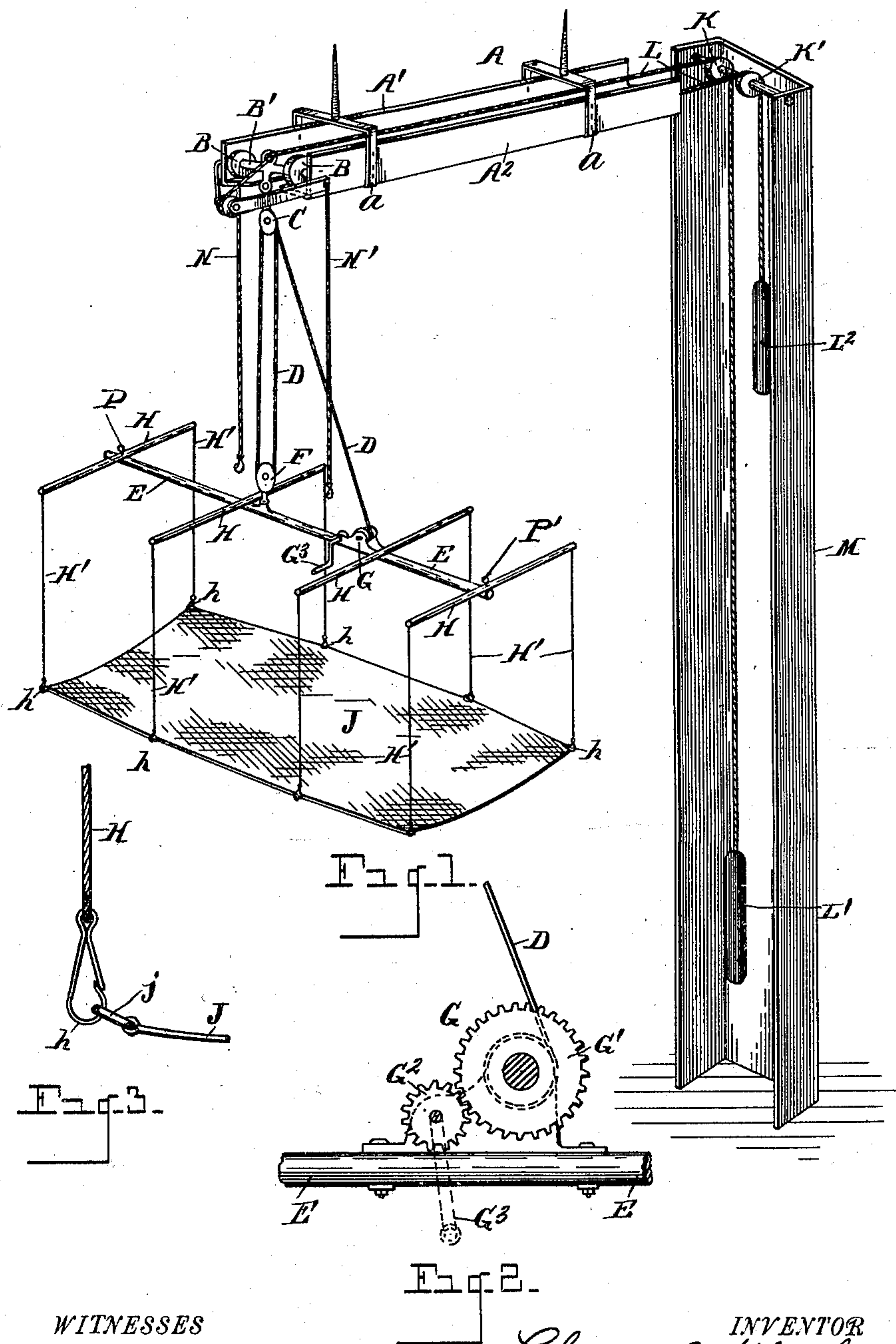


(No Model.)

C. B. ULRICH.  
LIFTING DEVICE.

No. 561,363.

Patented June 2, 1896.



WITNESSES

*O. B. Baenziger,*  
*John F. Miller*

INVENTOR

*Charles B. Ulrich*

By *Wm. S. Wright*  
*His* Attorney



# UNITED STATES PATENT OFFICE.

CHARLES B. ULRICH, OF YPSILANTI, MICHIGAN.

## LIFTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 561,363, dated June 2, 1896.

Application filed February 19, 1896. Serial No. 579,832. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. ULRICH, a citizen of the United States, residing at Ypsilanti, county of Washtenaw, State of Michigan, have invented a certain new and useful Improvement in Lifting Devices; and I 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, which form a part of this specification.

My invention relates to an improved lifting device for lifting sick people, and has for its object a device of this nature which may be readily operated and by which an invalid may not only be lifted up off from a bed or couch, but be also moved laterally therefrom, as upon an invalid-chair, so as to be entirely removed from and away from the bed and out of the room, if desired, for airing the room or for moving an invalid into another room, as to an operating-room.

My invention also has in view to provide a device of this nature which may be readily removed when not in use and be inclosed in a case conveniently situated at the side of the room, ready for further use whenever required.

To these ends my invention consists of the construction, combination, and arrangement of devices and appliances hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective embodying my invention. Fig. 2 is a detail view, in side elevation, of the winding-drum or windlass. Fig. 3 is a detail view showing the engagement of one of the cords with the canvas.

I carry out my invention as follows:

My invention contemplates the provision of a track to be engaged upon the ceiling of the room where the apparatus is to be employed, and upon which track the lifting apparatus may travel to carry a patient, when lifted, away from the bed. Accordingly, A represents any suitable track adapted to be engaged to the ceiling. In the instance shown the track consists of two pieces of angle-iron A' A<sup>2</sup>, supported upon brackets *a*, which may be secured to the ceiling, as by screws or spikes *a'* or any other suitable means.

B B denote wheels engaged upon said angle-irons or track to travel longitudinally thereupon, the wheels being shown connected by an axle B', with which is connected a pulley C, over which is run a lifting rope or cable D.

E denotes a lifting-bar, which when in place for use is suspended by the rope D over the bed, extending longitudinally therewith and at essentially right angles to the track A. The bar E is provided with a pulley F, over which the lifting-rope D is engaged. It will be seen that since the rope runs over the two pulleys C and F a pull upon the rope will raise the bar E upward. To effect this result, I provide a windlass G of any suitable construction, over which the rope D is engaged. As shown in the drawings, the shaft of the windlass is provided with a gear G', with which meshes a gear G<sup>2</sup>, provided with a crank-arm G<sup>3</sup>. The windlass, with its related gears, I prefer to locate upon the bar E. Upon the bar E, I locate a series of cross-arms H, having at their extremities cords or ropes H', each provided, preferably, at its lower end with a snap-hook *h*.

J denotes a canvas or other suitable blanket to be placed under the mattress. This blanket is provided with rings *j* or similar devices to engage the hooks *h*. This affords a ready connection of the lifting device with the blanket J, by which the patient may be lifted, as above described.

Connected with the extremities of the track are pulleys K and K', over which is engaged a rope or cord L, the extremities of which are preferably provided with weights L' L<sup>2</sup>. The cord or rope L is engaged with the carriage upon the track A, so that the carriage can be caused to travel along the track by pulling on the rope in the proper direction. In this manner the lifting device can be moved longitudinally of the track.

M denotes a case into which the lifting device may be inclosed when moved to the adjacent end of the track and in which the weights normally hang.

To use the device, the carriage with the lifting device attached thereto is run out on the track over the bed whereon the patient lies, and the canvas blanket slipped under the mattress, unless a similar device is custom-



arily located thereunder. The ropes on the cross-arms are then attached to said blanket. Then by means of the windlass the patient may be lifted, and by means of the traveling carriage the lifting device may be moved laterally.

Where a hospital ward is desired to be fitted up with my improved device, the track may extend upon the ceiling across the ward, so that the lifting device may be moved into position over any one of a series of beds.

To steady the lifting device and prevent longitudinal swaying thereof in case it might be desired to hold a patient in a suspended position thereby, I provide ropes  $N N'$ , which may conveniently be attached to the track to engage suitable rings or analogous devices  $P P'$  on the outermost cross-arms.

What I claim as my invention is—

1. In a lifting device the combination of a lifting-bar, a series of cross-arms engaged therewith, depending devices connected with the cross-arms, a rope or cable engaged with the lifting-bar, and means to operate said rope or cable, for the purpose set forth.

2. In a lifting device the combination of a lifting-bar, a series of cross-arms engaged therewith provided with depending devices, a pulley, a rope or cable engaged with said pulley, and a windlass engaged with said bar and connected with said rope or cable, for the purpose set forth.

3. In combination a track provided with a carriage to travel thereon, a pulley connected

with said carriage, a lifting-bar provided with a pulley, a series of cross-arms engaged with the lifting-bar, depending devices connected with the cross-arms, and a rope engaged with said pulleys, for the purpose set forth.

4. In combination a track, a carriage to travel thereupon, a lifting-bar connected with said carriage, a series of cross-arms engaged with the lifting-bar, depending devices connected with the cross-arms, and means to raise and lower said lifting-bar, for the purpose set forth.

5. In combination a track, a carriage to travel thereon, means to move said carriage upon said track, a lifting-bar connected with said carriage, a series of cross-arms engaged with the lifting-bar, depending devices connected with the cross-arms, and means to raise and lower said lifting-bar, for the purpose set forth.

6. In combination, a lifting-bar, a track, pulleys connected with said bar and track, a lifting rope or cable engaged upon said pulleys, a series of cross-arms connected with said bar, provided with fastening devices at their extremities, and cords to engage the lifting device toward its extremities, for the purpose set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

CHARLES B. ULRICH.

Witnesses:

ROBERT A. SMITH,  
PETER W. SHUTE.