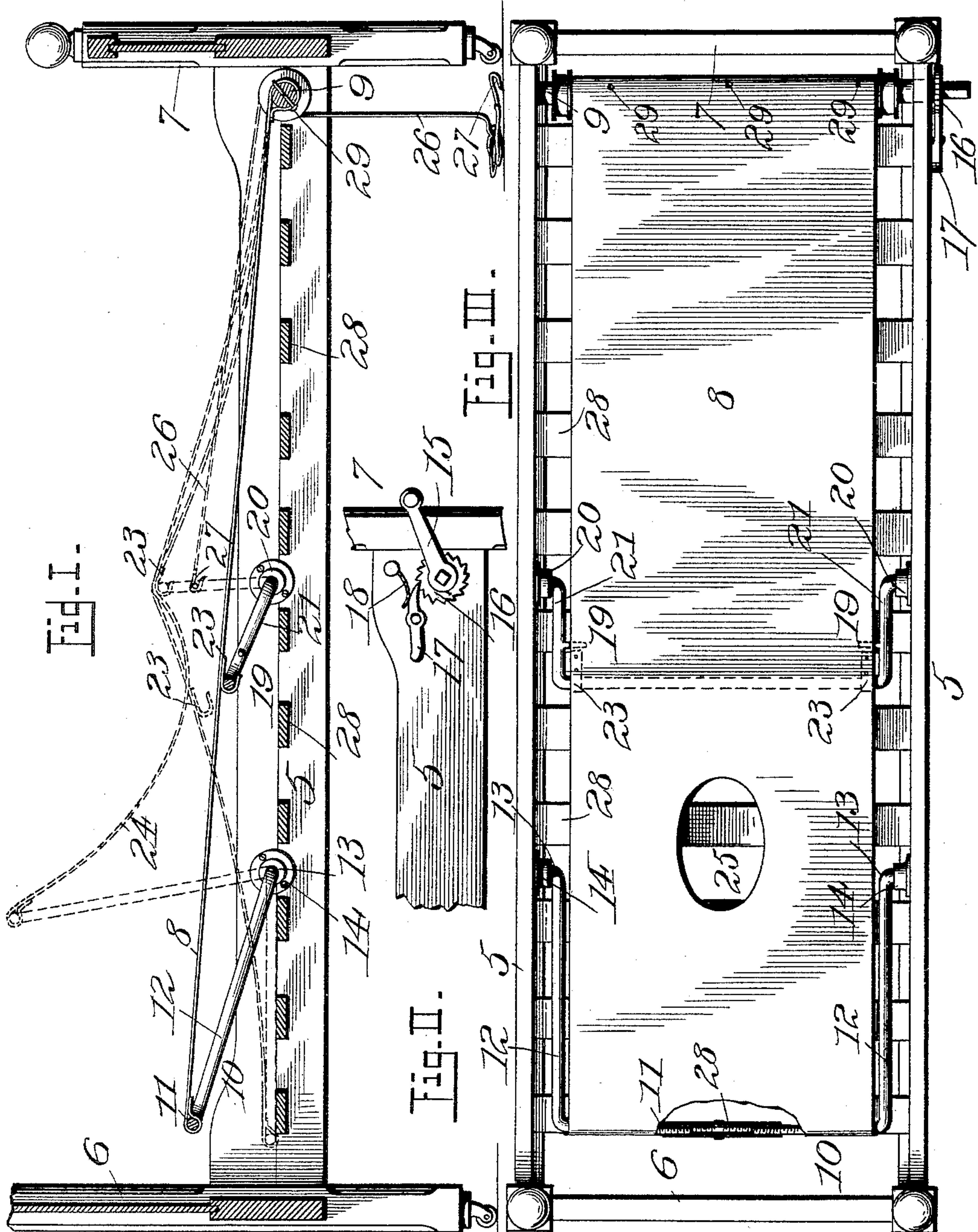


(No Model.)

G. A. LEONHARD.
INVALID BED.

No. 460,800.

Patented Oct. 6, 1891.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE A. LEONHARD, OF RICHMOND, VIRGINIA.

INVALID-BED.

SPECIFICATION forming part of Letters Patent No. 460,800, dated October 6, 1891.

Application filed July 27, 1891. Serial No. 400,799. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. LEONHARD, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Invalid-Bedsteads; and I do hereby 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.

This invention relates to invalid-bedsteads; and its object is to provide a simple and inexpensive device which may be attached to bedsteads in common use to enable an attendant to mechanically raise an invalid upon the bed to a reclining or sitting position, or to raise the body so that air may pass freely underneath, or to raise the hips without raising the head or feet of the invalid for any purpose; and to this end my invention consists in the construction and combination of parts forming an "invalid-bedstead," hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure I is a longitudinal vertical section of a bedstead, showing my invention attached. Fig. II is a detail view of a portion of the side rail with a part of my invention attached thereto, and Fig. III is a view on top of a bedstead provided with my invention.

5 represents a side rail of a bedstead; 6, the head-board; 7, the foot-board, and 28 the slats, all of which may be of any common or usual style.

8 represents a sheet of bed-ticking or similar strong cloth, nearly as wide as will lie straight between the side rails and long enough to nearly reach the head-board, while its foot remains looped upon a roller-beam 9, which I journal to revolve in bearings in the side rails or attached thereto near the foot-board. The ticking is looped around the roller, so that the same may roll therein; but pin-holes are made in the roller, wherein pins 29, passing through the ticking, may be placed to hold it to be turned with the roller.

10 is the head-brace, consisting of a bar of iron formed with a portion 11 to extend across the bed and around which the ticking is firmly secured, and two side portions 12, which are the braces proper, each ending in a trun-

nion 13, which is journaled in a bearing 14, that is to be attached to the side rail by means of screws or in any manner permitting easy removal. The roller 9 is provided with a removable crank 15, whereby the ticking 8 may be wound up or let out, and with a ratchet-wheel 16, a detent 17 to engage the ratchet, and a spring 18 to urge such engagement, whereby the ticking will be rigidly held at whatever point it may be stopped when wound upon the roller.

19 is a brace similar to brace 10 and similarly mounted in bearings 20, but its bracing-arms 21 are much shorter than the arms 12, and it is removably connected with the ticking 8 by means of hooks 23, which are secured permanently to the ticking, but may be unhooked from the brace 19, so that the brace 19 may be used or not in connection with brace 10. If brace 19 is not connected with the ticking when it is rolled up, the invalid will be raised in a nearly-straight reclining position, convenient for airing the bed-clothing or cooling the invalid. If brace 19 be connected with the tick, the effect of rolling up the tick will be to raise the invalid's head much higher than his hips, so that the ticking will assume somewhat of the form shown in the dotted line 24, and there may be a hole in the ticking at 25.

There are some operations which doctors have to perform upon an invalid requiring the hips of the latter to be raised above the level of the head and feet, and for this purpose I remove the pins 29 from the roller 9, leaving it free to revolve in the ticking, and I connect two straps 26 with the cross-bar of brace 19 by means of hooks 27, the other end of each strap being permanently attached to the roller 9. Now if the crank 15 be turned to wind up the straps 26 the brace 19 will be gradually raised, lifting the ticking and the invalid's hips, his head remaining low. Thus a variety of positions may be given to the invalid for any purpose desired, and the movements may be made with great ease both to the invalid and the operator.

The device is inexpensive, and for the purpose of adapting it to be sold on the market and be readily adjusted to a bed of any width there may be two sizes made, one for single

and one for double beds, and the cross-bars of the braces may be each in two parts telescoped and screw-threaded together, as shown at 28, though beds are generally near enough alike not to require this extra expense. The braces may be readily sprung enough to draw their trunnions out of the bearings, and the roller may also be readily removed, so that the only visible remnant of my device would be a hole in the side rail, made for the roller 9, whenever the invalid attachment is no longer required.

The ticking may be operated, as described, either above or below a mattress to raise an invalid from the mattress or to raise the mattress with the invalid on it.

Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

1. The combination, in invalid-beds, of a brace journaled to the side rails of a bedstead near their head and extending across the bed, another similar but shorter brace journaled to the side rails midway, a roller journaled in the side rails near their foot and means for revolving it, and a piece of bed-ticking or other cloth permanently connected with the head-brace and with the roller and removably connected with the midway brace, substantially as described.

2. The combination of a head-brace, a

shorter midway brace, and a foot-roller, all journaled in the side rails of a bedstead, and a piece of bed-ticking or other cloth attached to the said braces and roller, substantially as described.

3. The combination of a head-brace, a middle brace, and a roller, all journaled in the side rails of a bedstead, a piece of bed-ticking or other cloth permanently secured to the head-brace and looped around the roller, means for securing it to revolve with the roller, and hooks secured midway of the ticking to removably connect it with the middle brace, substantially as described.

4. The combination of a head-brace, a middle brace, and a roller, all journaled in the side rails of a bedstead, a piece of bed-ticking or other cloth permanently secured to the head-brace and removably secured to the middle brace and looped upon the said roller, and a pair of straps fixed at one end of each to the roller and provided at the other ends with hooks adapted to engage the middle brace, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE A. LEONHARD.

Witnesses:

E. A. PALMER,
S. MCG. FISHER.