

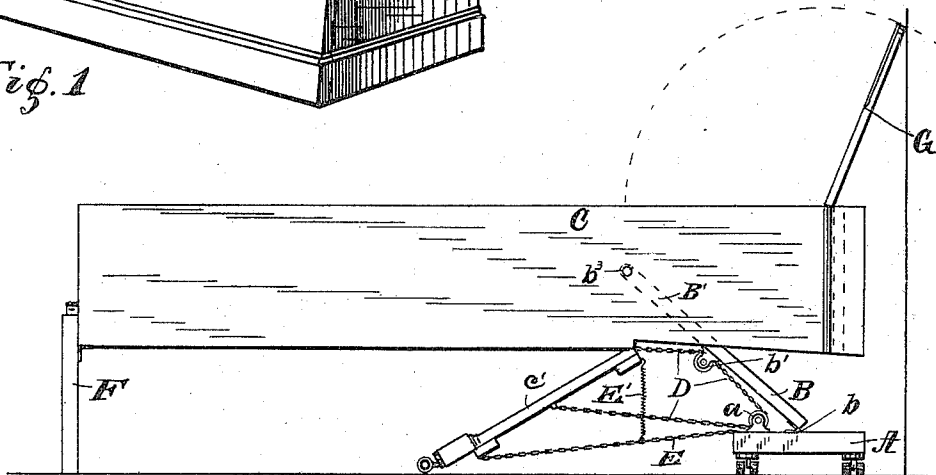
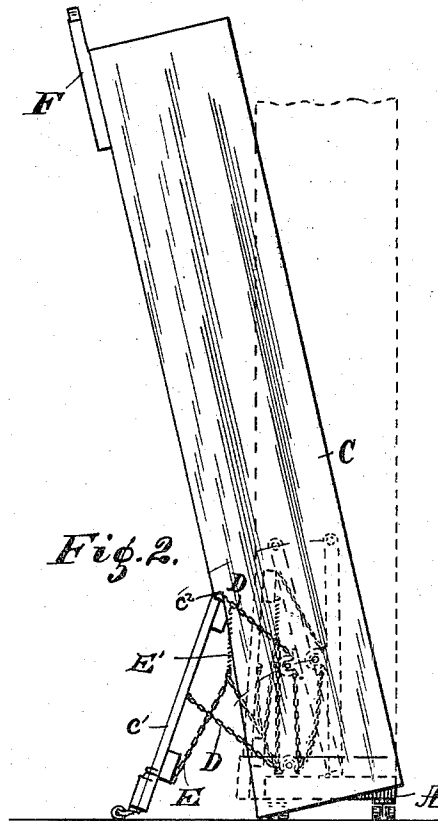
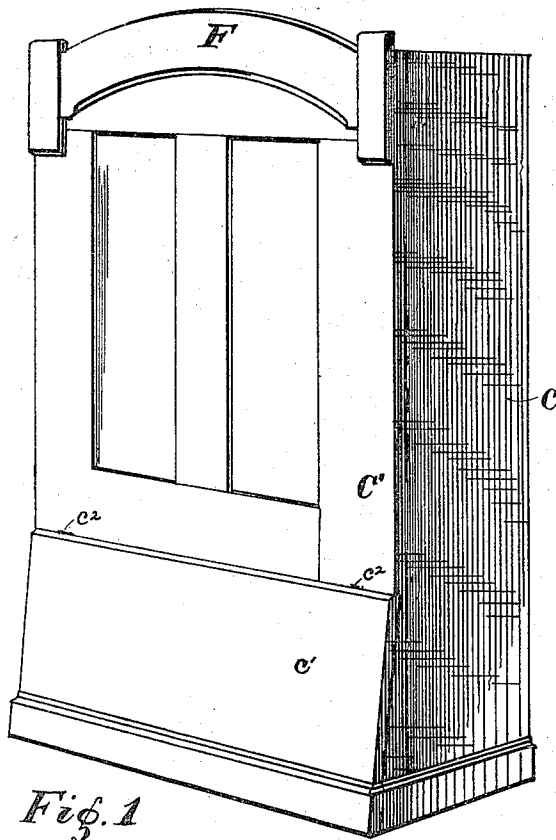
(No Model.)

2 Sheets—Sheet 1.

J. H. MORRISON.
FOLDING BED.

No. 573,027.

Patented Dec. 15, 1896.



Witnesses,
F. N. Warner,
J. M. Hafer.

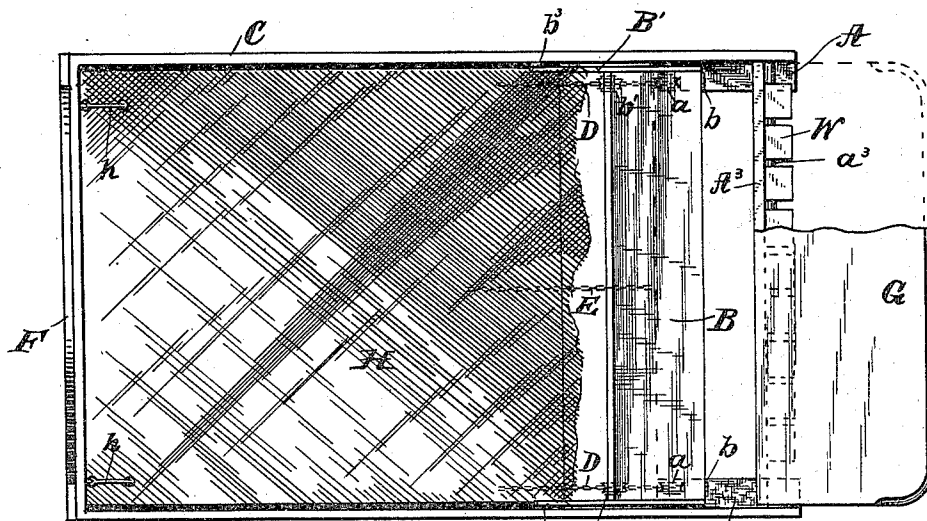
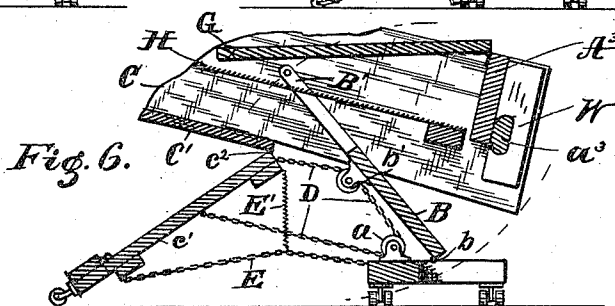
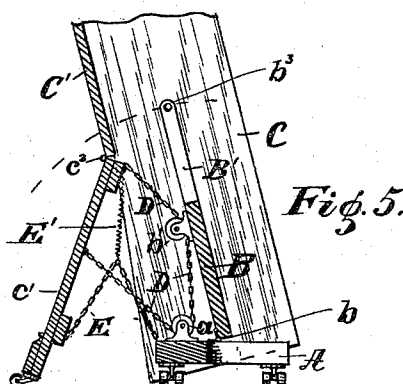
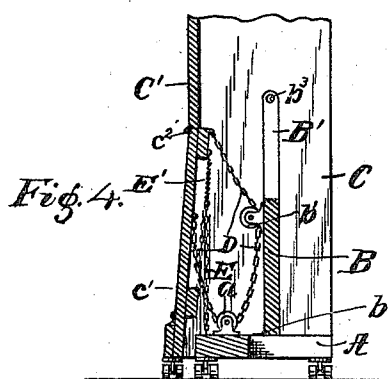
Fig. 3.

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Fig. 7. b' b'

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UNITED STATES PATENT OFFICE.

JOSHUA H. MORRISON, OF CONNERSVILLE, INDIANA.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 573,027, dated December 15, 1896.

Application filed October 1, 1895. Renewed August 20, 1896. Serial No. 603,427. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA H. MORRISON, a citizen of the United States, residing at Connorsville, in the county of Fayette and State of Indiana, have invented certain new and useful Improvements in Folding 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 improvements in folding beds which open and close vertically, and has for its objects, first, the construction of a cheap and durable bed; second, the construction of a bed in which the base area increases as the bed is lowered, and, third, to provide a bed that will occupy the minimum floor-space and that will be free from danger of accident while in use, leaving no upright back or side pieces standing when the bed proper is lowered.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective of my bed in its folded position; Fig. 2, a view in side elevation showing the bed partly open; Fig. 3, a view in side elevation, showing the bed completely opened out ready for occupancy; Fig. 4, a detail in vertical section of the base and adjacent parts of the body of the bed, showing the position of the chains and parts when the bed is in its closed position; Fig. 5, a view of same, showing the position of the chains and parts when the bed is in position preparatory to changing pivotal points. Fig. 6 is a like view of the same, showing the bed still farther opened out, but not yet down into position for use; and Fig. 7 is a plan view of my improved bed, showing the mattress and head-board broken away in part to show the underlying mechanism more clearly.

Similar letters of reference indicate like parts throughout the several views of the drawings.

A represents the base upon which my improved mechanism is mounted.

B is a board standing transversely with relation to the length of the bed and hinged to the base, so it can be folded down into a horizontal position or raised so as to stand in a vertical position on its edge, as shown in Fig. 4.

B' are a pair of levers which are securely fastened to the ends of the board B, one at each end of said board, and C is the box or body portion of the bed, within which the mattress and bedclothing are directly secured. The upper ends of the levers B' are pivotally secured to the sides of the bed-body. The lower part of the body-front C' is separate from the balance of the front and is secured thereto by means of hinges along its upper edge.

D is a chain, one end of which will be secured to some part of the bed-front, preferably to the upper edge of the section c', as shown in the drawings. It will be passed thence around the pulley b', secured to the board B adjacent to the upper edge of the board, thence around a lower pulley a, secured at some convenient point, either to the base A or the lower edge of the board B, and will have its other end secured to the section c' at approximately the middle of the said section c'. Preferably there will be a pair of these chains applied, one on each side of the bed, as shown in the drawings, Fig. 7, or there may only be one chain located near the middle of the bed. These chains will be so proportioned in length that the head of the bed will be supported at the proper height from the floor, when horizontal, by the truss formed by section c', chains D, and board B.

In letting the bed down ready for occupancy the body will first turn on the hinges b until the chains D become taut, the section c' moving out on the floor as the bed is lowered. This condition is shown in Fig. 5. As soon as the chains become taut the pivotal points are transferred from the hinges b to the hinges c² and the pivots b³, the hinges c² and pivots b³ acting jointly to afford a double-hinged support for the body of the bed. The further turning of the bed on the pivots b³ and hinges c² gradually releases the chain, allowing the hinged section c' to move forward on the floor, permitting the bed to sink to its proper position by the spread of the legs of the truss above mentioned.

A safety-chain E reaches from the base A to the lower edge of the section c'. A spring E' connects the chain E with the upper edge of the section c' and pulls the chain up out of the way when the bed is folded up. The

spring also assists in drawing the hinged section *c'* in against the body of the bed when the bed is in its folded position.

F is the ornament for the top of the bed and is constructed so as to form also the legs for the foot of the bed when the bed is opened out ready for use. It is hinged to the body of the bed in the manner as clearly shown in the drawings.

G is the head-board, which is hinged to the end board A³ and is adapted to be folded down onto the bedclothes when the bed is closed up and will be thrown back against the wall in the position shown in Fig. 3 when the bed is opened out for use.

The end board A³ has the lock-bar *a*³ secured to it, said bar being shaped to fit into notches in a series of weights W and hold the weights in place on the bed.

To insure the proper action of the hinged section *c'* when the bed is to be opened out, the said section will be made to incline out slightly at the bottom when in normal position, as shown in the drawings.

H represents the wire mattress, of usual construction, and *h* the clamps for holding down the bedclothes.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. The combination, with the base A, and the body C, of the board B, hinged to the base and having the levers B' secured to its ends, the upper ends of said levers being pivotally secured to the sides of the bed-body, the section *c'* of the body hinged at its upper edge to the body, and mechanism consisting of chains and pulleys arranged substantially as shown and described, whereby the section *c'* together with the chains will form a truss to support the head of the bed at proper height when the bed is opened out for use.

2. In a folding bed, the combination with the bed-body and a base separate from the body, of a pair of levers pivotally secured at their lower ends to the base and at their upper ends to the bed-body, pulleys secured in pairs one above the other substantially as shown, a section of the body hinged so as to swing out at the bottom as the bed is low-

ered, chains or cables having their upper ends secured to the bed-front and passing thence around the pulleys in the manner substantially as shown and having their lower ends secured to the hinged section of the body, and legs to support the foot of the bed.

3. In a folding bed, the combination with the body and a base on which the bed stands when folded up, of a pair of levers hinged at their lower ends to the base and at their upper ends to the body whereby a double pivotal connection of the body with the base is secured, and mechanism consisting of a hinged section of the body lower pulleys *a*, and superimposed pulleys *b'*, chains or cables passing around said pulleys and secured at their ends in the manner substantially as shown, whereby the supporting-point of the bed will be shifted toward the middle of the body as the latter is lowered, and whereby the inner end of the bed will be supported, substantially as described.

4. The combination with the base A, body C, and levers B' of the hinged section *c'* connected with the base and levers in the manner as described, and the chain E connecting the section *c'* with the base and forming a stop to keep the section from spreading farther than a predetermined distance, and thereby providing a safe and positive support for the inner end of the bed.

5. In a folding bed, the combination with the body C having the hinged lower section *c'* which stands slightly at an incline when the bed is closed, and said body having the weights W and the folding head-board G, of the base A, the board B having the levers B', said board being hinged to the base and said levers being pivotally secured to the body of the bed, the pulleys *b'* and the pulleys *a* secured below the pulleys *b'*, the chains or cables D arranged substantially as shown, and the chain or cable E, all as and for the purposes specified.

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

JOSHUA H. MORRISON.

Witnesses:

L. M. ELLIS,

OZRO BEAN.