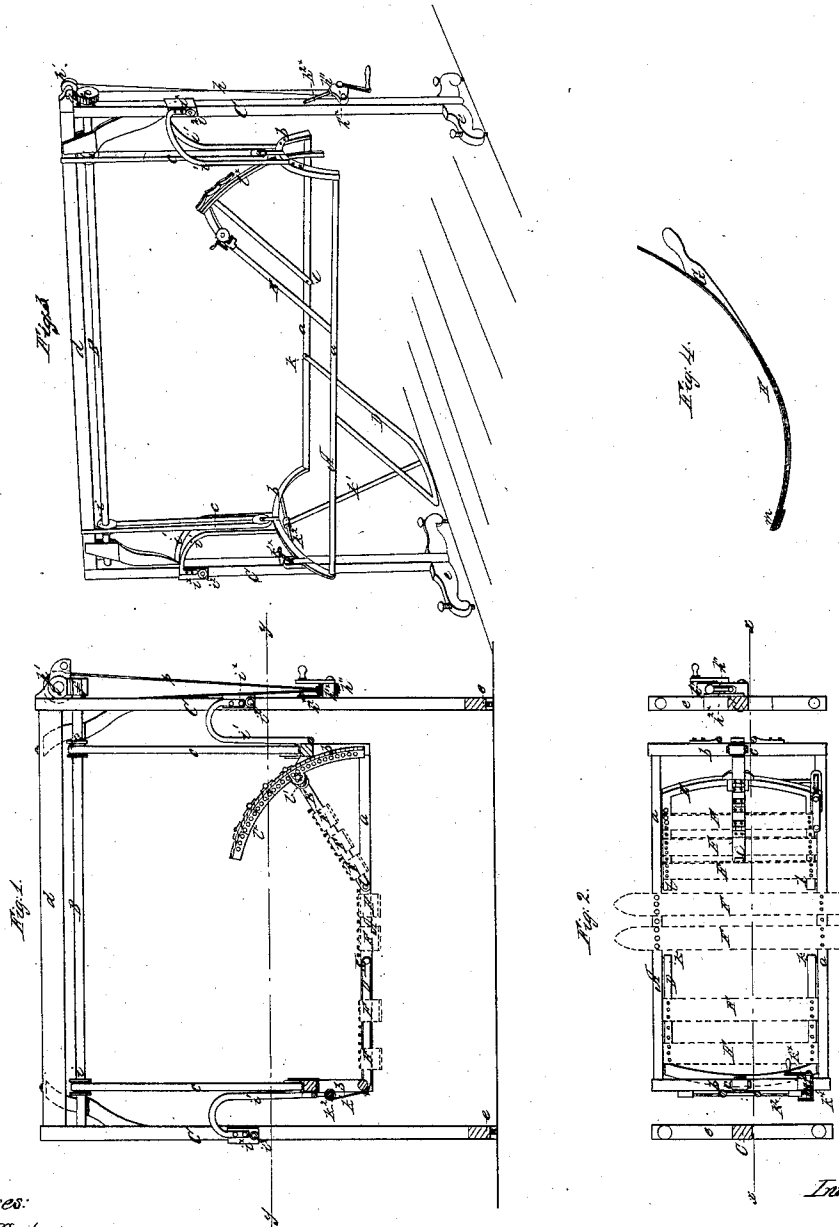


*E. Marx,*

*Invalid Bedstead,*

*N<sup>o</sup> 38,595.*

*Patented May 19, 1863.*



*Witnesses:*

*W. J. Partridge  
Daniel Robinson*

*Inventor:*

*Emil Marx*

# UNITED STATES PATENT OFFICE.

ERNST MARX, OF NEW YORK, N. Y.

## IMPROVEMENT IN PATIENT-ELEVATORS.

Specification forming part of Letters Patent No. 38,595, dated May 19, 1863.

*To all whom it may concern:*

Be it known that I, ERNST MARX, of the city, county, and State of New York, have invented a new and Improved Patient-Elevator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my invention, the plane of section being indicated by the line *x x*, Fig. 2. Fig. 2 is a horizontal section of the same, taken in the plane indicated by the line *y y*, Fig. 1. Fig. 3 is a perspective view of the same. Fig. 4 is a detached elevation of the strap-carrier.

Similar letters of reference in the several views indicate corresponding parts.

To enable others skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

A represents a frame, composed of two longitudinal bars, *a*, united at their ends by the arched cross-bars *b*, and made sufficiently large to pass freely over ordinary bedsteads. This frame is suspended by means of straps *c* from a shaft, B, which has its bearings in standards C. Said standards are connected at the top by a bar, *d*, and they rest on legs *e*, which may be provided with casters, so that the whole device can be easily moved from place to place. The shaft B is provided with a worm-wheel, *f*, which gears into an endless screw, *g*, to which a rotary motion is imparted by a belt, *h*, running over pulleys *h'* *h''*, and by a crank, *h\**. The pulley *h''* is arranged on a shaft which has its bearing in a frame, *h\*\**, that is pivoted to one of the standards C, so that it can be turned up or down, as may be desired. A pawl, *h<sup>2\*</sup>*, retains said frame in the desired position. By this arrangement the belt *h* can be tightened whenever it is found desirable. By rotating the shaft B, the straps *c* are wound or unwound from pulleys *i*, which are firmly secured to said shaft, and the frame A is raised or lowered. During its up-and-down motion the frame is steadied by curved arms *i'*, which connect the arched cross-bars *b* with slides *i\**, that move up and down on the standards C. Set-screws *i<sup>2</sup>* serve to set these slides at any height. The frame A is provided with a hinged foot-piece, D, and with a similar head-

piece, E. The foot-piece is connected to the frame A by means of pivots *k*, and its loose end is suspended from a strap, *k'*, which winds on a pulley secured to the horizontal shaft *k<sup>2</sup>*. This shaft is rotated by means of a worm-wheel secured to one of its ends and gearing in an endless screw, *k\**, to which a rotary motion is imparted by a crank, *k<sup>2\*</sup>*. By these means the foot-piece can be adjusted to any desired angle. The head-piece is connected to the frame A by pivots *l*, and its loose end is raised or lowered by a pinion, *l'*, gearing in a toothed arc, *l\**, which is firmly secured to one of the arched cross-bars, *b*. The arc *l\** is made in several sections which are connected by hinges so that the same can be partially turned back out of the way of the head of the patient.

The frame A and the head and foot pieces are provided with a series of straps, F, which are adjustable and removable—adjustable so that they can be stretched tight or loose, at pleasure, and removable so that they can be easily taken off and attached again when desired. Each strap is provided with a loop or cap, *m*, to receive the end of the strap-carrier G, as clearly shown in Fig. 4, said strap-carrier consisting of a thin, flat, curved piece of wood or metal with a suitable handle. If a patient is to be removed from his bed the frame A is placed over the bed and lowered until the longitudinal bars *a* are on a level with the surface of the bed, the straps F having previously been removed. One strap after the other is now passed under the patient by means of the strap-carrier and tightened to suit the convenience of the patient, and after all or most of the straps have been passed under the patient and properly fastened to the frame A, and to the head and foot pieces, the patient is elevated from off his bed and removed, and the bed can now be cleaned and put in order.

If desired, the standards C might be secured to the bedstead itself, but in this case the patient could only be elevated from its bed and not removed from over it. In some cases, however, this arrangement may be preferable, particularly in localities where, for want of room, the removal of the patient is impracticable. In hospitals, however, or in large rooms, it is preferable to have the standard C separate, and provided with casters, so

that the apparatus can be conveniently moved to and from a bed as occasion may require.

What I claim as new, and desire to secure by Letters Patent, is—

1. A patient-elevator, consisting of a rising and falling frame, A, with head-piece E and foot-piece D, standards C, endless screw *g*, worm-wheel *f*, and adjustable straps *e*, all combined and operating in the manner shown and described.

2. The toothed sectional arc *l*\* and pinion *l*, in combination with the head-piece E and

frame A, constructed and operating in the manner and for the purposes specified.

3. The employment or use of the strap-carrier G, in combination with the removable straps F and elevating-frame A, constructed and operating substantially as and for the purpose described.

ERNST MARX.

Witnesses:

M. S. PARTRIDGE,  
DANIEL ROBERTSON.