

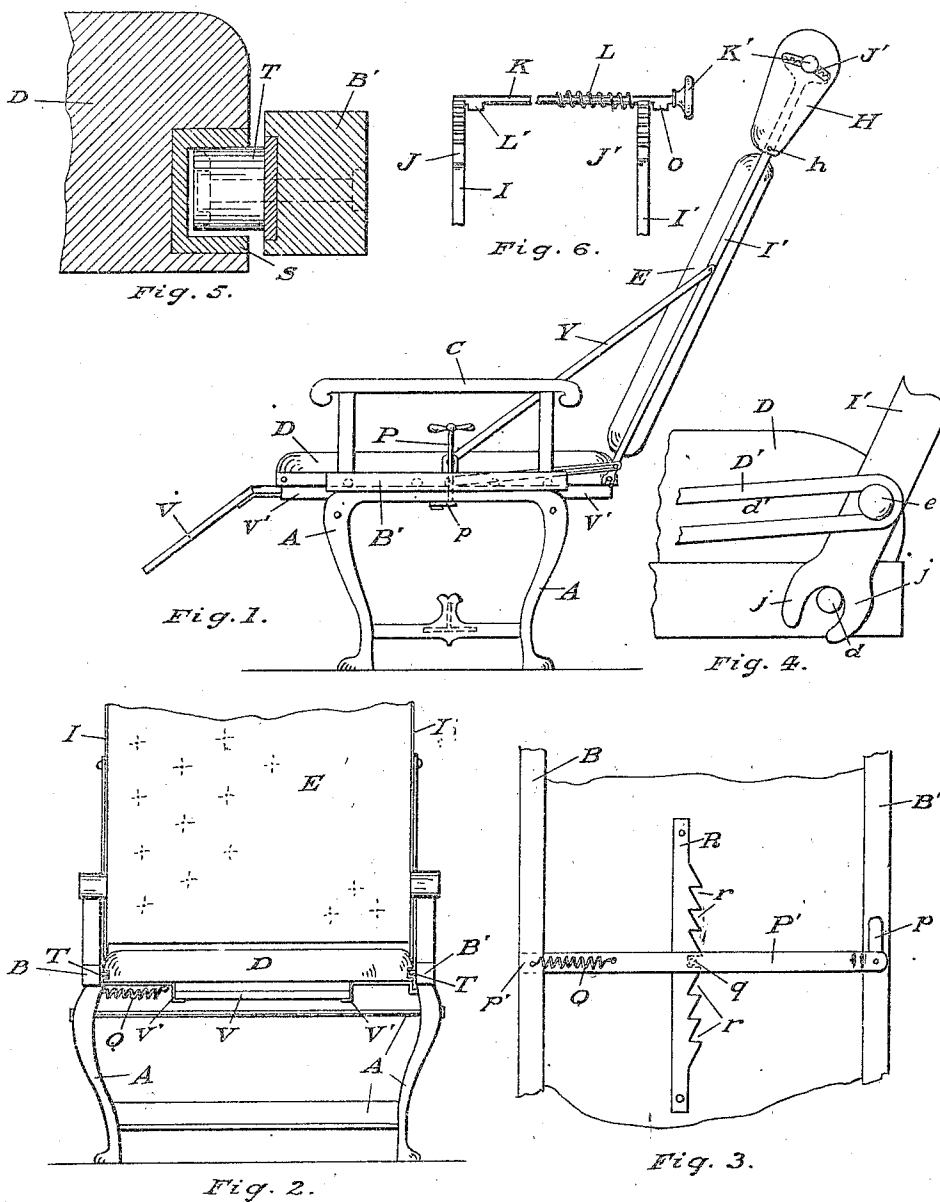
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PATENTED MAY 29, 1906.

L. TARWATER & C. K. McKNIGHT.

REVERSIBLE RECLINING RAILROAD COACH CHAIR.

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Witnesses
A. B. Cornelius
W. H. Parsons

Inventors:
Lawson Tarwater
Charles K. McKnight,
By their Attorney
Eugene Ayres.

UNITED STATES PATENT OFFICE.

LAWSON TARWATER AND CHARLES K. McKNIGHT, OF ST. JOSEPH,
MISSOURI.

REVERSIBLE RECLINING RAILROAD-COACH CHAIR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, LAWSON TARWATER and CHARLES K. McKNIGHT, citizens of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Reversible Reclining Railroad-Coach Chairs; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of our invention is to provide an improved reversible coach-chair that may be adjusted to any position from upright to horizontal and which, being provided with an adjustable head-rest and foot-stool, will serve as a couch as well as chair.

We accomplish our object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the chair in its normal position; Fig. 2, a front elevation of the same; Fig. 3, a detail of the bottom of the chair-seat, showing lever connection with a cross-bar carrying a lug (shown by dotted lines) that engage with the two-way teeth on a plate attached to the bottom of the seat; Fig. 4, a detail of a slotted guide and the prongs on the lower end of one of the chair-back metal side strips and the pins which engage with the slot and prongs; Fig. 5, a detail of one of the channel-bars and rollers by which the chair-seat is carried, and Fig. 6 is a detail of the mechanism by which the head-rest is adjusted.

Similar letters refer to similar parts throughout the several views.

A A represent the legs and connecting parts of the chair-frame, and B B' the sides of the chair-frame, on which arms C C are supported.

D is a chair-seat adjustable to any position the chair may assume, E an adjustable back, and H an adjustable head-rest. The side edges of back E are provided with flat metal strips I I', which project up the sides of head-rest H, being enlarged at their upper ends and provided with teeth forming racks J J'. Said strips are rigidly attached to the chair-back, but are pivoted, by means of pins h h, to

the head-rest to allow it to be adjusted backward and forward. Said head-rest is provided with a rod K and a spring L and a knob K' at one end and lug L' at the opposite end. This spring-rod is provided at the inner side of knob K' with a shoulder O, which when the rod is in its normal position engages with the teeth on rack J', while lug L' meshes with the teeth on rack J. When knob K' is drawn slightly out from the head-rest, said shoulder O passes outside the teeth of rack J', and at the same instant lug L' is drawn within the aperture in the head-rest in which the rod operates. Racks J and J' being thus released, the head-rest can be moved forward or backward to the desired angle, and the rod springing back the shoulder and lug at once engage their respective racks and hold the head-rest in the desired position. The lower ends of metal strips I I' are forked, the ends of the two prongs j j on each turned slightly toward each other and adapted to engage loosely with pins d d. On the sides of seat D, near the chair-back, above prongs j j, are pins e e, which engage with slots d' d' in guides D' D', which guides are pivoted at their other ends to the inner sides of seat. A hand-lever P operates vertically through chair-frame piece B' and is provided on its end with an arm p, adapted to operate horizontally. On the projecting end of this arm a cross-bar P' is pivotally fastened, the opposite end of said bar being supported by and operating in a hole or slot p' in the opposite side piece B. A coil-spring Q is rigidly fastened at one end to said side B at a point slightly below said slot, the opposite end of the spring being rigidly fastened on the cross-bar. On the top of said cross-bar is a lug q. A metal plate R, provided with right and left teeth r r, is rigidly fastened on the bottom of seat D at a right angle with cross-bar P'. In the side edges of seat D channel-bars S S are countersunk, and attached to the insides of side pieces B B' are rollers T T, on which said channels-bars are adapted to travel when the seat is released. To drop the back of the chair to any desired incline or to a horizontal position, hand-lever P is revolved a half-turn. This releases lug q from engagement with teeth r r on plate R, and the seat being drawn slightly forward the bottom of the chair-back will follow until it has resumed the de-

sired incline. Upon releasing the hold upon the lever said lug will again instantly engage one of said plate-teeth and hold the back at an incline or at a horizontal, as desired. The chair is made reversible by having one-half the teeth on plate R cut in opposite direction, as shown by Fig. 3, and by means of the slotted guide-rods D' D', hereinbefore described, and the reversing and back-supporting rods Y Y, which are pivotally attached at the middle of the side pieces of the chair-back.

V is a foldable foot-rest adapted to be carried in guides V' V' underneath the chair-seat and to be drawn out as wanted. Said foot-rest is constructed with a hinged foldable extension at front and back, thus adapting it to be drawn out in opposite direction when the back of the chair is reversed. If it is desired to construct the foot-rest wider than shown, it can readily be changed by allowing guides V' V' to be cast in lower extensions of the channel-bars S S.

What we claim, and desire to secure by Letters Patent, is—

1. In a reversible reclining-chair the combination of a chair-frame, a seat and the channel-bars and rollers at the sides of the seat permitting it to be moved forward or backward, a chair-back and head-rest, metal strips rigidly fastened to the sides of the chair-back and the prong ends thereof engaging with pins on the rear ends of the seat side pieces, slotted guides forming connection between said side pieces and said strips and the reversing supporting-rods pivotally connected with said side pieces and metal strips, a lever and an arm thereon, a two-way toothed plate rigidly fastened on the bottom of the chair-seat, a cross-bar at right angles with said plate attached at one end to said lever-arm the other end operating in a slot in a side piece, a lug on said cross-bar and a spring adapted to draw and hold said lug back in engagement with said teeth after being withdrawn by a half-turn of said lever, a rod and lug on said rod adapted to engage the racks at the upper ends of the metal strips

on the chair-back and allow said head-rest to be adjusted, and a foldable adjustable foot-rest and the guides therefor spaced below the seat, substantially as described and shown.

2. In a reversible reclining railway-coach chair the combination with the chair-frame, arms, seat and back, of vertical strips rigidly fastened to sides of the chair-back and the prongs thereof engaging with pins on the sides of the seat near the back, slotted pivoted guides forming connection between the sides of the seat and said vertical strips and reversing supporting-rods pivotally connected with said seat sides and the chair-back, a lever supported by a side piece of the frame and an arm thereon, a two-way toothed plate rigidly fastened on the bottom of the chair-seat, a cross-bar at right angles with said plate attached at one end to said lever-arm the other end operating in a slot in the opposite side piece of the frame, a lug on said cross-bar and a spring adapted to draw and hold said lug back in engagement with said teeth after being withdrawn by a half-turn of the lever, substantially as shown and described.

3. The combination with the frame and seat of an adjustable chair, of a hand-lever adapted to be operated through a side piece of said frame and the arm thereon, a two-way toothed plate rigidly fastened on the bottom of said seat, a cross-bar at a right angle with said plate attached at one end to said lever-arm the other end operating in a slot in the opposite side piece of said frame, a lug on said cross-bar and a spring adapted to draw and hold said lug back in engagement with said two-way teeth when disengaged therefrom by withdrawal by a half-turn of said lever, substantially as shown and set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

LAWSON TARWATER.
CHARLES K. McKNIGHT.

Witnesses:

T. F. BRYANT,
JOHN H. WILSON.