(No Model.) 3 Sheets—Sheet 1.

P. C. LEWIS.

CONVERTIBLE CHAIR AND COT.

No. 369,347. Patented Sept. 6, 1887.

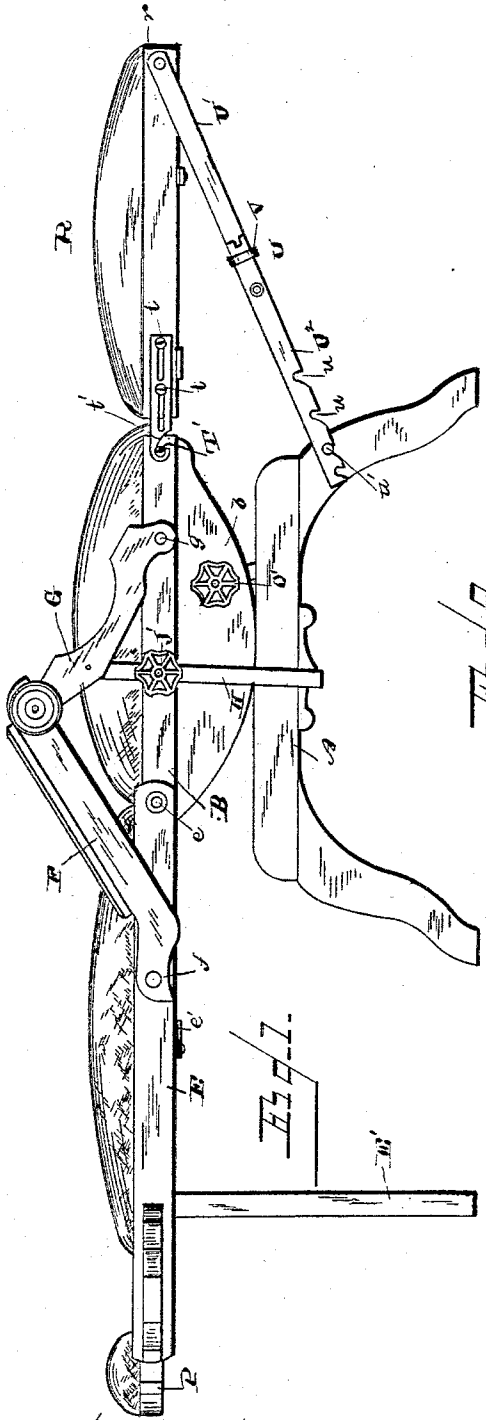


Fig. 1.

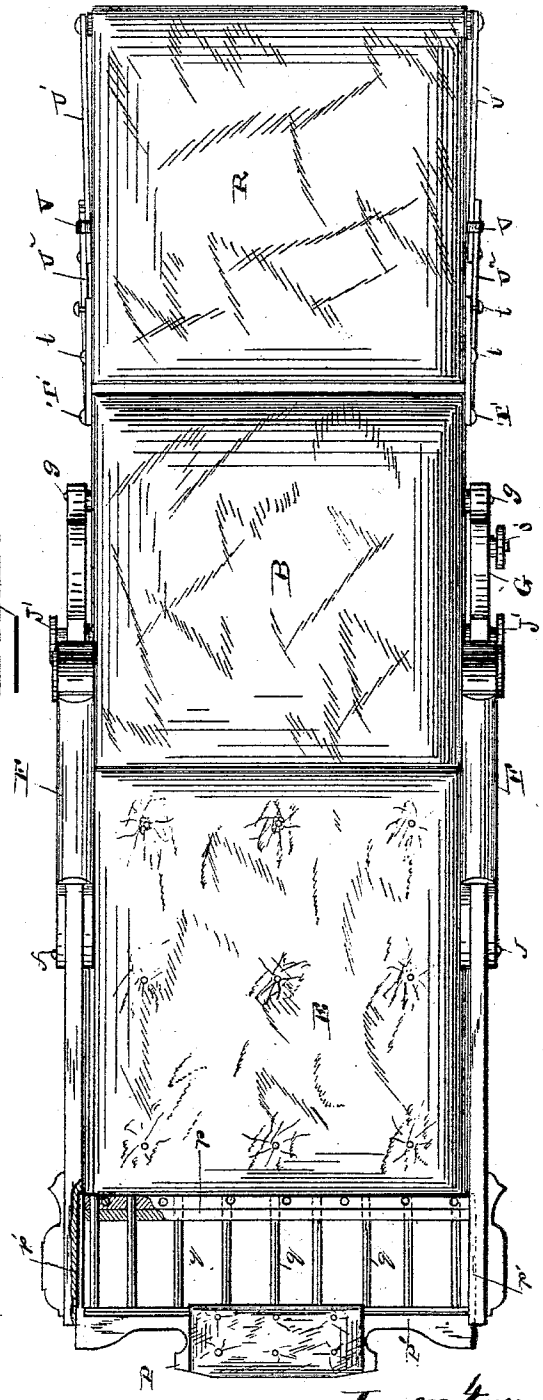


Fig. 2.

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(No Model.) 3 Sheets—Sheet 2.

P. C. LEWIS.

CONVERTIBLE CHAIR AND COT.

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Fig. 3.

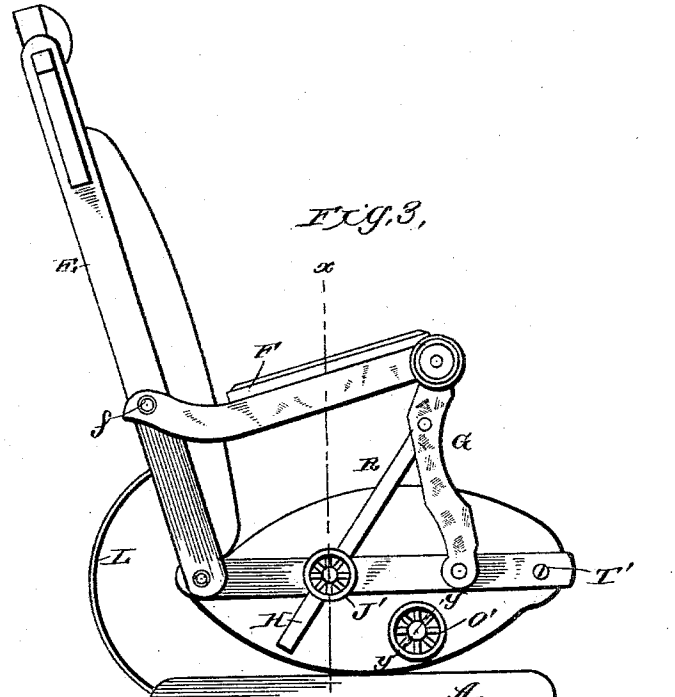
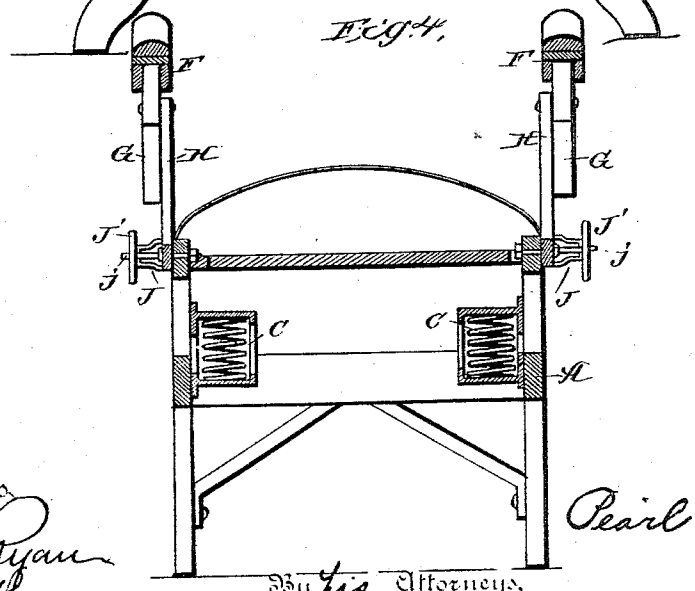


Fig. 4.



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(No Model.) 3 Sheets—Sheet 3.

P. C. LEWIS.

CONVERTIBLE CHAIR AND COT.

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Fig. 5.

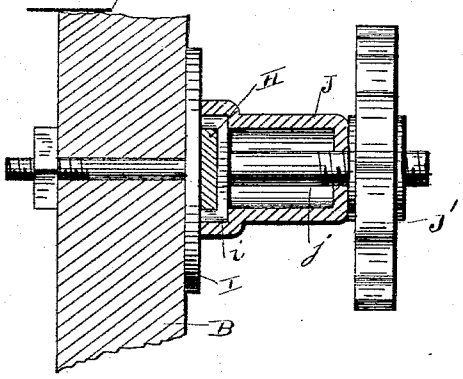
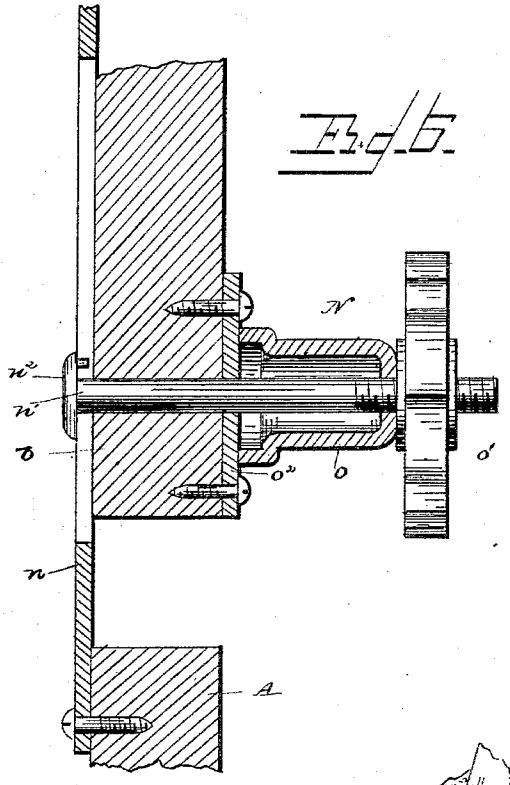


Fig. 6.



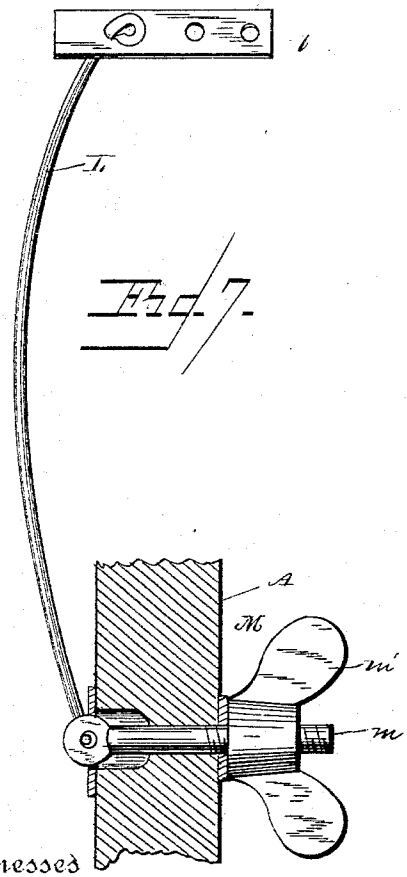
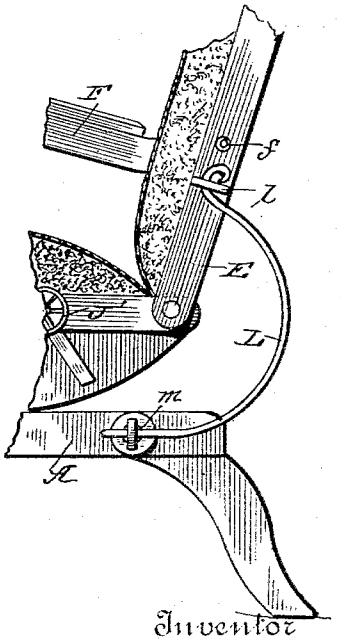


Fig. 7.

Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

PEARL CLINTON LEWIS, OF CATSKILL, NEW YORK.

CONVERTIBLE CHAIR AND COT.

SPECIFICATION forming part of Letters Patent No. 369,347, dated September 6, 1887.

Application filed November 30, 1886. Serial No. 220,292. (No model.)

To all whom it may concern:

Be it known that I, PEARL CLINTON LEWIS, a citizen of the United States, residing at Catskill, in the county of Greene and State of New York, have invented a new and useful Improvement in Convertible Chairs and Cots, of which the following is a specification.

My invention relates to improvements in convertible chairs and cots; and it consists of the peculiar combination of devices and novel construction and arrangement of the various parts for service, substantially as hereinafter fully described, and particularly pointed out in the claims.

The primary object of my invention is to provide an improved convertible chair and cot which can be readily adjusted while the occupant is seated therein, so that the back can be adjusted at a greater or less angle to the seat, and the latter can be held from rocking or moving on the base.

A further object of my invention is to provide a spring for returning the adjustable back of the convertible chair and cot to an upright position, which shall thus partially relieve the coiled springs intermediate of the base and rocker of a portion of the weight of the occupant, and to provide the spring with means for varying the tension or power thereof.

A further object of my invention is to provide the chair with an improved extensible head-rest that can be readily adjusted by the occupant of the chair; and, finally, the object of my invention is to provide improved means for limiting the oscillating motion of the seat upon the base and to prevent the said seat from becoming accidentally displaced on the base when the weight of the person is superimposed upon the front part of the seat and the foot-rest connected therewith, so that the coiled springs between the base and seat will not be unduly strained.

A further object of the invention is to provide a reclining-chair with a rocking arrangement, whereby the occupant can rock himself while reclining without touching his feet on the floor.

In the drawings hereto annexed, which form a part of this specification, and which illustrate a convertible chair and cot embodying my improvements, Figure 1 is a side elevation of the device adjusted for use as a cot. Fig. 2 is a top plan view of the device in the same position as in Fig. 1. Fig. 3 is a side elevation of my invention adjusted for use as a chair. Fig. 4 is a vertical transverse sectional view on the line *x x* of Fig. 3. Fig. 5 is a detail sectional view on the line *x x* of Fig. 3. Figs. 6 and 7 are detached detail views of parts of my improvements. Fig. 8 is a side elevation, partly in section, to more clearly show the manner of holding the lower end of the return-spring.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the base of a convertible chair and cot embodying my improvements, and B the oscillating seat which is mounted upon the base and free to move back and forth thereon. The lower edges of the parallel sides *b* of the oscillating seat-frame are curved, as shown, to form rockers, which rest upon the upper edges of the corresponding sides of the base, and coiled springs C are connected with the said base and oscillating seat to return the latter to a horizontal position and retain it in this position at all times, these springs being arranged within the side-pieces of the base and seat to be concealed from view thereby, and also of the ordinary construction at present in use in rockers of this class.

E designates an adjustable back, which is pivotally connected at its lower end with the rear end of the seat, as at *e*, so that it is adapted to be turned to an upright position for use as a chair or into a horizontal position to be used as a cot. The said back is assisted and supported when it assumes a horizontal position by means of a pair of folding legs, E', which are pivotally connected at their upper ends to the sides of the frame of which the back is formed. These legs are adapted to rest upon the floor to support the back in its horizontal position and relieve the pivots thereof of a great portion of the strain and weight exerted thereon by the occupant; and when the back is adjusted to an upright position the legs are folded within the sides of the frame of which the back is formed, to be entirely concealed from view except from the rear of the device, the legs being held in their folded position by

means of suitable catches, *e'*, which preferably comprise swinging plates that are pivoted to the sides of the back-frame, as is obvious.

The back of the chair is braced by means of adjustable arms F, which are pivotally connected at their rear ends to the sides of the back, as at *f*, and the front ends of the said arms are pivoted to links G, which are in turn pivoted to the sides of the seat-frame at the front end thereof, as at *g*. These arms and their links are adapted to fold with the back when it is adjusted from an upright to a horizontal position, and vice versa; and the back and the arms, as well as the links thereof, are held in their adjusted positions by means of a brace, H, which is pivoted at its upper end to the pivoted link G at an intermediate point of the length of the latter. The lower end of the brace, one of which is provided for each arm and its link, is passed through an opening or loop, *i*, that is formed on a fixed plate, I, which is rigidly secured to the side of the seat B, between the point of connection thereto of the back and the link. This fixed plate is further provided with an integral threaded stud, *j*, which projects outwardly therefrom, and on this threaded stud is loosely fitted a boss, J, that is forcibly pressed against the brace H by means of a rotary hand piece or wheel, J', that works on the threaded stud, as shown. This boss serves the purpose of a washer, and when the hand piece or wheel is tightened the boss is pressed against the brace to firmly clamp the latter by frictional contact between the fixed plate and the boss working on the stud thereof. This brace is thus adjustably connected with the fixed plate and the seat to which the said plate is secured, so that by lengthening or shortening the brace between the points of connection between the link G and the seat the position of the arm and the seat attached thereto can be varied. The hand-wheels of both the clamping devices for the braces of the arms of the chair are to be released slightly and at the same time to permit this adjustment of the back, the wheels being loosened gradually to allow the back to fall or drop gradually without alarming or causing apprehension to the occupant, which is very desirable, especially with invalids.

In order to facilitate the adjustment of the swinging back from a horizontal to an upright position when the occupant rises from the cot and the hand-wheels of the clamping devices are released, I employ a return-spring, L, that is preferably made of a single piece of stout strong spring-wire, and is connected with the base and the back. The upper end of the longitudinally-curved wire spring is connected with a plate, *l*, that is rigidly affixed to the back, on the inner side of one of the side rails thereof, and the lower end of the said return-spring is connected by a clamping device, M, with the base of the chair, said clamping device being arranged on the inner side of the base and thereby concealed from view. This clamping device M comprises a bolt or threaded pin, *m*, which passes through a suitable transverse opening in one of the sides of the base A, and the inner end of this transverse bolt or pin is provided with an enlarged head, through which is formed an eye or opening for the passage of the lower end of the spring L, a thumb-nut or other suitable device, *m'*, being applied to the outer end of the threaded bolt to draw the head thereof and the wire spring against the inner side of the base and thereby hold the said spring from movement. It will be seen that the thumb-nut can be readily released or loosened to permit the bolt to have an endwise movement, and thus release the lower end of the return-spring, which can thus be moved very freely and easily through the eye or opening in the head thereof to vary the power or tension of the spring, after which the nut is again tightened to hold the spring from displacement with relation to the bolt of the clamping device. This spring is made of sufficient strength and resistance to return the back and a person of light weight to an upright position when the clamping device for the brace is released, so that the back can be elevated to an upright from a horizontal position while the occupant is in the chair. This spring also serves to relieve the coiled springs D of a portion of the weight and strain that is brought upon the same when the back is moved from an upright to an approximately horizontal position.

N designates a device for holding the oscillating seat-frame from movement on the base which is to be employed when the structure is used for a cot. This device comprises an arm or link, *n*, which is arranged within one of the sides of the base and seat-frame, and the lower end of the said link is pivotally connected to the base, while the opposite end of the link is provided with a longitudinal slot, through which passes the inner end of a threaded pin or bolt, *n'*, that has an enlarged head, n^2, which impinges or bears against the inner side of the adjustable arm or link *n* and serves to press or clamp the latter against the seat-frame. A boss, *o*, is fitted on the outer end of the threaded pin or bolt *n'*, and against this boss bears a hand-wheel or other device, *o'*, which presses the boss against a fixed washer or plate, o^2, which is interposed between the boss and the seat-frame. When the hand-wheel is released, the threaded pin or bolt is free to ride or move in the longitudinal slot of the pivoted arm or link, while the latter is free to move on its pivot, and thus accommodate and vary its position according to the position of the chair. When the hand-wheel or nut is tightened, the boss is pressed against the fixed washer or plate, and the threaded pin or bolt is drawn upon to press its enlarged head against the free end of the swinging arm or link, which in turn is pressed against the seat-frame and held against movement by frictional contact with the head of the bolt and the seat-frame. The hand-wheel or nut of this clamping device is also within

convenient reach of the operator seated in the oscillating seat, so that the seat can be prevented from movement on the base by the occupant without leaving the chair, and the chair-seat can be locked against movement in any desired position either when it is tilted forward or backward or when it is in a horizontal position.

The upper end of the swinging back of my improved convertible chair and cot is provided with an extensible head-rest, P. The upper ends of the sides of the frame of the said back are extended beyond the transverse bar *p*, which connects these sides together, and in the opposing faces of the extended ends of the sides of the frame of the back are formed longitudinal grooves *p'*, in which are fitted the extremities of a cross rail or bar, P', which forms the head-rest. This bar is to be suitably upholstered and ornamented to present a neat and attractive appearance, and it is free to move in the grooves of the frame of the back, and to the lower edge of the said sliding head-rest is rigidly affixed a series of bars or rods, *q*, which move therewith and serve to increase the ornamental effect of the head-rest. The lower ends of the bars or rods are passed through transverse openings (indicated by dotted lines in Fig. 2) in the upper transverse rail or bar which connects the sides of the frame of the back together. These rods or bars serve to guide the extensible head-rest and to brace the same; and when the head-rest is extended they move therewith, the said rods moving freely through the openings in the transverse bar of the back.

I will now proceed to describe my improved foot-rest, which can be attached to the seat and disconnected therefrom to serve as an ottoman.

R designates the foot-rest, which has a frame, *r*, of any preferred form—as, for instance, square.

At one end of the foot-rest and on opposite sides thereof are arranged extensible slides T, which are adapted to connect the foot-rest to the seat of the chair or cot. These slides preferably comprise slotted plates, which are connected to the foot-rest by means of headed pins or screws *t*, which pass through the slots and into the frame of the foot-rest, so that the slides are free to have an endwise movement; and the front ends of the slides are provided with hooks *t'*, which are adapted to take over headed pins or studs T', which are rigidly affixed to the sides of the seat-frame at the front end thereof, as shown in Figs. 1 and 3.

U designates the folding rack-bars, which serve to support the outer end of the foot-rest when the latter is connected to the seat, and which can be compactly folded when the said foot-rest is adapted for service as a stool or ottoman. One of these rack-bars is provided on the side of the frame of the foot-rest where the extensible slides are arranged, and each bar is made in two sections, U' U², which are pivoted together and are adapted to be folded upon one another. One end of the section U' is hinged or pivoted to the foot-rest at the rear end thereof, and the free end of the other section, U², is provided with a series of notches, *u*, in its lower edge, into which are adapted to take headed pins or studs *u'*, which are rigidly affixed to the base A of the convertible chair or cot, so as to support the outer end of the foot-rest, while the inner end thereof is supported by the extensible slides connected with the seat-frame. The section U² of the folding rack-bars has one end extended beyond the corresponding end of the section U', which is pivoted thereto, and when the sections are unfolded for use this extended end projects in rear of the pivot between the two sections of the rack-bar, so that a sliding sleeve or collar, V, can be fitted over the meeting ends of the sections and prevent them from collapsing when weight is superimposed upon the foot-rest. When the sections of the rack-bars are folded upon one another, the sliding sleeve is fitted over the notched end of the section U², and a notch is formed in the extended end of the said section U², which is adapted to take over one of the pins or studs which connect one of the extensible slides to the foot-rest. One end of the folding rack-bar is supported by the pivot which connects the section U' to the foot-rest, while the other end thereof is supported by one of the headed pins or studs which connect the extensible slides to the foot-rest.

In order to connect the foot-rest to the seat the folding rack-bars are detached from the headed pins or studs of the extensible slides, and the sliding sleeve is fitted over the extended notched end of one of the sections thereof to hold the sections of the rack-bars in line with each other and rigid or firm. The slides are extended beyond the front end of the foot-rest, and the hooks thereof are caught over the headed pins or studs on the seat-frame. The rack-bars are also fitted over the pins or studs on the base, so that the pins will enter the notches thereof. The foot-rest can be adjusted to assume a parallel position with the seat or an inclined position above or beneath the same, as the rack-bars slide free over the pins when the foot-rest is elevated, and the free ends of the said bars can be disengaged from the pins when it is desired to lower the foot-rest.

This being the construction of my improved convertible chair and cot, the operation thereof is as follows: When it is desired to use the device for a rocker, the swinging back is turned to an upright position, which will be convenient to the occupant, and the foot-rest is detached from the seat. The back is held in its adjusted position by means of the clamping devices engaging the adjustable braces for the arms, so that the seat can be rocked back and forth. The coiled springs return the seat to a horizontal position, and the return-spring assists the said coiled springs to partially relieve the strain thereon and thereby increase the durability thereof. The folding rack-bars are

folded compactly together and connected with the frame of the foot-rest. The back can be lowered slightly to suit the convenience of the occupant of the chair without requiring him to get up, as it is only necessary to release the hand-wheels slightly and throw the weight upon the back. When it is desired to use the device as a cot, the back is lowered, the seat is clamped and held from movement by the clamping device, and the foot-rest connected with the seat in the manner described. The folding legs for the back are dropped down to rest on the floor, and thereby support the back, and the foot-rest elevated to the desired angle or position, the extensible head-rest to the back being drawn out or remaining stationary, as may be deemed necessary. It will be seen that the back, the seat, and the foot-rest are all disposed in substantially the same horizontal plane when the device is adjusted for use as a cot, and that the several parts are securely connected and braced together to render the cot steady and firm.

The various clamping devices are within convenient reach of the occupant of the chair, so that the parts thereof can be readily manipulated and adjusted without compelling the occupant to rise. The foot-rest can be readily elevated by drawing upon the free end thereof, and the seat can be prevented from movement very readily by merely operating the clamping device provided for this purpose.

I would state that while I deem the devices and mechanisms herein shown and described as best adapted for carrying my invention into practice, still I reserve the right to make such changes and modifications as fairly fall within the scope of my invention.

I lay special stress and importance on the peculiar combination of devices which enables me to readily and easily convert the chair into a reclining rocking-chair. To adapt the device for this service I connect the foot-rest to the seat and adjust it to the proper angle or position, and the operator then takes his seat and lowers the back gradually until it also has been adjusted to suit his comfort, it being understood that the seat-clamping device has been used to prevent the seat from movement. This clamping device is now released, so as to permit the seat to be free to oscillate. The occupant can rock himself while in a reclining position by pressing with his feet upon the foot-rest, and thus throw the weight into the back of the chair, which will cause the seat and the parts connected thereto to rock in one direction, and by removing the pressure on the foot-rest the seat and the back and foot rest will be rocked in the reverse direction by the return-spring, which is of sufficient power to effect the elevation of the seat and its occupant.

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

1. In a chair, the combination, with a stationary base, of an oscillating seat mounted thereon, and having a back-spring intermediate of the base and seat and a return-spring connected to the stationary base and the back, substantially as and for the purpose set forth.

2. In a chair, the combination of a stationary base, a spring-actuated oscillating seat supported thereon, a back carried by the seat to oscillate therewith, a return-spring connected to the back, and a clamping device supported on the base for adjustably connecting the spring thereto, as and for the purpose described.

3. In a chair, the combination, with a seat and base, of an adjustable back pivoted to the seat, an arm pivoted to the back, a link intermediate of the arm and seat, a return-spring connected to the back, and a clamping device on the base, to which the lower end of the spring is adjustably connected, whereby the tension of the spring can be varied, as and for the purpose set forth.

4. The combination, with a base and a seat supported thereon, of an adjustable swinging back pivoted to the seat, a return-spring connected at one end to the back, a threaded pin or bolt having an eye through which the opposite end of the spring is passed, and a nut fitted on the said bolt, substantially as described, for the purpose set forth.

5. In a chair, the combination of the stationary base, the oscillating seat thereon, the back hinged to the seat, and the springs L, connecting the base and back, for the purpose set forth.

6. The combination of a seat, a back pivoted thereto, the arm pivoted to the back and connected with the seat by an intermediate link, a brace pivoted to the arm, and a clamping device connected to the seat at a point between the lower pivotal ends of the back and link, and having a fixed plate provided with a loop through which the lower end of the brace passes, the threaded stud, a boss fitted over the stud and bearing against the brace, and a wheel or nut working on the stud to press the boss against the brace to hold the latter in place by frictional contact, substantially as described.

7. The combination, with a base and a seat free to oscillate thereon, of a clamping device intermediate of the base and seat and comprising a slotted arm or link pivoted to the base, the threaded pin having the head bearing against the arm or link, the boss fitted on the threaded pin, and the hand-wheel or nut, substantially as described.

8. In a convertible chair and cot, the combination of a base, the seat thereon, a back pivoted to one end of the seat and adapted to be adjusted in line therewith, the folding legs pivoted to the back to support the outer end thereof when the back is adjusted in substantially a horizontal position, the foot-rest having the extensible slides to detachably connect the same to the opposite end of the seat, and the

rack-bars intermediate of the free end of the foot-rest and the base, substantially as described, for the purpose set forth.

9. The herein-described foot-rest for convertible chairs and cots, having the extensible slides provided with the longitudinal slots and the hooks at one end, the headed pins passing through the slots of the slides and secured in the frame of the foot-rest and the rack-bars, substantially as described.

10. The herein-described foot-rest, having means for detachably connecting one end thereof to the seat of a convertible chair and cot, and the rack-bars pivoted at one end to the foot-rest and made in two sections, one section being provided with a series of notches, and a sliding sleeve for connecting either end of the notched section to the pivoted section, substantially as described, for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

PEARL CLINTON LEWIS.

Witnesses:
C. H. JONES,
HENRY D. SHORES.