(No Model.)

S. BISHOP.

INVALID BED.

No. 331,608. Patented Dec. 1, 1885.

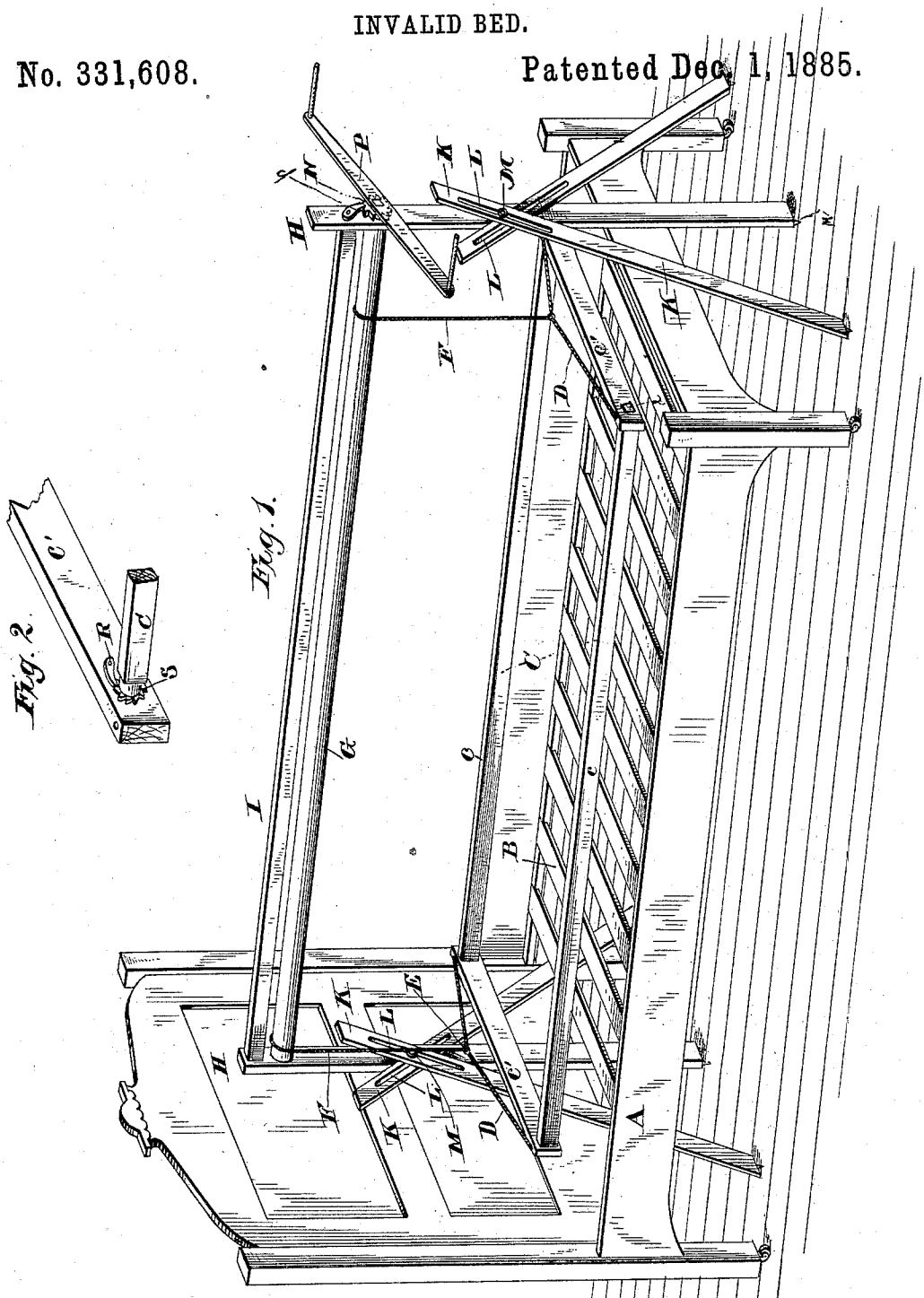


Fig. 1.

Fig. 2.

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INVALID-BED.

SPECIFICATION forming part of Letters Patent No. 331,608, dated December 1, 1885.

Application filed June 19, 1885. Serial No. 169,209. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL BISHOP, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Invalid-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 certain improvements in invalid beds or hammocks; and it has for its objects to provide certain improved devices and combinations of devices whereby a disabled patient may be lifted above his couch without disturbing his position, and without giving him unnecessary pain or disturbing the relative parts of any surgical appliances; further, to conveniently attend a helpless patient when required to answer the calls of nature; also, to provide for readily tilting the patient to either side, as occasion may require; and, finally, to provide simple and effective means for accomplishing the above purposes without delay or expensive appliances, as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 illustrates a perspective view of a bed or couch, showing my invention applied thereto, and Fig. 2, a detached perspective view of a portion thereof, showing the operating mechanism of that part in detail.

The letter A indicates a bedstead of the ordinary or any approved pattern, and B the slats which support the mattress.

C indicates a hammock or stretcher-frame, which is rectangular in shape and somewhat smaller in area than the bedstead, in order that it may fit within the same and rest upon the mattress. This hammock or stretcher frame is composed of two longitudinal parallel bars, *c*, which are rectangular in cross-section, and two end bars, *c'*, which are provided with square mortises near each end, into which are adapted to fit square tenons *d* at the ends of the bars *c*, by means of which the parts of the stretcher-frame are held together, and by means of which square tenons the side bars are prevented from turning when once the tenons are engaged in the mortises. Outside of the mortises, at or near each end of the end bars, are secured the ends of the ropes D, which are engaged by the hooks or eyelets E at the lower ends of the ropes F, the upper ends of which are secured to a windlass, G, extending longitudinally and centrally over the bedstead. The said windlass is provided with journals at each end, which have their bearings in and near the upper ends of the vertical beams H, which are located near each end of the bed, one being just within the head-board and the other just outside of the foot-board, as shown. These beams are held apart and braced by a longitudinal brace-beam, I, (which is provided with attachment fastenings not shown in the drawings,) and are held against swaying to either side by means of the cross-braces K, which are slotted longitudinally, as indicated by the letter L, and are adjustably fastened to the vertical beams by means of bolts and nuts M. The vertical beams and cross-braces are provided with prods M' at their lower ends, which may be driven into the floor to prevent the parts from slipping and insure a secure support. The cross-braces at the head of the bed are both on the inside of the vertical beam, and the braces at the foot of the bed are both on the outside of the vertical beam. The outer end of the windlass-journal at the foot of the bed passes through its bearing in the vertical standard, and is provided with a ratchet, N, with which is adapted a pawl, *p*, to prevent a reverse motion of the windlass, and with a double crank, P, by which the windlass may be easily controlled in winding or unwinding the ropes for the purpose of elevating or lowering the stretcher-frame.

The device as a whole is so made as to be easily separated into its several parts, so as to facilitate packing for storage or transportation. In some instances it is preferred that the side beams of the stretcher-frame be provided with round tenons instead of square ones. In such an arrangement these said round tenons are each provided with pawls R and ratchets S, by means of which the sheet may be tightened upon the stretcher-frame, as more fully hereinafter described.

The operation of my invention is as follows: The sheet on which the patient lies is rolled evenly and tightly around the side beams of the stretcher-frame until the side beams are in

position to have their tenons inserted into the mortises of the end beams, which entries having been made, the side bars are prevented from revolving by means of the square tenons on their ends, or by the ratchets when it is preferred to use round tenons, and the sheet is prevented from slipping by the rectangular surface of the side beams.

Having now properly adjusted the ropes and turning on the windlass by means of the crank, the patient, with pillows and covering, is gently and easily lifted and held above his couch without any delay or trouble, and without causing any unnecessary pain or disturbing any surgical appliances employed in his treatment. By this means the bed may be conveniently aired and remade, and a bed-pan or any other vessel may be quickly and conveniently placed below the patient, the stretcher-sheet having an opening or flap to permit the patient to use said vessel. When required to tilt the patient to one side, the hooks of the windlass-ropes are shifted on the ropes supporting the stretcher-frame slightly to the side to be elevated, and the windlass turned to raise the frame, which will then tilt gently, easily, and effectually. Should the sheet after some use sag a little from stretching, one of the side beams is turned so as to take up the slack; or should it sag too much at any one given point, it is unrolled and rolled up again with special reference to that point. When it becomes desirable to change a soiled sheet for a clean one, the patient is lifted from the mattress and the clean sheet placed under him. Then, having lowered him again to the bed, the soiled sheet is unrolled and slipped out, and the stretcher is reconstructed as at the first.

The sheets used in the stretcher should be new and strong ones, so as to insure against accident from rending. It will be seen that by means of this hammock as thus constructed and operated the patient can be handled and waited on with very little exertion or trouble on the part of the attendant, and with no unnecessary pain to the patient, while his position will be undisturbed, as well as the position of any surgical appliances, which is of the utmost importance, especially in the treatment of patients having fractured limbs or fractured pelvic bones.

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

1. The combination, with the vertical end beams, H, and connecting-beam I, of the cross-braces K, having slots L, and the bolt M, whereby the parts may be adjusted, substantially as specified.

2. The combination, with the vertical beams H, the connecting-beam I, and the slotted cross-braces K and connecting-bolt, of the stretcher-frame A, arranged above the bedstead, and the suspension-cords F, and windlass G, and operating-lever and ratchet, the whole arranged substantially as specified.

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

SAMUEL BISHOP.

Witnesses:
WM. H. BEAVER,
A. G. KORR.