

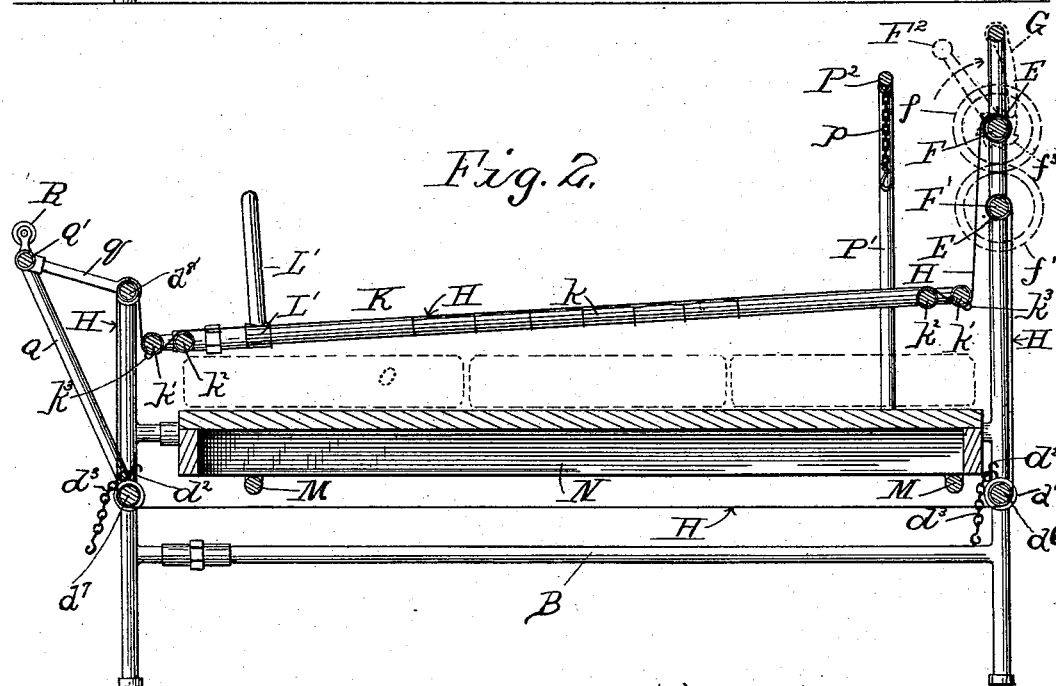
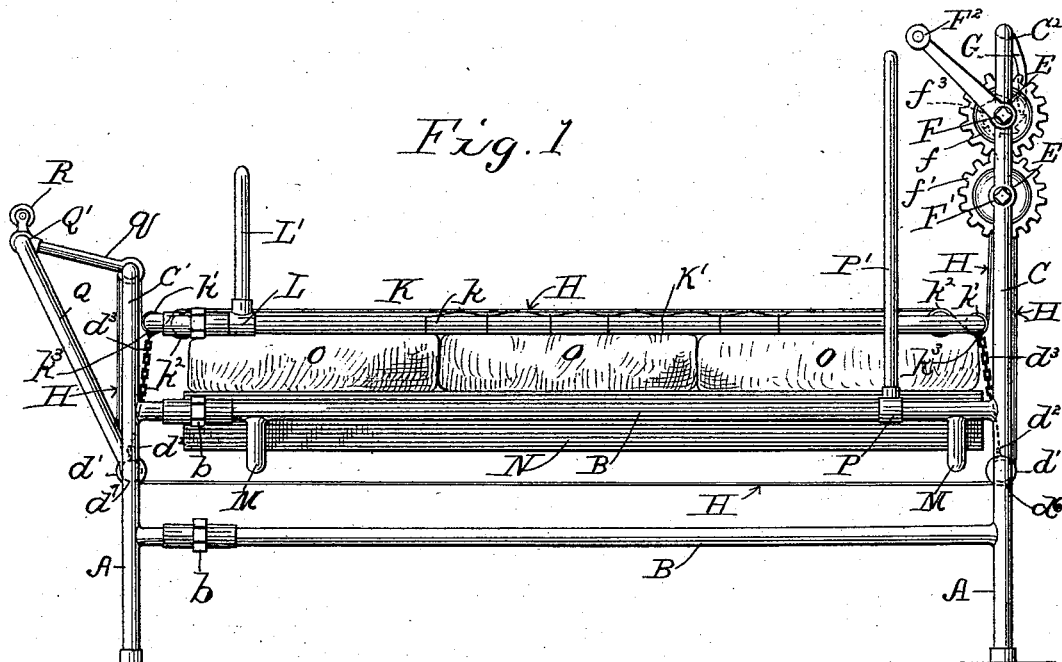
(No Model.)

3 Sheets—Sheet 1.

A. HELANDER.
HOSPITAL BED.

No. 522,342.

Patented July 3, 1894.



WITNESSES:

Alexander Helander INVENTOR

Chas. J. Stockman

BY
Crosby and Worian
ATTORNEYS

(No Model.)

3 Sheets—Sheet 2.

A. HELANDER.
HOSPITAL BED.

No. 522,342.

Patented July 3, 1894.

Fig. 3.

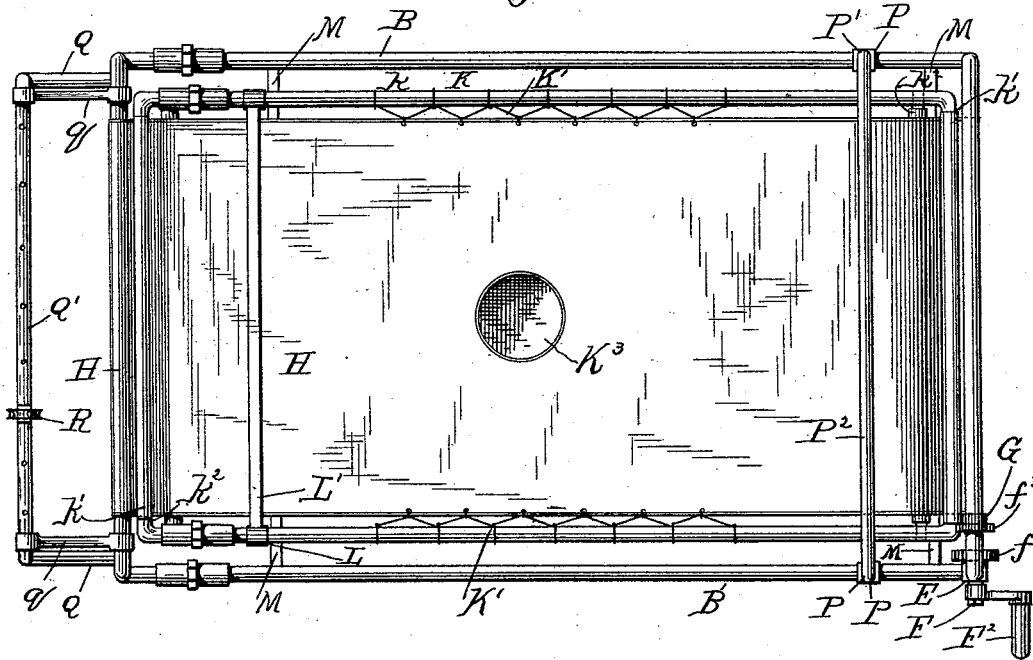
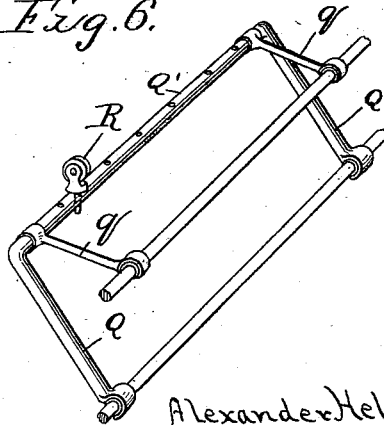


Fig. 6.



WITNESSES:

Cell. Burdine.
Chas J. Stockman

Alexander Helander INVENTOR

Crosby ^{BY} and Worian
ATTORNEYS

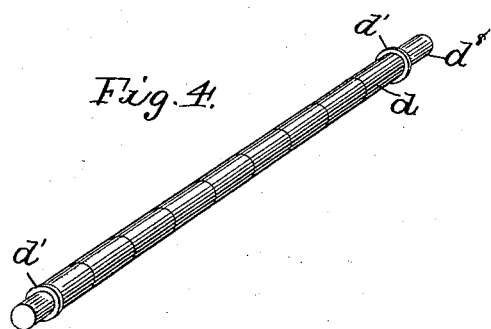
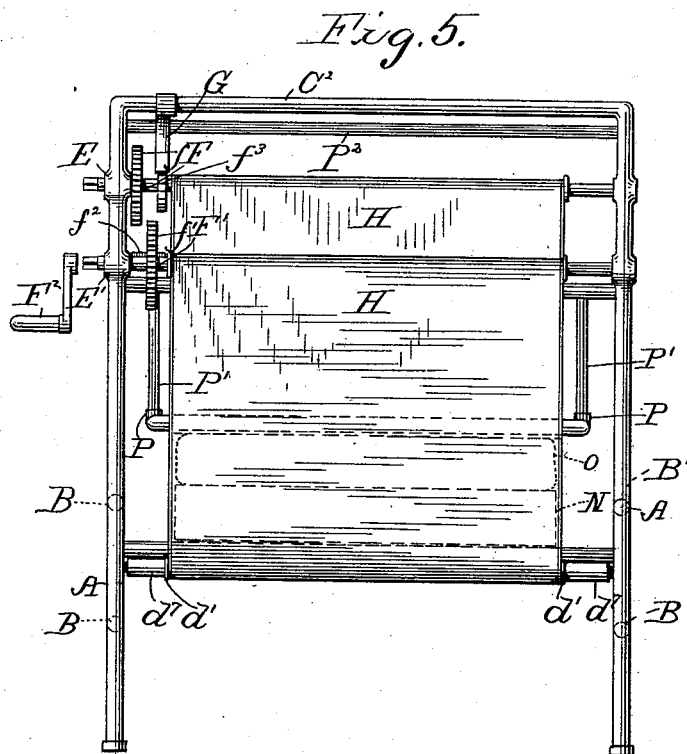
(No Model.)

3 Sheets—Sheet 3.

A. HELANDER.
HOSPITAL BED.

No. 522,342.

Patented July 3, 1894.



WITNESSES:

W. B. Burdette

Chas. J. Stockman

Alexander Helander INVENTOR

BY

Crosby and Woriam
ATTORNEYS

UNITED STATES PATENT OFFICE.

ALEXANDER HELANDER, OF LOS ANGELES, CALIFORNIA.

HOSPITAL-BED.

SPECIFICATION forming part of Letters Patent No. 522,342, dated July 3, 1894.

Application filed December 22, 1893. Serial No. 494,445. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER HELANDER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Hospital-Beds; 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 a new and useful improvement in "hospital beds" and it consists in the construction and arrangement of the parts hereinafter described and definitely pointed out in the claims.

The object of the invention is the provision of an improved bed of the character above indicated, which will embody the requisite features of adjustability, in a simple, efficient and durable form. These objects are accomplished by the construction illustrated in the accompanying drawings wherein like letters of reference indicate corresponding parts in the several views, and in which—

Figure 1 is a side elevation. Fig. 2 is a longitudinal section. Fig. 3 is a top plan view. Fig. 4 is a detail view of a roller with the hooks omitted. Fig. 5 is a front elevation. Fig. 6 is a detail view of the rear attachment and a portion of the frame.

In the drawings A represents the legs and B and B' the side bars arranged respectively one above the other and on opposite sides of the frame. These side bars are formed with the turn-buckles *b* for the purpose of varying the length of the bed.

C represents the front and C' the rear bed post, the former being of greater length than the latter, and having its upper ends connected by the cross-bar C².

The bed posts at opposite ends are connected at points intermediate the side-bars with cross-bars *d*⁵, *d*⁷, *d*⁸ on which a series of small sleeves *d* are placed, constituting rollers. At opposite ends of these cross-bars are guide flanges *d*⁷ and on the ends beyond the flanges are pivotally secured the hooks *d*² which carry on their upper ends open-linked chains *d*³.

Journalled in suitable bearings E and E' formed in the upper ends of the bed posts C are two parallel shafts F and F' arranged

one above the other, and having their ends at one side projecting through the bearings and beyond the post and suitably squared to receive the handle F².

On the upper shaft F is rigidly secured a cogwheel *f* which meshes with a similar wheel *f*¹ slidably secured on the shaft F' by means of the spline *f*².

Located on the upper shaft a short distance from the cogwheel *f* is a ratchet wheel *f*³ with which a pawl or detent G engages, the detent being pivotally supported on the upper cross-bar C².

K represents a frame having the side bars *k* and at each end two cylindrical parallel cross-bars *k*¹ and *k*² arranged in close proximity.

H represents a canvas belting having one end attached to the shaft F', passing thence under the lower cross bar *d*⁶ of the head board, thence to the foot board around the under and upper cross bars *d*⁷ *d*⁸ thereof, thence to the frame K to which it is connected by passing it between the cross bars at each end thereof, and thence to the shaft F. This belt is firmly secured to the side bars *k* of the frame by the lacings K' and has at or near the center of the frame K, an opening K³. At the opposite end of the bars *k*¹ are secured the eyes *k*³ through which the hooks on the chains *d*³ are adapted to engage.

Slidably secured on the side-bars *k* are the sockets L in which the lower ends of the cover-supporting frame L' are loosely placed. The frame L' spans the movable frame K, and is adapted, when required, to support the covers and prevent the same from coming in contact with the injured member of the patient.

On the side-bars B' are secured depending supports M extending across the frame. On these supports the removable bottom N is placed on which the sectional mattress O is supported.

P are sockets slidably secured on the side-bars B' in which the lower ends of the vertical standards P' of the horizontal bar P² are loosely held. The bar P² extends across the bed and has attached thereto the exercising chains *p*.

At the rear of the bed is a weight supporting attachment consisting of a frame having its side-bars Q connected by a perforated

cross-bar Q' and their lower ends hooked or curved to loosely fit the cross-bar at the lower ends of the rear bed posts.

q represents braces pivotally secured to the ends of the cross-bars Q' and having their outer ends formed into hooks engaging over the sleeves on the upper cross-bar d⁸ of the rear posts.

R represents a pulley having a suitable shank on its support which is adapted to pass through the apertures in the cross bar Q'.

A suitable cord is adapted to pass over the pulley and carry a weight at its lower end, its opposite end being attached to the injured member of the invalid for the purpose of resetting dislocated joints.

In operation, where it is desired to raise the head of the invalid the chains are adjusted to engage the proper link with the hooks of the movable frame K; the handle is then adjusted to the upper shaft which is then rotated winding the canvas thereon, elevating the forward end of the movable frame until the chains are drawn tight, the chains retaining the movable frame in a fixed position against lateral movement. While the shaft F is being rotated the cogwheel f' is moved out of engagement with the cogwheel f so that the lower shaft is held from moving. If it is desired to place the movable frame on a level plane the handle is adjusted to the lower shaft and the canvas is wound thereon until the rear end of the movable frame reaches its proper position. The movable frame will now be held throughout in an elevated position above the mattress, and is locked in this position by forcing the cogwheel f' into engagement with the teeth of the cogwheel f and allowing the detent to engage the teeth of the ratchet wheel. While the patient is held in the elevated position on the movable frame the mattress may be moved and the necessary receptacle placed below the opening in the canvas. The bottom may also be removed while the frame is in its elevated position for the purposes of fumigating or cleansing.

If it is desired to elevate the limbs of the patient the wheel f' is moved out of engagement with the wheel f and the lower shaft turned, winding the canvas thereon, elevating the rear of the movable frame, while the front will remain stationary. To elevate the frame and retain it in its horizontal position or in its adjusted position it is only necessary to move the cogwheels into engagement with each other and thereupon rotate either shaft.

I am aware that many minor changes in the parts in my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hospital bed, the combination with the bed frame, of two parallel shafts journaled at one end thereof, a canvas having its opposite ends connected respectively to the shafts, means for causing a simultaneous or independent movement of the shafts, rollers on opposite ends of the frame over which the canvas passes, a frame fixedly secured to the canvas intermediate the ends of the bed frame, and adjustable connections between the bed frame and movable frame, substantially as described.

2. In a hospital bed, the combination with the bed frame, of rollers at opposite ends thereof consisting of a series of short sleeves mounted on cross-bars of the frame, a similar roller at the upper end of the rear of the bed frame, two parallel shafts journaled in the upper ends of the forward bed posts of the frame, a clutch mechanism intermediate the shafts, a canvas connected at opposite ends to the respective shafts and passing around the rollers on the frame, and a frame fixedly secured to the canvas, substantially as described.

3. In a hospital bed, the combination with the bed frame, of winding shafts journaled in the end thereof, means for causing an independent or joint movement of the shafts, rollers on the frame, a canvas secured at its opposite ends to the respective shafts and passing over said rollers, and a frame consisting of side-bars and end bars and cross-bars at its opposite ends between which and the end bars the canvas passes, substantially as described.

4. In a hospital bed, the combination with the bed frame, of a canvas extending longitudinally across the same, means for winding the canvas at its opposite ends, a frame carried by the canvas, and chains connecting the opposite corners of the frame on the canvas with the bed frame, substantially as described.

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

ALEXANDER HELANDER.

Witnesses:

ANDREW P. LYNCH,
JOHN CLIFFORD.