

(No Model.)

2 Sheets—Sheet 1.

W. P. UNDERHILL.

INVALID BEDSTEAD.

No. 325,993.

Patented Sept. 8, 1885.

*Fig 1.*

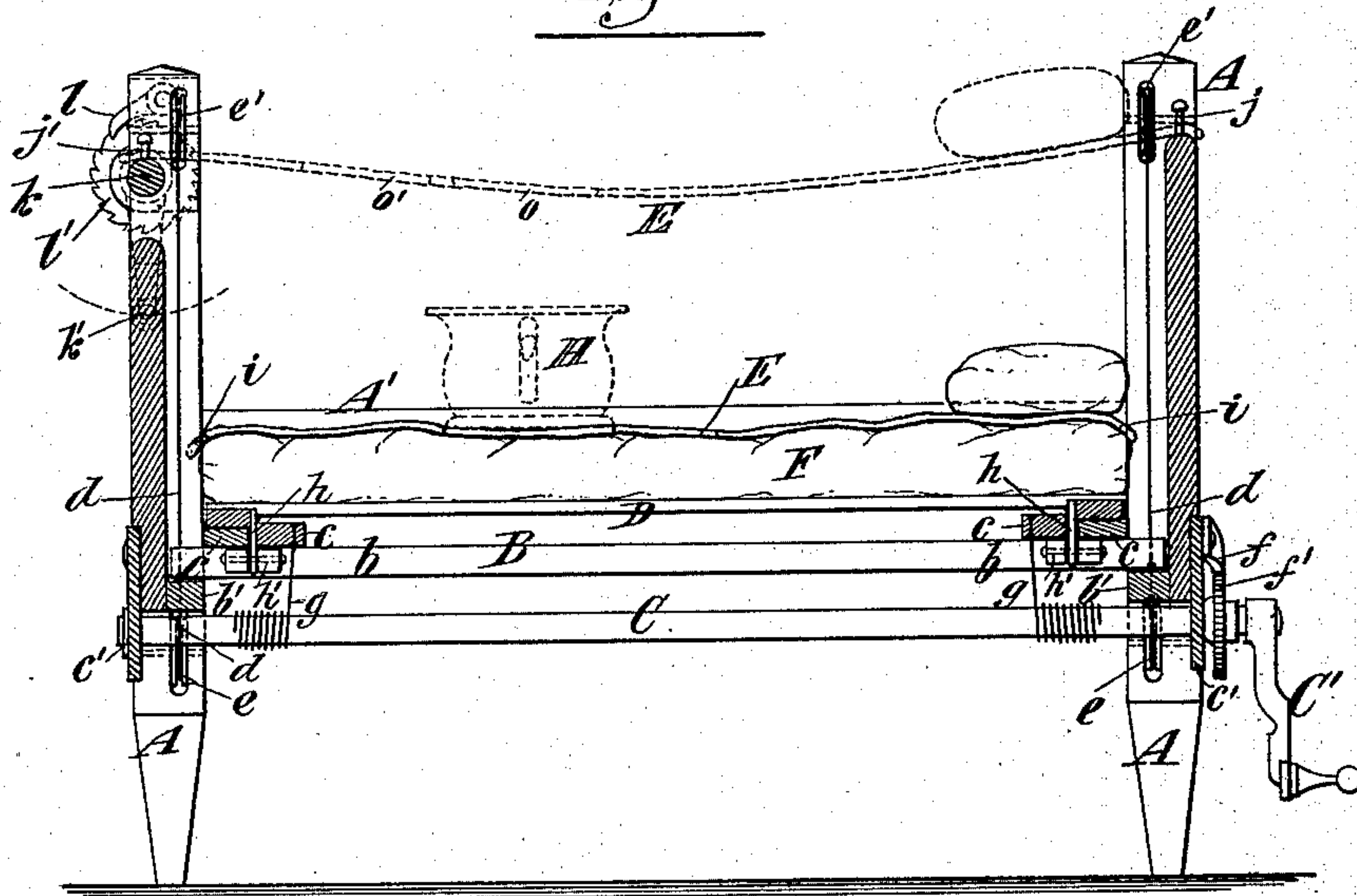
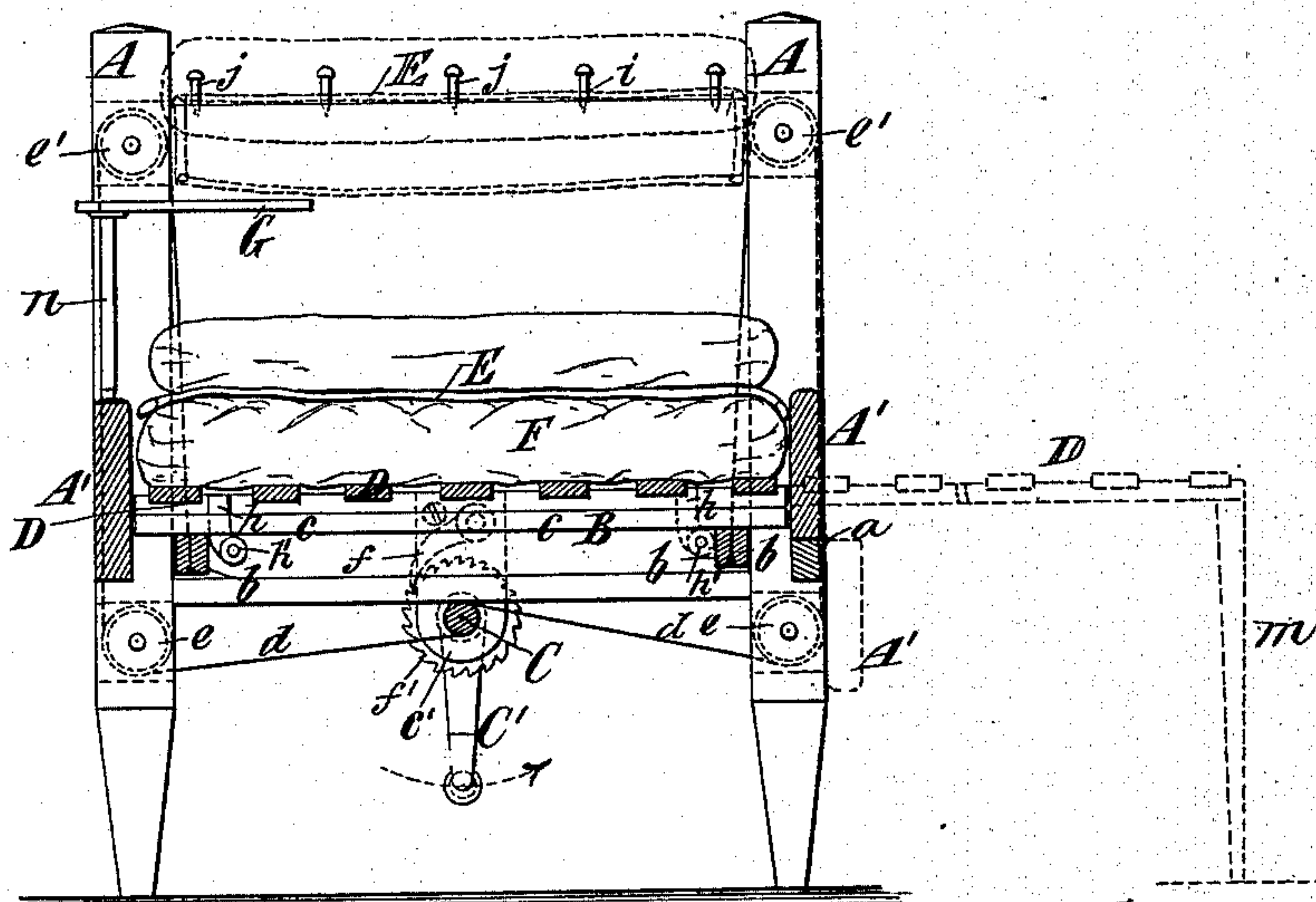


Fig. 2



*Witnesses:-*

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 Matthew Pollock

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by his Atty.  
Brown & Hall

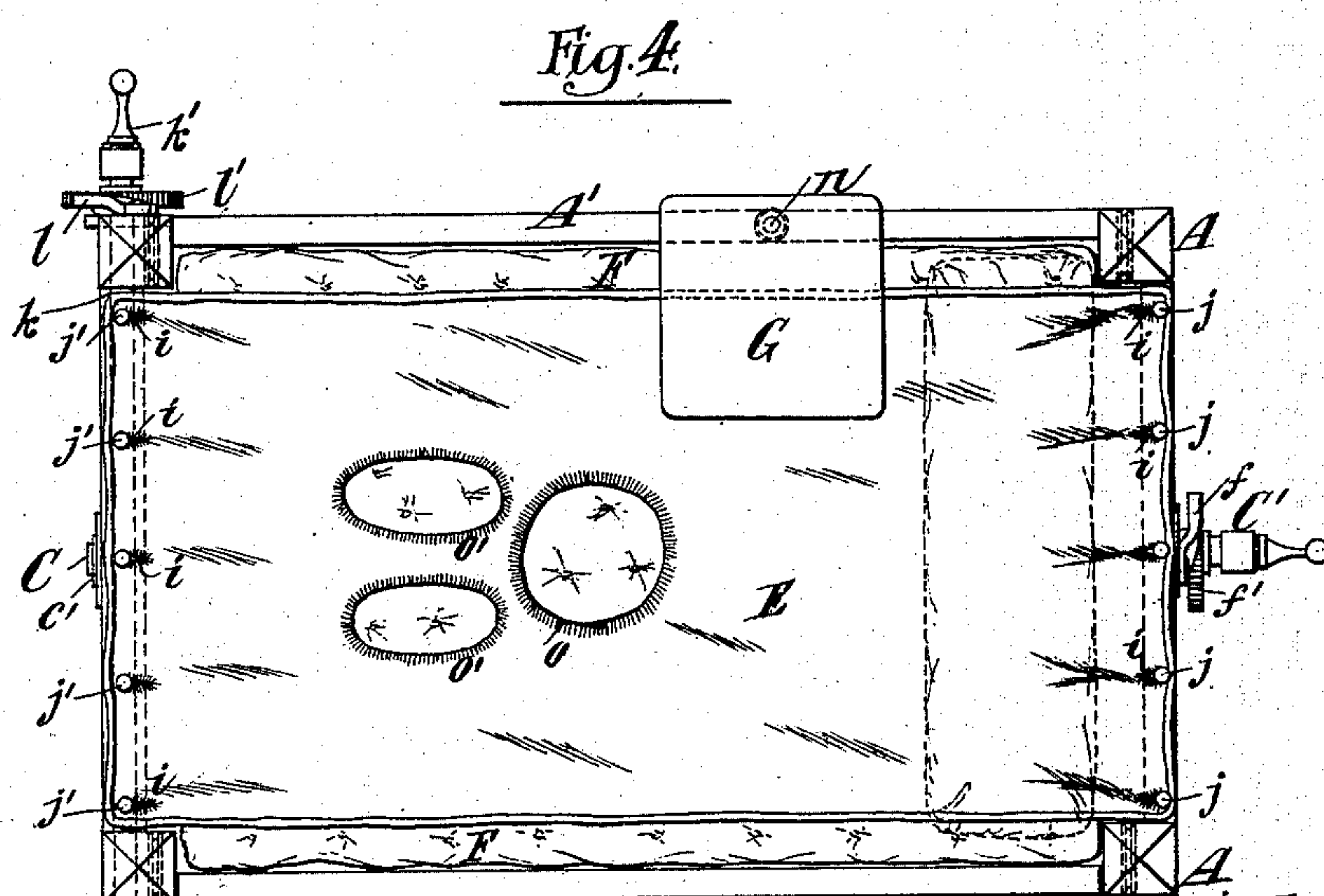
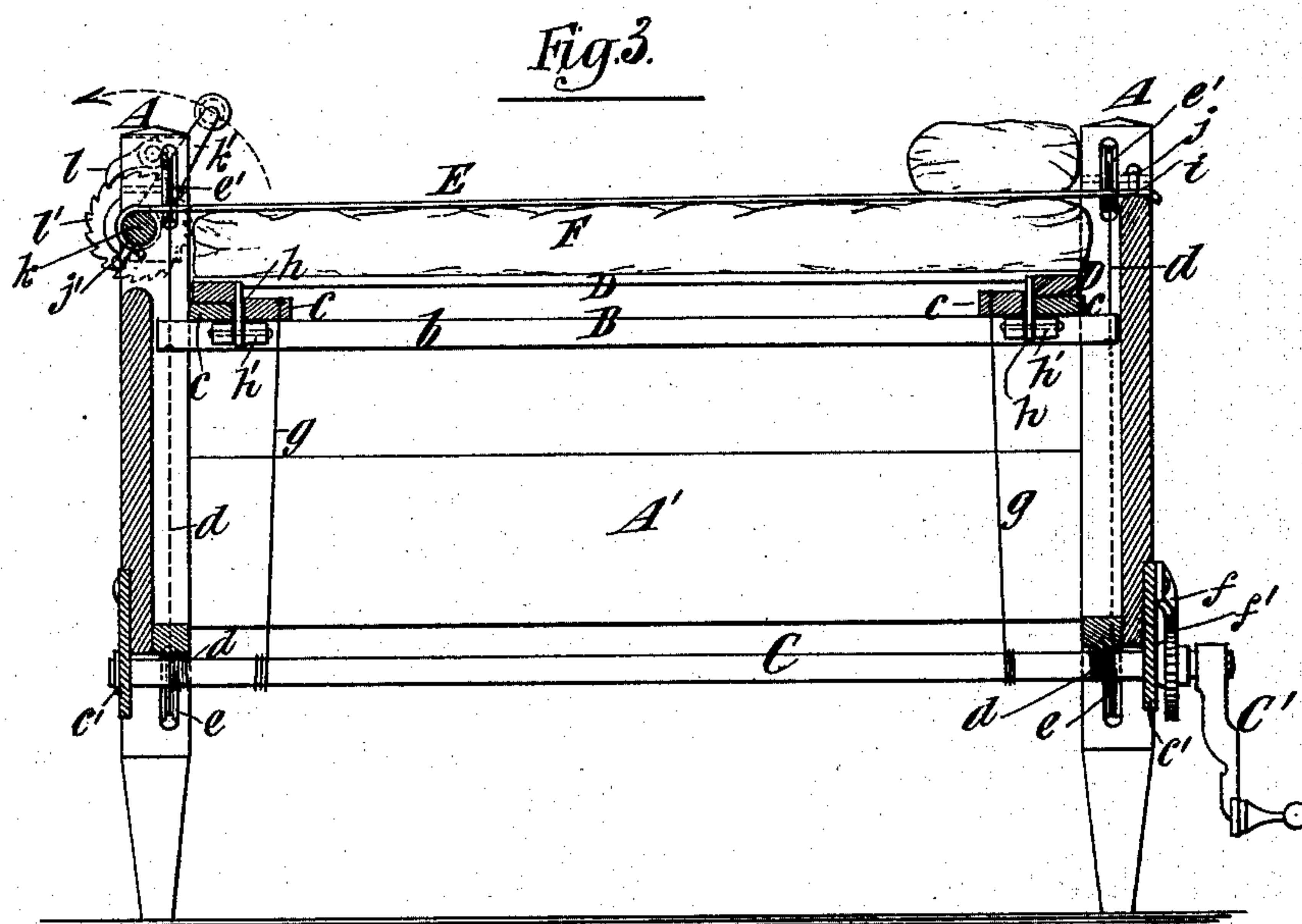
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# UNITED STATES PATENT OFFICE.

WILLIAM P. UNDERHILL, OF BROOKLYN, NEW YORK.

## INVALID-BEDSTEAD.

SPECIFICATION forming part of Letters Patent No. 325,993, dated September 8, 1885.

Application filed February 18, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM P. UNDERHILL, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Invalid-Bedsteads, of which the following is a specification.

My invention relates to invalid-bedsteads which have combined with the bedstead a bottom or main frame and means whereby it may be raised and lowered, a sacking which is intended to be placed upon the mattress and to rest thereon and be raised with the bottom or main frame, and elevated supports, to which the sacking may be attached when raised, whereby the patient may be supported by the sacking while the mattress or main frame is lowered and the bed made up.

The invention consists in novel combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal section of a bedstead embodying the invention, the bed being in its lowered position and the sacking being represented by dotted lines in an elevated position. Fig. 2 is a transverse vertical section, the parts being in the same position as in Fig. 1. Fig. 3 is a section similar to Fig. 1, the bed and main and false bottoms or frames being shown in the elevated position to which they must be brought to enable the sacking to be hooked in place; and Fig. 4 is a plan corresponding to Fig. 3.

Similar letters of reference designate corresponding parts in all the figures.

A designates the posts of the bedstead, and A' designates longitudinal side pieces, one of which is hinged at *a*, so that it may be swung downward and outward, as shown by dotted lines in Fig. 2.

In the bedstead is arranged a main bottom or frame, B, which, as here shown, consists of longitudinal bars *b* and pairs of cross-bars *c*, but which may be otherwise constructed. This main frame or bottom is capable of being raised and lowered in guides formed by the posts A.

C designates a shaft extending lengthwise of the bedstead and supported in bearings *c'*. This shaft may be turned in either direction

by means of a crank, C'. From the shaft C cords or chains *d* pass over pulleys *e*, thence upward and over pulleys *e'*, and downward to the four corners of the bottom or frame B, to which they are connected. It will therefore be seen that the shaft C constitutes a windlass, by turning which the bottom or frame B may be readily raised from the position shown in Figs. 1 and 2 to that shown in Fig. 3, and said bottom or frame will be held in any position to which it is raised by means of a pawl, *f*, engaging with a ratchet-wheel *f'* on the shaft C. In order to insure the free descent of the bottom or frame B when the shaft C is turned in the proper direction, and to prevent said bottom or frame from jamming in its guides, I attach to opposite ends thereof cords or chains *g*, which are passed around the shaft C in a reverse direction to the cords or chains *d*. Consequently, when the cords or chains *d* are tightened or wound up, the cords or chains *g* will be loosened, and vice versa. When the bottom or frame B is lowered, it rests upon supports or ledges *b'* at opposite ends of the bedstead. These ledges or projections *b'* form fixed supports whereby the main frame B may be supported in its normal or lowermost position, with the weight of the patient upon it, and independently of the cords or connections whereby it is raised and lowered.

Upon the rising and falling main bottom B is placed a false bottom or frame, D, which moves up and down with the bottom B, and which may be slid laterally independent of the bottom B. As shown in Figures 1 and 3, the false bottom D rests and is free to slide on the cross-bars *c* of the main bottom B, and has hangers *h*, which project down between the pairs of cross-bars *c* and carry-rollers *h'*, which bear on the under sides of said bars, thus preventing the false bottom from tilting when pulled out.

E designates a sacking of canvas or other suitable material, which is as large as the bed, and which may be placed under the patient and over the mattress F. This sacking has at its ends eyelet-holes *i*, and when it is raised sufficiently the sacking may be hooked or buttoned at one end onto hooks or pins *j* at the head of the bedstead, and at the other



end it may be similarly hooked or buttoned onto hooks or pins  $j'$ , fixed in a shaft,  $k$ , which extends across the foot of the bedstead, and which may be turned by a crank,  $k'$ . The shaft is kept from turning back and the sacking is kept under tension by a pawl,  $l$ , engaging with a ratchet-wheel,  $l'$ , on the shaft  $k$ . The bottoms B D may then be lowered with the mattress, and the patient will be left upon the sacking, which will then be supported at its ends only.

After the bottoms and mattress have thus been lowered the hinged side A' of the bedstead is turned down and the false bottom D, supporting the mattress F, is drawn out horizontally, as indicated by dotted lines in Fig. 2, its outer edge being supported by a hinged or other leg,  $m$ . The bed is made up while the false bottom is drawn out, and the latter, with the made bed, is then pushed back into place and the hinged side A' is turned up.

G designates a small table, which has a leg,  $n$ , detachably secured to the side of the bedstead. It is thus supported in position to be used by the invalid.

The sacking E has in it a hole,  $o$ , and two smaller holes,  $o'$ , and the patient may be seated on the holes  $o$ , with his legs through the holes  $o'$ , and a chamber-vessel, H, may be placed beneath the hole  $o$ .

I am aware that it is not new to provide a bedstead with elevated supports from which a sacking or false frame may be suspended while the main frame, on which the mattress is supported, is lowered away from the sacking and patient; but in that bedstead there are no fixed supports for holding the main frame in its normal position, with the weight of the patient upon it, independently of the flexible connections whereby the main frame is raised, and there are no connections for lowering or drawing down the main frame positively.

I am also aware of United States Letters Patent No. 210,126, granted November 19, 1878, to G. Iveson for invalid-bedstead. In that patent is shown a mattress-supporting frame, which is composed of sections hinged together transversely to the bedstead, and which, by suitable flexible connections, may be adjusted on the bedstead so as to bring the patient into an inclined position. In that patent the said mattress-supporting frame cannot be raised and lowered bodily and positively, and there is no sacking and no elevated supports to which a sacking might be secured.

I am also aware that it is not new to employ a sacking having a hole for the passage of dejections from the patient; but I am not aware that such a sacking has ever been also provided with leg-holes to permit of the patient assuming a natural sitting posture on the sacking while at stool.

I make no claim to anything shown or described in any of the patents above referred to.

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

1. The combination, with a bedstead, of a bottom or main frame, B, serving to support the mattress, and shoulders  $b'$ , forming fixed supports for said main frame when lowered, a single windlass, C, flexible connections  $d$   $g$ , wound in opposite directions on said windlass and attached to the bottom or main frame, pulleys  $e$   $e'$  for the connections  $d$ , whereby the bottom or main frame may be both positively raised and lowered bodily, a sacking, E, resting upon the mattress and to be raised with the main frame, and elevated and fixed supports  $j$   $j'$  at the top of the bedstead, to which the sacking is to be secured when the bottom or main frame is raised, substantially as herein described.

2. The combination, with a bedstead, a bottom or main frame, and a windlass, flexible connections, and pulleys for raising and lowering the same, of a sacking provided with holes  $o$   $o'$   $o'$  to receive the seat and legs of the patient, and elevated supports to which the sacking may be secured when raised, substantially as herein described.

3. The combination, with a bedstead, the bottom or main frame, B, composed of longitudinal and cross bars or pieces  $b$   $c$ , a sacking and elevated supports therefor at the top of the bedstead, and a windlass, flexible connections, and pulleys for raising said main frame, with the sacking and patient upon it, of a false bottom or frame, D, resting upon said main frame, and hangers  $h$ , attached to the false bottom and extending below said main frame, and provided below the main frame with rollers  $h'$ , which bear upon the cross-bars thereof, substantially as herein described.

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Witnesses:

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