drawn up underneath the back and may be held by hooks 65. This table may be made to serve a very convenient purpose, as a lap-board or a cutting-table, for home use.

By making the casting shown in Fig. 7 as "rights and lefts" I am able to use the same to connect the back-frame 10^a to the arm-pieces 22 and the fore legs, and the leg-frame to the said arm and seat pieces; and I may also substitute these castings for those having the lugs or ears 50, by which the awning-bars 57 are pivoted to the back-frame 10^a.

Instead of the form of foot-rest shown in Figs. 1, 2, and 8, and already described, I prefer the construction shown in Fig. 11 of the drawings, in which the numeral 65^a denotes

a right-angled frame braced at its ends by curved pieces 66 and pivoted at the apex of the angle to the lower ends of the leg-rest bars 23. Upon the outer ends of one pair of bars forming the frame is mounted a strip 67, and to the end of the other pair are pivotally attached the ends of connecting-bars 68, having their upper ends pivoted to the seat-frame 9, which may be accomplished by means of castings similar to those seen in Fig. 7. As the chair is inclined backward these bars 68 will draw the foot-rest frame into the position substantially shown by dotted lines in Fig. 11, in which the strip 67 and its supporting-frame will practically form a continuation of the lower end of the leg-rest frame.

In place of the slotted casting 52, I may use the modified construction shown in Fig. 12, in which a slot 69 is formed in the arm-piece 22 to receive a headed pin or screw 70 near the end of the awning-bar 57. The slot may have a key-hole enlargement 71 at the end to permit the attachment and detachment of the awning. This construction is simple, cheap, and convenient, and is for these reasons preferred.

What I claim is—

1. The combination, in a convertible reclining-chair, of a leg-frame, a back-frame pivotally hung on the leg-frame, an awning-supporting frame rising from the leg-frame, having a winding-roll at its upper portion and pivotally connected with and automatically raised and lowered by the movement of the back-frame, and an awning connected at one end with the upper portion of the back-frame and at the other end with the winding-roll on the supporting-frame, substantially as described.

2. The combination, in a convertible reclining-chair, of a leg-frame, a back-frame pivotally connected with the leg-frame, an awning-supporting frame rising from the leg-frame, having a winding-roll at its upper portion and pivotally connected with and raised and lowered by the movement of the back-frame, and an awning-stretching yoke or frame pivotally connected with the back-frame, substantially as described.

3. In a convertible chair, the combination of a leg-rest frame, a back-frame having a rod mounted in or near its end, a roller journaled upon eccentric bearings in proximity to the rod and having a series of points projecting from its periphery, and a strip of canvas secured at one end to the leg-rest frame and carried over said rod and between it and the roller and over the latter beneath the body of the canvas, substantially as described.

4. In a chair having a seat-frame, strips arranged parallel with the opposite bars of said frame and having points projecting from said strips, and bolts passing through the said strips and bars and receiving nuts by which the strips may be drawn against or toward the bars of the frame, the canvas being drawn

over the strips and down between the latter and the bars of the frame, substantially as specified.

5 In a reclining-chair, the combination, with a leg-frame, a swinging back-frame, a seat-frame, and arm-rests pivotally connected with the back-frame, of the leg-rest bars piv-
 10 15 20 otated to the arm-rests and seat-frame, and each having one edge provided with a series of notches, a pair of parallel plates arranged, respectively, on the front and rear edge of each leg-rest bar and one of each pair of plates having a rib to engage the notches, a yoke-frame passing through each pair of plates and extending laterally from the edges thereof, and the foot-rest having end bars inserted through the lateral extensions of the yokes and supported thereby, substantially as described.

20 6. In a convertible chair, the combination, with the back-frame pivotally connected with the arm-pieces and with the seat-frame, of an awning-frame having at one end curved slotted arms, which are pivotally connected

to the back-frame, and in the slots of which 25 are pins mounted on the arm-pieces, a roll journaled in laterally-spreading arms carried by the other end of the awning-frame, one of said arms having an open slot, and a strip of canvas wound on said roll and attached to 30 the upper end of the back-frame, substantially as specified.

7. In a convertible chair, a back-frame, seat-frame, and leg-rest frame pivotally connected to each other and to the arm-rests, and a leg- 35 frame composed of two pairs of cross-bars, one of each pair being pivotally connected to the arm-rest on one side and the other being provided with a casting having a projecting curved slotted end, which engages with one 40 of a series of headed pins on the arm-rests, substantially as specified.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILBUR F. PARMELEE.

Witnesses:

ARTHUR B. CALEF,
 HALE D. BUTLER.