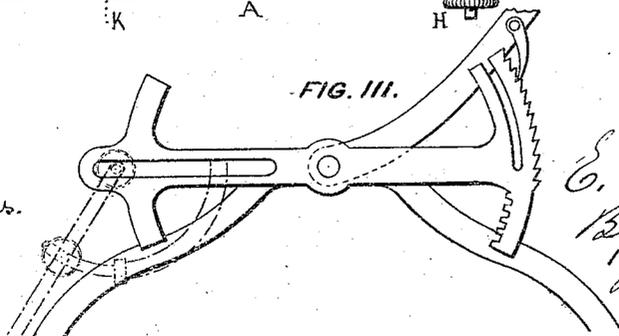
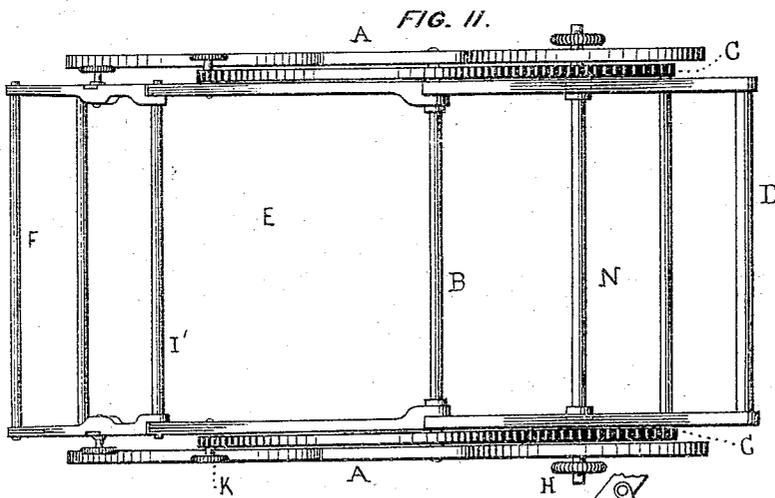
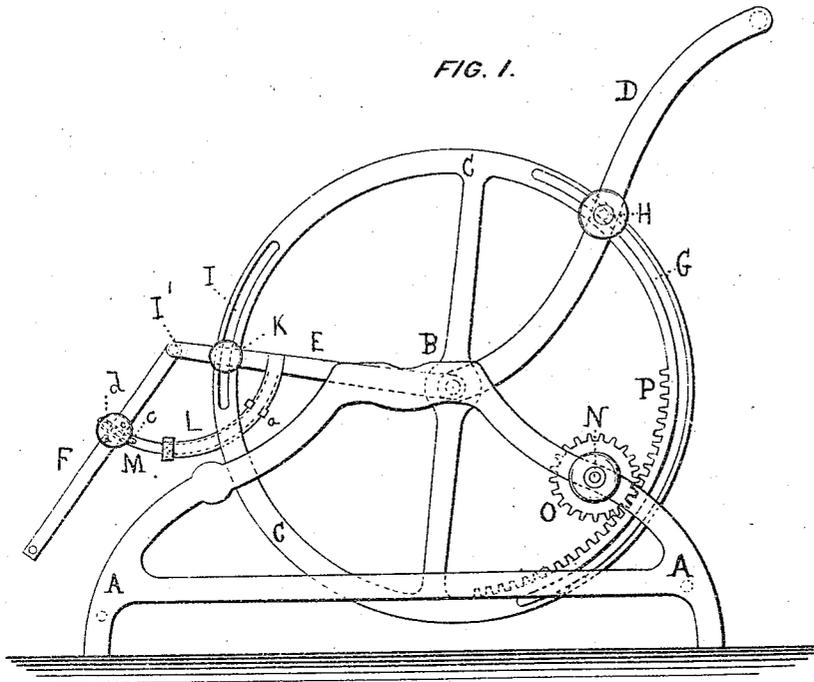


E. CUTTER.
Invalid-Chairs

No. 153,478.

Patented July 28, 1874.



WITNESSES:
Geo. W. King for
A. W. Norris.

INVENTOR:

E. Cutter.
By James L. Norris
Atty.

UNITED STATES PATENT OFFICE.

EPHRAIM CUTTER, OF WOBURN, MASSACHUSETTS.

IMPROVEMENT IN INVALID-CHAIRS.

Specification forming part of Letters Patent No. **153,478**, dated July 28, 1874; application filed June 13, 1874.

To all whom it may concern:

Be it known that I, EPHRAIM CUTTER, of Woburn, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Invalid-Chairs, of which the following is a specification:

This invention has reference to an invalid chair, in which provision is made for varying the relative positions of the component parts thereof, so as to enable the occupant to be placed either in a sitting or a recumbent position.

The invention consists in an invalid-chair composed essentially of two circular rims, mounted on a fixed horizontal axis, and carrying a movable back and seat, which are capable of being adjusted on the circles so as to vary their angles of inclination, the circles themselves being also movable around their axis, so as to cause the position of the seat and back to be changed without varying the relative position of said back and seat, and of a leg-section, which is pivoted to the seat-section, and adjustable thereon through the medium of curved extensible braces and set-screws.

In the drawing, Figure 1 is a side elevation of an invalid-chair constructed according to my invention. Fig. 2 is a plan or top view of the same.

The frame which supports the movable parts of the chair is designated by the letter A. At a suitable height thereon is a fixed transverse rod, B, which passes centrally through a pair of circular rims, C C, arranged at the sides of the frame, and mounted loosely on the rod B, which thus serves as the axis of the rims or circles, upon which they are capable of being rotated. The support for the occupant of the chair is composed of three independent sections or frames, consisting of a back, D, seat E, and leg-section F, all of which parts are susceptible of an independent adjustment for varying their relative positions. The back section D, together with the seat portion E, is mounted on the same center, which is the rod B, upon which the circular rims turn, and both are adjusted in respect to said rims for varying the angle of inclination of the seat and back; and as the rims

themselves are movable on their axis-rod, the back and seat will move with the same, and thus provision is made for adjusting the chair without changing the relative positions of the seat, back, and leg sections. The adjustment of the back D in respect to the circular rims is effected through the medium of an elongated slot, G, near the peripheries of the rims, through which pass clamping-screws H, applied to the side arms of the back. By loosening the screws the back may be turned on the center, either above or below the axis rod, to such an extent as the length of the slots in the rim will permit, and then, by tightening the screws, the back is retained in its adjusted position. Instead of the slot and screws, other equivalent means may be resorted to for accomplishing a like result—as, for example, the rims may be made with peripheral ratchet-teeth, and the side arms of the back may carry loose pawls engaging therewith, as shown in Fig. 3. The seat-section E is capable of being adjusted, in respect to the circular rims, by means of slots I and screws K, operating in the same manner as the corresponding parts of the back. The movable leg-section F, applied to the outer end of the seat-section, is capable of turning on a transverse connecting-rod, I', of the latter, and the adjustment and retention of said leg-section is accomplished by means of arc-shaped bars L, applied to the seat-section, and correspondingly-shaped braces M, carried by the leg-section. The braces M fit into the grooved side faces of the arc-shaped bars L, and are retained and guided therein by encircling clasps or keepers *a*. Set-screws pass through the fixed end keepers of the arc-bars, and bear against the braces for retaining the same in position after the leg-section has been adjusted to the requisite extent. The upper ends of the braces are slotted, as shown at *c*, so as to serve, in connection with clamping-screws *d*, passing through said slots, and entering the side arms of the leg-section, as means for obtaining an additional adjustment of the latter independent of the braces and arc-bars. The partial rotation of the circular rims, carrying the chair proper, is effected by means of a transverse shaft, N, journaled in the side bars of the frame A, and carrying spur-wheels O,

which mesh into the rack-teeth P on the inner circumferences of the rims. By turning said spur-wheel shaft, the circular rims are turned so as to carry the seat, back, and leg sections with the same, for changing their angle or inclination in respect to the frame A without varying the relative positions of said parts after they have been properly adjusted.

In a chair constructed according to the present invention, it is possible to adjust the seat, back, and leg sections so as to form an ordinary sitting-chair with the back and leg sections at a true right angle in respect to the seat. Then, by rotating the circles in the proper direction, the parts are caused to assume an inclined position in respect to the horizon. The leg-section can also be brought into a line with the seat-section, to be used either in connection with the back section, in an erect position, or when the latter is turned down so as to be in the same plane as the seat and leg sections, in which positions of the parts an ordinary bed-surface is obtained. By turning the circles, when the parts are in the latter position, the head can be depressed, which exerts a very useful influence in cases of exhaustive hemorrhages. In some instances it

may be deemed expedient to so adjust the width of the seat-section E that it may be used for the accommodation of either adults or children, as required. This I propose to do by providing elongated slots in the side bars of the seat-frame, in which the ends of the seat proper can be moved to and fro, and thus the extent of the seat may be lengthened or shortened, as thought proper, as shown in Fig. 3. Set-screws, applied in any of the well-known methods, may be adapted to the side frames of the chair, to retain the seat in any required position.

I claim as my invention—

In an invalid-chair, the combination of the circular rims C C and back and seat sections D E, mounted on a common axis, and the back and seat adjustable in respect to the rims or circles, substantially as herein described.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of May, 1874.

EPHRAIM CUTTER.

Witnesses:

LEWIS L. WHITNEY,
LEWIS H. WHITNEY.