J. GOODWIN.

Invalid Bedstead.

No. 204,026. Patented May 21, 1878.

Fig. 1.

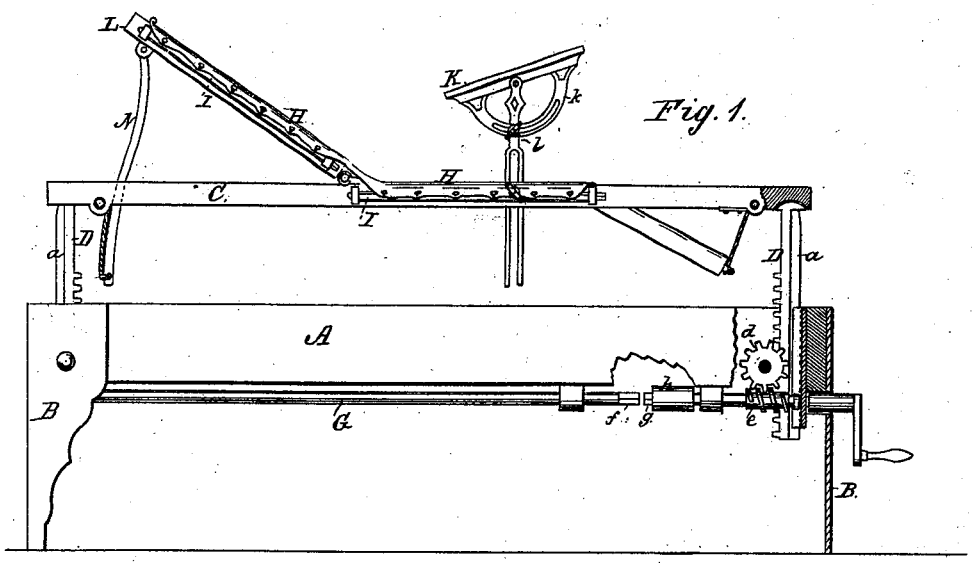


Fig. 2.

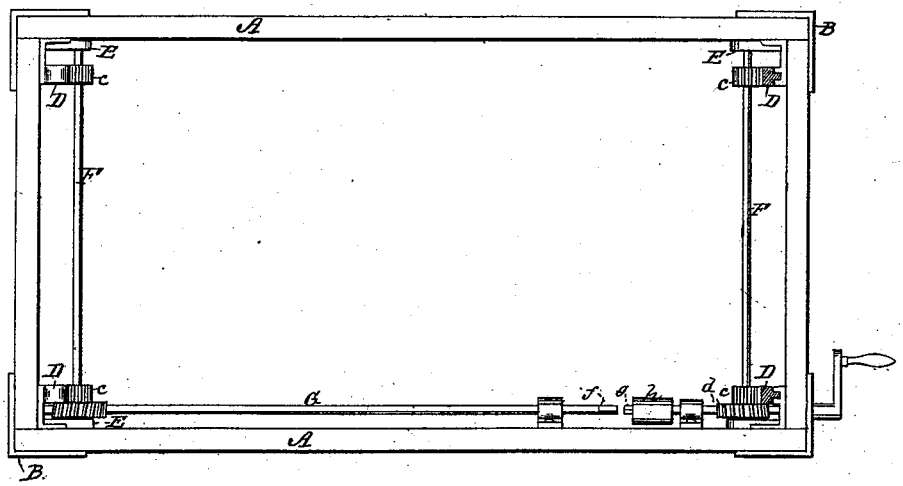


Fig. 3.

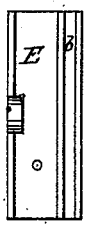


Fig. 4.

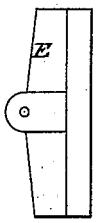
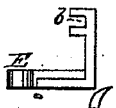


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES GOODWIN, OF MONTREAL, QUEBEC, CANADA.

IMPROVEMENT IN INVALID-BEDSTEADS.

Specification forming part of Letters Patent No. **204,026**, dated May 21, 1878; application filed July 24, 1877.

To all whom it may concern:

Be it known that I, JAMES GOODWIN, of Montreal, Province of Quebec, Dominion of Canada, have invented a new and useful Improvement in Invalid-Bedsteads; and I do hereby declare that the following is a full, clear, and exact description of the same.

My present invention is an improvement upon that for which I have received Letters Patent for the United States, dated March 9, 1875, No. 160,667.

My improvements relate to means whereby the stretcher-frame may be elevated at both ends simultaneously, or at the foot only; also to devices for guiding the vertically-adjustable posts and bracing and strengthening the bedstead-frame; and, lastly, to the construction whereby the stretcher-frame is adapted to retain its position upon the posts, by which it is elevated, and is at the same time made detachable therefrom, as hereinafter described.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation, partly in section; Fig. 2, a plan view. Figs. 3, 4, and 5 are detail views.

The main frame A and legs B of my improved invalid-bedstead may be constructed as shown in my aforesaid patent, or in any approved manner. The stretcher-frame C is supported directly upon the posts D, being provided with suitable recesses to receive the ends of the latter, and is thus adapted to be readily detached from the posts when not required for use. The posts D have a longitudinal rib, *a*, on the rear side, which fits in a vertical groove, *b*, formed by the flanges of angular castings E that are secured in the corners of the frame A. The posts are guided vertically by said rib and groove, and the corners of the frame A are braced and strengthened by the castings E. The teeth of posts D mesh with the pinions *c*, mounted on cross-shafts F, which have their bearings in said castings or corner-pieces E. The cross-shafts are rotated for raising or lowering the stretcher-frame C by means of worm-gears and a rod or shaft connecting the cross-shafts and extending lengthwise of the frame A.

The worm-gear is formed by two meshing worm-pinions, one, *d*, fixed on the cross-shafts and formed in one piece with a spur-pinion, *c*, and the other, *e*, fixed on the connecting-shaft F. The worm-gear will lock the stretcher-frame, or hold it fixed in any adjustment, by preventing the rotation of the cross-shafts.

It is frequently desirable or necessary to incline the body of the patient reposing on the stretcher, and for this purpose I construct the shaft G in two parts, *f g*, which may be connected by a sliding sleeve, *h*, applied to the adjacent polygonal ends of the aligned parts *e f*.

The sleeve *h* serves as a clutch, and by adjusting it so as to inclose both the aligned ends of parts *f g* the shaft G is made practically integral, so that when it is rotated both cross-shafts F will be rotated also, and both ends of the stretcher-frame thereby elevated or lowered simultaneously; but when the sleeve *h* is adjusted in the alternative position, so that the parts *e g* of shaft are not connected by it, the part *g* may be rotated separately, so as to operate but one of the cross-shafts F, and thereby raise or lower the foot, without changing the position of the head of the stretcher-frame.

As a substitute for the rack-posts D, I may employ screws or screw-threaded rod, and adjust the same vertically by means of circular rotating nuts, having teeth formed on their periphery for meshing with worm-gears.

The canvas H of the frame C is stretched to any required tension by means of rotating bars or rods I, which are arranged alongside the latter, and provided with studs which pass through eyeleted openings in the canvas. The rods I are rotated by a hand-wrench applied to their squared ends, and are held locked in any adjustment by means of a pawl and ratchet, *i*.

A table, K, is pivoted to suitable supports attached to the frame C, and made adjustable around its pivots by means of slotted ears *k* and clamp-screws *l*. The table may thus be placed at any desired inclination to the frame C, or the patient reposing thereon, to adapt it for use as a dining, writing, or reading table.

The feature of adjustability is important *per se;* but it also has a relation to the adjustment of the frames L and M, as well as the adjustment of the foot of the stretcher-frame. The supports for the table pass through keepers attached to the side bars of the frame C, and

are clamped by screws. The table may, therefore, be adjusted vertically or removed altogether from the stretcher-frame.

In this instance I arrange the arms N that support the hinged frame L inside the frame C in place of exteriorly thereof, as in my former invention, so that they are not visible when the frame L is lowered.

Having thus described my invention, what I claim as new is—

1. In an invalid-bedstead, the combination of the sliding sleeve, the two-part connecting-rod or shaft, the worm-gears, pinions, cross-shafts, and adjusting-posts of the stretcher-frame, as shown and described, for the purpose of enabling the latter to be adjusted at one end or simultaneously at both ends, as specified.

2. In an invalid-bedstead, the angular castings, provided with a vertical groove, in combination with the frame A and the posts D, having a vertical rib, as shown and described.

3. In an invalid-bedstead, the detachable stretcher-frame, provided with cavities or sockets on the under side, in combination with the posts, the heads of the latter entering said cavities or sockets, as shown and described, for the purpose specified.

JAMES GOODWIN.

Witnesses:

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AMOS W. HART.