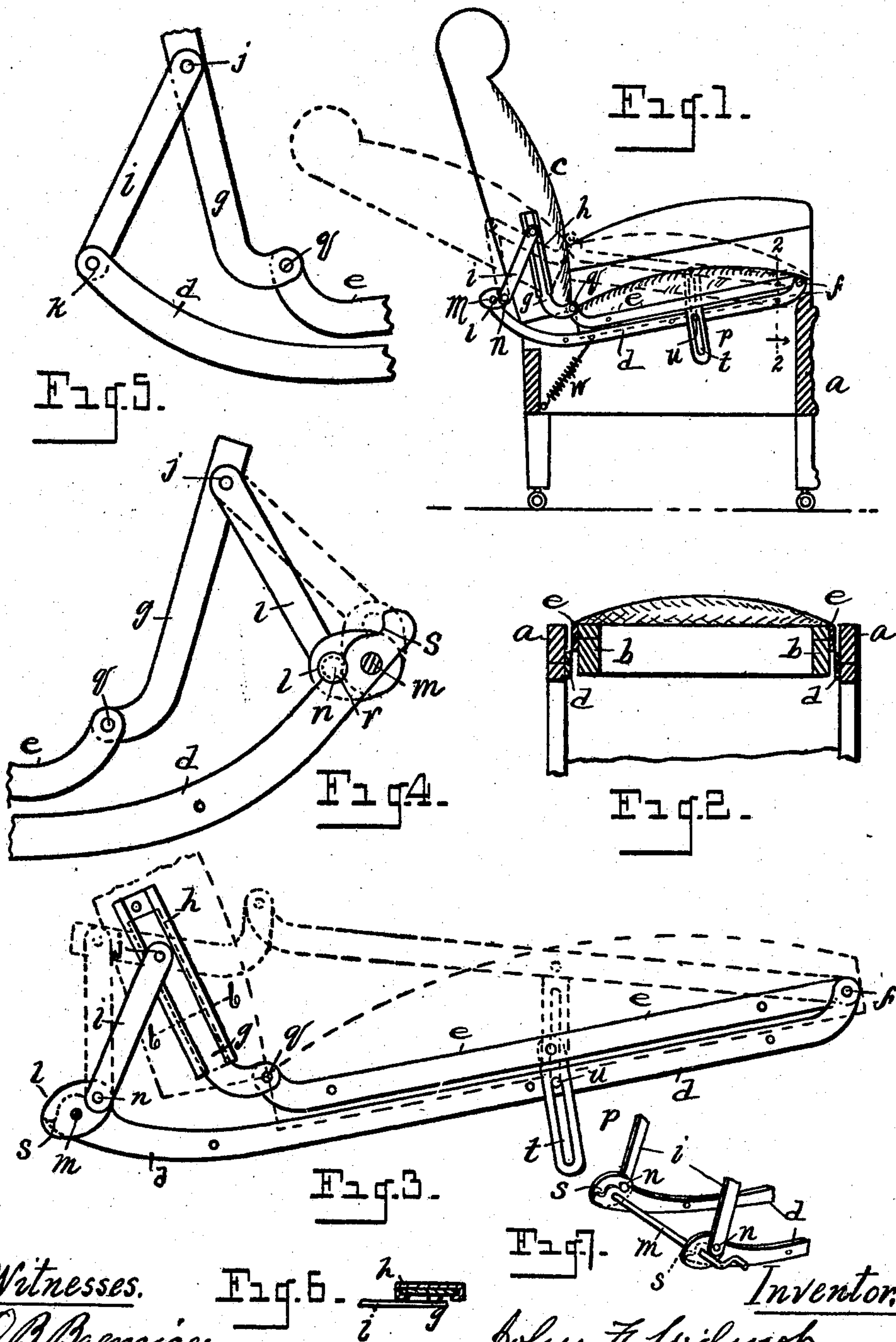


No. 868,052.

PATENTED OCT. 15, 1907.

J. F. WILMOT.
ADJUSTABLE RECLINING CHAIR.
APPLICATION FILED DEC. 21, 1905.



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ADJUSTABLE RECLINING-CHAIR.

No. 868,052.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed December 21, 1905. Serial No. 292,760.

To all whom it may concern:

Be it known that I, JOHN F. WILMOT, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Adjustable Reclining-Chairs, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object an adjustable reclining chair of novel construction and of superior utility whereby the weight of the portion of the body resting upon the seat frame will counter balance the portion of the body resting against the back frame of the chair, and whereby the back frame of the chair will readily hold any given position to which it may be adjusted.

My invention consists of the construction, combination and arrangement of devices and appliances hereinafter described and claimed and illustrated in the accompanying drawings in which

Figure 1 is a view in vertical section through a chair embodying my invention, showing parts in side elevation. Fig. 2 is a view in cross-section on the line 2—2, Fig. 1. Fig. 3 is a detail view, and upon an enlarged scale, of the attachments to the chair frame or base, the seat frame, and the back frame. Fig. 4 is a view of portions of the mechanism shown in Fig. 3, viewed from the opposite side. Fig. 5 is a view of portions of the mechanism illustrating a modification. Fig. 6 is a detail view in section on the line 6—6, Fig. 3. Fig. 7 is a view in perspective showing the connection of the links 1.

My improved chair embodies a suitable chair frame or base having a seat frame pivoted thereto at the front of the chair, the rear of the seat frame being vertically movable, and a back frame pivotally connected to the seat frame whereby the back frame may be adjusted forwardly or rearwardly into different positions, the chair frame, the seat frame, and the back frame being pivotally connected by certain arrangements of straps and bars and connecting links as hereinafter set forth.

In the drawings any suitable chair frame or base is indicated at *a*, a seat frame at *b*, and a back frame at *c*. Attached to the inner sides of the chair frame or base, on both sides thereof, are straps *d*, and attached to the outer sides of the seat frame on both sides thereof are bars *e*, said straps and bars running lengthwise of said frames, or from front to rear. The straps *d* and corresponding bars *e*, respectively, are pivotally connected at their forward ends as indicated at *f*. The arms *g* are secured to the back frame and pivotally connected at their lower ends, respectively, with the corresponding bars *e* as indicated at *q*. Said arms are preferably engaged with the back frame by means of sheaths *h* attached to the back frame. Links *i* are pivotally connected with the corresponding arms *g* as indicated at *j*. In the form shown in Fig. 5 the links

i have a direct pivotal connection with the corresponding straps *d* as indicated at *k*. In Figs. 1, 3 and 4, however, the links *i* are shown connected with the corresponding straps *d* by an intervening eccentric disk or link *l* fulcrumed to the lower end of the corresponding link *i* as indicated at *n* and to the adjacent end of the corresponding strap *d* as indicated at *m*.

I do not confine myself to the use of the intermediate links or disks *l*. For some purposes, however, their use would be found desirable inasmuch as it will be evident that the more the connection of the links *i* with the straps *d* can be brought in or out, lengthwise of the strap *d*, the more or less will the back frame be braced. The strap *d* is constructed, preferably, with recesses or stops indicated at *r* and *s* to receive the end of the corresponding fulcrum pin, *n*, the head of said pin being preferably constructed to lap over the adjacent edge of the strap *d*. I prefer also to connect the pivot pins *n* or *k*, as the case may be, on opposite sides of the chair by extending the fulcrum pin *n* so that the two links *l* on opposite sides may be more effectually actuated simultaneously, although I do not confine myself to the use of such a connecting rod. It will be observed that the lower end of the back will rise slightly when tilted back. While the seat may rise slightly at the rear, the seat being prevented from sliding forward. A person wishing to recline in the chair may thus simply throw his weight more or less upon the back frame, the back remaining in any adjusted position. The bar *e* may be provided with stop *p* constructed with an elongated slot *t* receiving a stud or pin *u* upon the corresponding strap *d*. By this construction it is evident that the seat frame is pivoted to the chair frame or base at the front thereof, and that the back frame is pivoted to the seat frame at the rear of the seat frame. I prefer that the straps *d* attached to the chair frame or base should extend to the rear of the base, and that the links *i* should be engaged with the sides of the back frame at a little distance above the lower edge of the back frame, the lower ends of the links *i* being pivotally attached to the rearwardly extended ends of the straps *d* connected with the chair frame or base. The length of the links *i*, the distance from the lower edge of the back frame at which said links are attached to the back frame, and the distance to which the straps attached to the chair frame or base extend rearward of said base may be readily regulated to conform to the conditions at which normal or nearly normal persons of any age will balance the back frame by the weight of the body on the seat frame.

It will be evident that the straps *d* become a part of the chair frame or base while the bars *e* become a part of the seat frame. By this construction the seat frame is pivotally supported at its forward edge upon the chair frame or base while the back frame is pivotally supported upon the seat frame and upon the chair

frame or base. The operation of the device will be evident. By throwing or shifting the weight of the body more upon the back frame, said frame will be caused to tilt backward correspondingly, while by throwing or shifting the weight of the body more upon the seat frame the back frame will be thrown forward correspondingly. It will be seen that there are no parts to be operated with the hand in tilting the back forward or rearward as the same is done automatically in the manner described. If the fulcrum pin *n* be extended, however, to connect opposite portions of the device, said fulcrum rod may be provided with a crank arm *v*. A spring *w* tends to draw down the rear of the seat frame and to draw up the back frame when no person is sitting in the chair.

While it is preferable to have the straps *d* and bars *e* extend from the pivots *f* to the pivots *m* and *q*, it is not essential that they be each constructed in a single continuous piece. While I preferably employ the sheaths *h* to connect the arms *g* with the back frame, said arms might be rigidly engaged with the back frame. In any event said arms constitute a part of the back frame. For convenience of shipping or for separating the parts and assembling the same, said arms *g* are slipped into said sheaths when the parts are set up.

It will be seen that the links *i* are normally inclined forward from the pivotal connection of their lower ends with the straps on the chair frame to their pivotal connection with the back frame, this position obviously serving to brace the back frame, yet allowing it to tilt backward, the links, when the back frame is tilted rearward, assuming more nearly an upright or vertical position, as shown, for example, in dotted lines in Figs. 1 and 3, this upright position of the tilted back frame also serving to efficiently support the back frame when in tilted position.

What I claim as my invention is

1. An adjustable reclining chair embodying a base provided at each side thereof with straps secured to the chair frame and extending to the rear of the chair frame, a seat frame provided with bars pivotally connected with said straps at the forward ends thereof, arms engaged with the sides of the back frame and having a pivotal engagement at their lower ends with the rear ends of said bars, and links pivotally connected at their upper ends with said arms and at their lower ends with the rear ends of said straps.

2. An adjustable reclining chair embodying a chair frame, straps engaged upon each side of the chair frame and projecting rearward of the chair frame, a seat frame, bars secured upon each side of the seat frame pivotally connected at their forward ends with the forward ends of said straps, a tilting back frame pivotally connected with the rear ends of said bars, and links pivotally connecting the back frame with the rear ends of said straps, said links being at such an angle as will support the weight against the back frame when the back frame is in upright position.

3. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and links pivotally connecting said arms with the rear ends of said straps.

4. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with

the rear ends of said bars, and links pivotally connecting said arms with the rear ends of said straps, said straps and bars extending continuously from the forward pivotal connection thereof to the rear pivotal connections thereof with said arms and links respectively.

5. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connecting said arms with the rear ends of said straps, and sheaths engaged upon opposite sides of the back frame, said arms engaged with said sheaths.

6. An adjustable reclining chair embodying a base provided at each side thereof with metal straps a seat frame provided at each side thereof with metal bars pivotally connected with said straps at the forward ends thereof, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connected at their upper ends with said arms, and eccentric disks or links pivotally connecting the lower ends of said first mentioned links with the rear ends of said straps to vary the length of said straps.

7. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected with said straps at the forward ends thereof, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connected at their upper ends with said arms, and eccentric disks or links pivotally connecting the lower ends of said first mentioned links with the rear ends of said straps, said straps provided with stops to hold the eccentric disk or links in given position.

8. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected with said straps at the forward ends thereof, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connected at their upper ends with said arms, and eccentric disks or links pivotally connecting the lower ends of said links with said straps, mechanism to connect the eccentric disks or links upon opposite sides of the chair, and means to actuate said mechanism whereby said disks will be moved simultaneously.

9. An adjustable reclining chair embodying a base provided with metallic straps, a seat frame provided with metallic bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and links pivotally connecting the upper ends of said arms with the rear ends of said straps, the back frame pivotally connected to the said bars at the rear of the seat frame, and said links pivotally connected to said straps at the rear of said base.

10. An adjustable reclining chair embodying a base provided at each side thereof with metal straps secured to the chair frame and extending to the rear of the chair frame, a seat frame provided with bars pivotally connected with said straps at the forward ends thereof, arms removably engaged with the sides of the back frame and having a pivotal engagement at their lower ends with the rear ends of said bars, and links pivotally connected at their upper ends with said arms and at their lower ends with the rear ends of said straps.

11. An adjustable reclining chair embodying a chair frame, provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and means pivotally connecting said arms with the rear ends of said straps.

12. An adjustable reclining chair embodying a chair frame provided at each side thereof with straps, a seat frame provided at each side thereof with bars pivotally connected at their forward ends with the forward ends of said straps, and a tilting back frame pivotally connected with the rear ends of said bars, and means pivotally connecting the back frame with the rear ends of said straps.

13. An adjustable reclining chair embodying a chair frame provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected at their forward ends with said straps, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, and means pivotally connecting said arms with the rear ends of said straps, said bars and straps being continuous from the point of their pivotal connection at the front ends thereof to the rear end connections with said arms.

14. An adjustable reclining chair embodying a chair frame, straps engaged upon each side of the chair frame and projecting rearward of the chair frame, a seat frame, bars secured upon each side of the seat frame pivotally connected at their forward ends with the forward ends of said straps, a tilting back frame pivotally connected with the rear ends of said bars, and links pivotally connecting the back frame with the rear ends of said straps.

15. An adjustable reclining chair embodying a base provided at each side thereof with metal straps, a seat frame provided at each side thereof with metal bars pivotally connected with said straps at the forward ends thereof, a tilting back frame, arms pivotally connecting the back frame with the rear ends of said bars, links pivotally connected at their upper ends with said bars, eccentric disks or links, a pivot pin connecting the lower end of each of the first mentioned links with the eccentric, said straps provided with stops to hold the eccentric disk or link in given position, and the head of said pivot pin constructed to lap over the adjacent edge of the corresponding strap.

16. An adjustable reclining chair embodying a chair frame, a seat frame, a tilting back frame, metal straps en-

gaged with the sides of the chair frame, metal bars engaged with the sides of the seat frame and pivotally connected with said straps at the forward extremities thereof, metal arms pivotally connecting the back frame with the rear ends of said bars, and metal connections pivotally connecting said arms with the rear ends of said straps, whereby the described metal parts of the chair may be assembled before being secured to the companion parts of the chair.

17. An adjustable reclining chair embodying a chair frame provided at each side thereof with straps, a seat frame provided at each side thereof with bars pivotally connected with said straps at the front of the chair, a tilting back frame, arms pivotally connecting the back frame with said bars at the rear of the chair, and links pivotally connecting said arms with said straps.

18. An adjustable reclining chair embodying a chair frame, a seat frame pivotally connected with the chair frame at the front thereof, a tilting back frame connected with the rear of the seat frame, said chair frame provided with a rear cross rail located toward the seat frame and with portions projecting rearward of said cross rail, and links pivotally connecting the back frame with the rearwardly projecting portions of the chair frame, said links being at such an angle as will support the weight against the back frame when the back frame is in upright position.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

JOHN F. WILMOT.

Witnesses:

N. S. WRIGHT,

A. M. MURPHY.