(No Model.)

G. E. HOMAN.

INVALID BEDSTEAD.

No. 601,001. Patented Mar. 22, 1898.

Fig. 1.

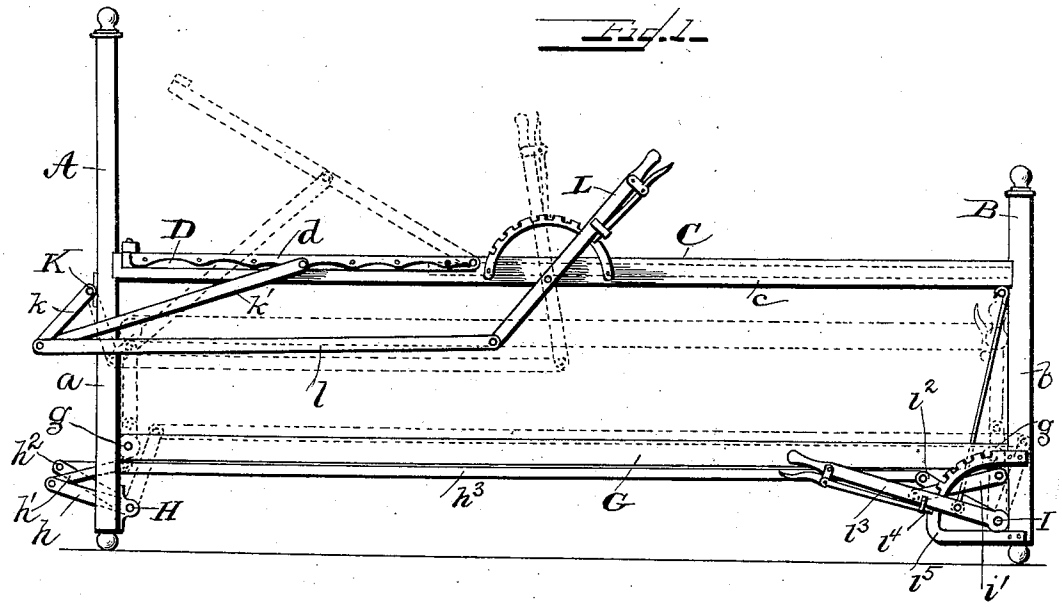


Fig. 2.

Fig. 3.

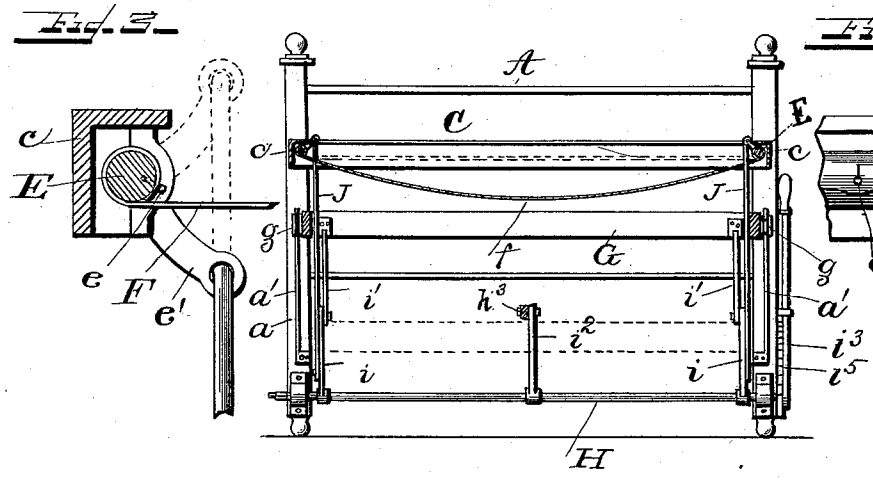


Fig. 4.

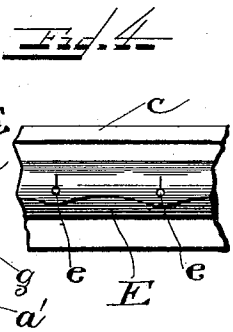
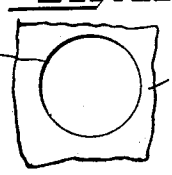


Fig. 5.



Witnesses.

Inventor.

George E. Homan

By Whittaker & Peacock Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE E. HOMAN, OF WILLIAMSPORT, PENNSYLVANIA.

INVALID-BEDSTEAD.

SPECIFICATION forming part of Letters Patent No. 601,001, dated March 22, 1898.

Application filed October 28, 1897. Serial No. 656,621. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. HOMAN, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, 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.

My invention is an improvement in invalid-bedsteads; and it consists in the novel features hereinafter fully described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention, and said invention is fully disclosed in the following description and claims.

Referring to the said drawings, Figure 1 represents a side elevation of a bed constructed according to and embodying my invention. Fig. 2 represents a transverse section of the same. Figs. 3 and 4 are detail views of parts of the mechanism. Fig. 5 is a fragmentary view of the central portion of the supporting-sheet, showing the central aperture therein.

In the drawings, A represents the head-frame of the bed, and B the foot-frame, which are rigidly connected by the stationary horizontal upper frame C, all of said parts being preferably constructed of metal. To the side pieces of the stationary frame at one end of the bed is hinged the head-rest frame D, as shown, which is provided with studs or projections to receive a stretched canvas or other suitable supporting-cover. Beneath each of the said side pieces, which are preferably formed of angle-irons *c c*, (see Fig. 2,) is mounted a rock-shaft E, extending from the foot end of the bed-frame to a point beneath the head-rest, and longitudinally of said side pieces. These rock-shafts are provided with a series of studs or projections *e*, which receive the edges of a supporting-sheet F of canvas or other suitable material provided with buttonholes at its lateral edges to engage said studs *e*, as shown in Figs. 3 and 4, and having a central circular opening *f*. (See Figs. 2 and 5.) Each shaft E is provided adjacent to the foot of the bed with an operating-arm *e'*, by means of which the shafts can be rotated to wind up and tighten the supporting-sheet F, as hereinafter described.

The vertical standards *a b* at the corners of the bed are provided with vertical tracks or ways *a' b'* (see Figs. 1 and 2) to receive guides on a vertically-movable frame G, which is designed to support the mattress of the bed. The frame G is provided in this instance with grooved rollers *g g*, which engage the tracks *a'* and *b'*.

Beneath the frame G a transverse rock-shaft H is mounted at one end of the bed, which shaft is provided at each end with a rigid arm *h*, connected to the vertically-movable frame G by a link *h'*. At the other end of the bed is a similar transverse rock-shaft I, which is provided at each end with a rigid arm *i*, connected to the movable frame by a link *i'*. One of said shafts—in this instance the shaft I—is provided with an operating hand-lever i^3, provided with a pawl i^4, which engages a stationary locking-segment i^5, so that the shaft I can be moved to different positions and locked by said pawl and segment. In order to cause the two rock-shafts H and I to be operated simultaneously, I provide the shaft H with a rigid arm h^2, preferably arranged centrally of the same, and I provide the shaft I with a rigid arm i^2, said arms h^2 and i^2 being operatively connected by a horizontal rod or link h^3. The function of this rod or link h^3 and the arms h^2 i^2 is to cause the shafts H and I to be moved together by means of the single operating-lever i^3, as will be readily understood. By this construction the movable pans G can be raised and lowered at both ends simultaneously by operating the hand-lever i^3 and the parts can be secured in any desired position by means of the pawl i^4 and segment i^5.

The arms *i i* are each connected by links J J with the arms *e' e'* of the rock-shafts E E on the upper stationary frame, so that when the arms *i i* are lowered to lower the movable frame the arms *e' e'* will be drawn down, thereby rolling up the supporting-sheet F upon the rock-shafts E E and tightening the said sheet.

I also provide adjusting mechanism for the

head-rest which is constructed as follows: A shaft K is supported along the back of the head-frame and provided at each side with arms *k*, connected by links *k'* to the frame of the head-rest. A hand-lever L is pivoted in this instance to one of the side pieces *c* of the stationary upper frame C and is provided with the usual pawl-and-ratchet segment, the said lever being connected by a link *l* with one of the arms *k*.

The operation of the device is as follows: When the bed is in use, the lower movable frame is provided with a mattress and is elevated until the top of the mattress is on a level with the stationary frame and the supporting-sheet F is relaxed and lies upon the mattress, the patient being supported by the mattress. When it is desired to lower the mattress to change the bedclothes or for other purposes, the lever *i*³ is operated to lower the movable frame carrying the mattress, and in so doing the supporting-sheet is tightened, as shown in dotted lines in Fig. 2, thus supporting the patient while the mattress is lowered. When the mattress and sliding frame are again raised, the sheet F will be simultaneously relaxed, so that the patient will be supported by the mattress.

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

1. In an invalid-bed, the combination with the upper frame, of devices for holding a supporting-sheet, adjusting mechanism for said holding devices, for tightening and loosening said sheet, a vertically-movable lower frame, operating devices therefor and connections extending from the said adjusting mechanism to parts connected with said movable frame, substantially as described.

2. In an invalid-bedstead, the combination with the stationary upper frame, of devices extending along one side of said frame for holding a supporting-sheet, a shaft or roller extending longitudinally of the other side of said frame and provided with means for engaging said sheet, an operating-arm for said shaft or roller, for adjusting said sheet, the vertically-movable lower frame, means for raising and lowering said movable frame and a connection extending from said operating-arm of said shaft or roller, to a part connected with said movable frame, substantially as described.

3. In an invalid-bed, the combination with the stationary upper frame, of an adjustable head-rest located at one end of said frame, a longitudinally-disposed shaft or roller supported along each side of said frame, from a point beneath said head-rest to the opposite extremity of said frame and provided with devices for engaging a supporting-sheet, an operating-arm on each of said shafts or rollers, for adjusting said sheet, the vertically-movable lower frame, operating devices for raising and lowering said movable frame, and connections from the operating-arms of said shafts or rollers to parts connected with said movable frame, substantially as described.

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

GEO. E. HOMAN.

Witnesses:
J. W. HAYS,
ROBERT F. ALLEN.