

J. A. BLACKMER.
FOLDING BED.

No. 506,662.

Patented Oct. 17, 1893.

Fig. 1.

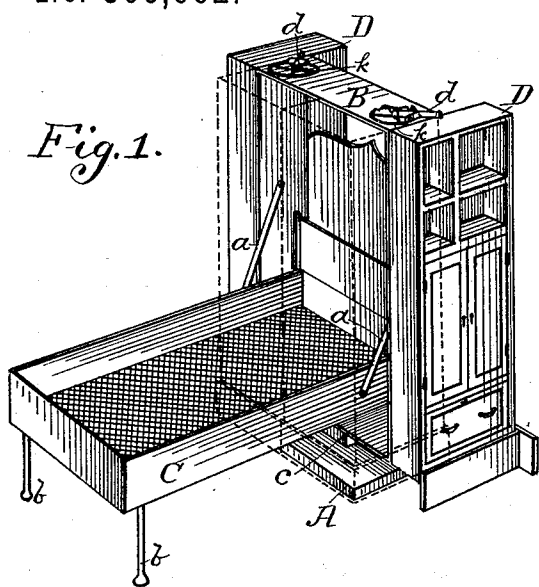


Fig. 4.

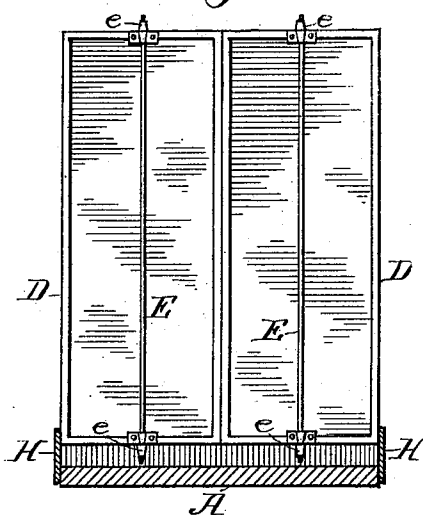


Fig. 2.



Fig. 3.

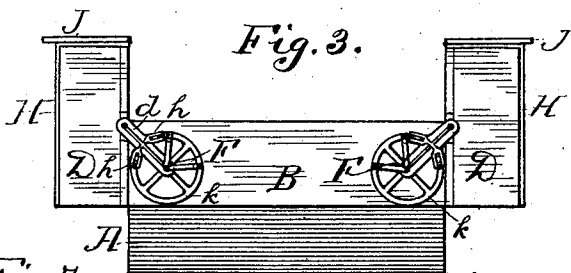


Fig. 5.

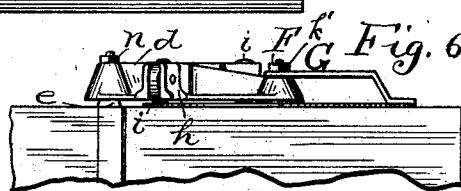
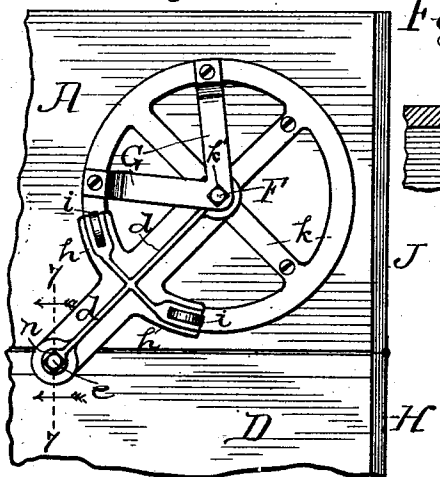
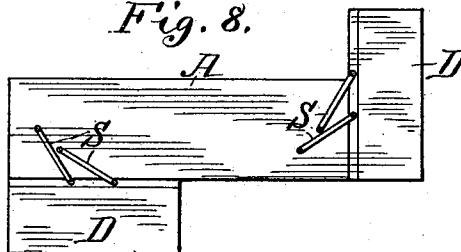


Fig. 8.



Witnesses:

R. J. Jacker.

D. Y. Barclay

Inventor:

By James Albert Blackmer,
Frank D. Thomson,
Atty

(No Model.)

2 Sheets—Sheet 2.

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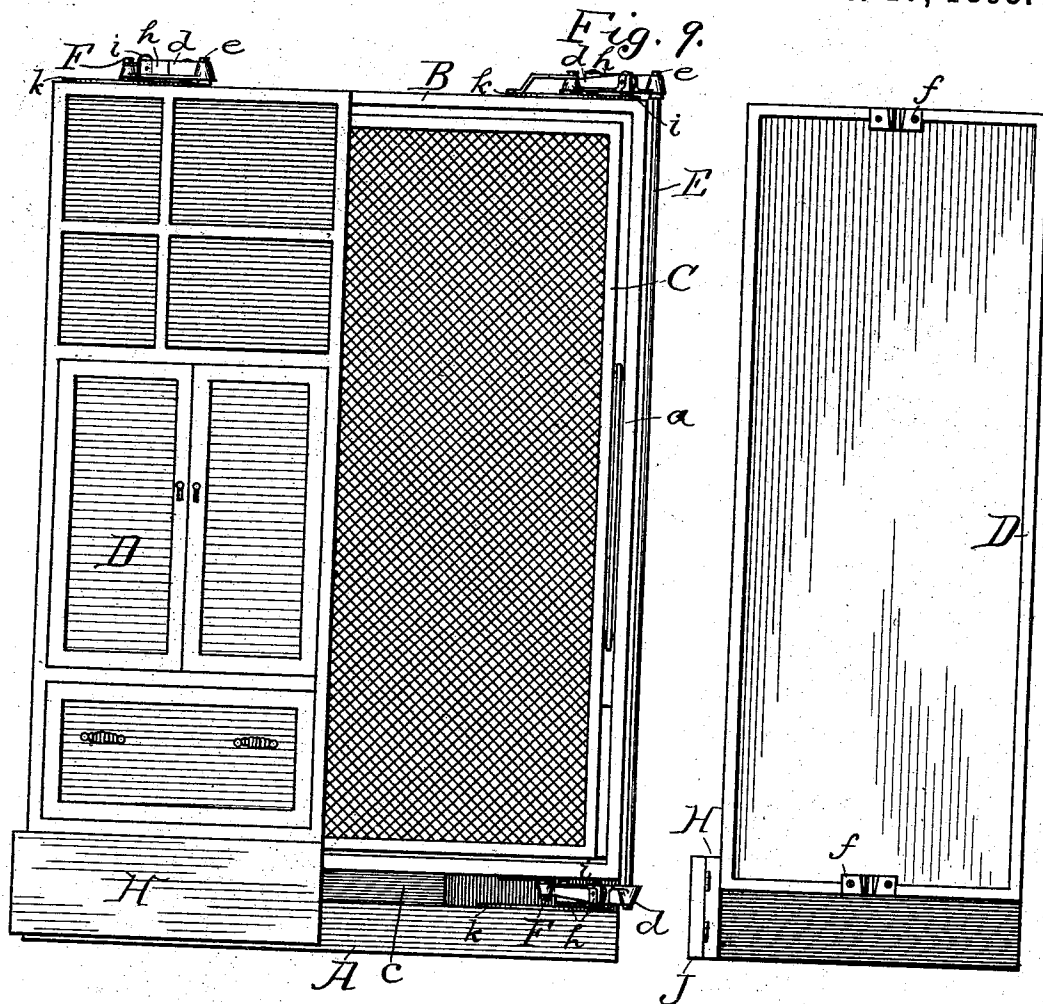
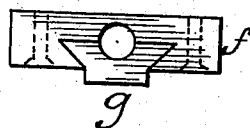
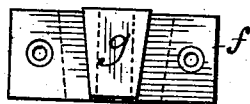


Fig. 10.

Fig. 11.



Witnesses.

R. J. Jacker.

D. G. Barclay.

Inventor:

By James A. Blackmer
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Atty.

UNITED STATES PATENT OFFICE.

JAMES A. BLACKMER, OF CHICAGO, ILLINOIS.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 506,662, dated October 17, 1893.

Application filed December 27, 1892. Serial No. 456,368. (No model.)

To all whom it may concern:

Be it known that I, JAMES ALBERT BLACKMER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Folding Beds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to a folding bed, which is closed by two cabinets or bookcases, which meet directly in front of and confine the bed, when closed, within this case, and which move laterally in opposite directions from in front of the case and are swung against the sides of the same when it is desired to open the bed.

My invention further relates to the peculiar means which are employed to connect these cabinets to said case, by means of which a simultaneous movement of both the upper and lower ends of the cabinets is obtained whenever they are manipulated to open or close the bed, whereby the least possible friction is generated, and whereby said cabinets can be easily moved from or connected to the case of the bed whenever it is desired to transport the same from place to place or to "set up" the bed, substantially as hereinafter fully described, and as illustrated in the drawings, in which—

Figure 1, is a perspective view of my improved bed showing it open. Fig. 2, is a plan view of the same showing the cabinets closed. Fig. 3, is a similar view showing the position of the cabinets when opened. Fig. 4, is a transverse vertical section taken on dotted line 4, 4, Fig. 2, looking toward the front of the bed. Figs. 5 and 6, show, respectively, a plan and a side view of the devices used to connect the cabinets to the bed-case. Fig. 7, is a vertical transverse section with one of the pintle bolts to which said connecting devices is secured, taken on dotted line 7, 7, and looking in the direction indicated by the arrows shown in Fig. 5. Fig. 8, is a plan view of my invention showing a modification of the devices for connecting the cabinets to the bed-case. Fig. 9, is a front elevation of my invention, showing one of the cabinets closed, and the other one detached from the case in such manner as to expose the rear thereof, and Figs. 10 and 11, are detail views of the guides

and bearings of the continuous pintle bar used in conjunction with said connecting devices.

In the drawings A represents a suitable base, which may consist of a single board of sufficient width and length and strength to sustain the weight, and support in place the case B. This case B is similar in shape to the cases of what are known as "wardrobe beds," that is, beds of a height and width corresponding to the length of the bed-frame C, and of such depth that the bed-frame, together with the necessary bed paraphernalia, can be wholly inclosed within it. The bed-frame C referred to, is connected to said case B by means of the corresponding links *a, a*, whose upper ends are secured to the inner surfaces of the sides of the case, about as shown in the drawings, and the lower ends of which are connected to the side rails of the bed-frame, about a foot and a half from the foot of the same. When the bed-frame is swung down to the horizontal position, ready for use, its outer end is sustained by means of suitable legs *b, b*.

The general construction and operation of the bed-frame and its case, with relation to each other, are substantially the same as that of any "wardrobe folding bed," and therefore, I make no particular claim to it as constituting part of my invention.

The case B does not rest directly upon the base A, but is supported by means of what might be termed a pedestal or sill-frame *c*, which is of the same width as said base, is two inches in height, and is of such length that when secured to the base so that its center is over the center of the same, there will be an equal area of the bottom of said case, adjacent to the vertical sides of the same, left unsupported.

When the bed-frame is folded into its case, it is hidden from view, and securely held therein so that it cannot move to the horizontal position, by the book-cases or cabinets D, D. These cabinets are of corresponding dimensions, being about twelve inches deep; and about the same height as, and corresponding in width to about one half that of the case, as shown. When it is desired to open the bed, these cabinets are moved laterally in opposite directions from in front of the case, and

then swung around against the sides of the same so as to be at right angles to their original positions. This I am enabled to accomplish by means of the connecting bars d, d , which are 5 pivotally connected at one end to the case, at points located on top of the same near each side, and at points located on the under side of the unsupported part of the bottom thereof in vertical register with said pivotal points 10 on top. The other ends of these bars are secured to the end-pieces e , of the pintle bars E , which latter passes vertically through each cabinet, at points adjacent to their rear edges, midway between their sides. The pintle-bar 15 is, preferably, made of metal tubing or piping, which is of such length as to extend from top to bottom of the cabinet, with its ends journaled in suitable bearings. Into its ends the pyramidal end-pieces e are tightly screwed, 20 which are provided with screw-threaded extremities, on which the nuts n are screwed so as to secure the ends of the connecting bars thereto.

When it is desired to ship or transport said 25 bed from place to place, the cabinets should be removed, so as to diminish the possibility of their becoming loose while in transit; and damaging themselves and damaging the case, and so as to reduce the bulk of bed. For this 30 purpose I have made the bearings of the pintle-bar consist of a block f which is secured to the cabinets at the points hereinbefore alluded to, and a key g . This key is wedge-shaped, and is provided with a dovetail tenon 35 on its inner side that enters a corresponding groove in the block so as to prevent its becoming dislodged from ordinary usage. Now to disconnect the cabinet from the case, all that is necessary to do is to knock the key 40 upward out of place, so as to lay open the bearings, and then remove the cabinet, substantially as shown in Fig. 9. The friction generated by the weight of the cabinet is so great, that if the bars connecting them were 45 to rest directly upon the top of the case and upon the base, it would be necessary to lift the cabinets bodily in order to move them. I avoid this difficulty by providing the said bars with lateral arms, h , which project in opposite 50 directions therefrom, and have friction rollers i journaled in the extremities thereof, which, preferably, bear and roll on the marginal tracks of the circular plates k , which are secured, respectively, to the top of the case and 55 the base concentric to the pivotal point or center of the adjacent ends of the said connecting bars. In order to give the said connecting bars the necessary strength when designed this way, I prefer to make them angle iron 60 shape. In order to enable them to better withstand the strain upon them, I reinforce the upper ends of the pivotal pins F to which the rear ends of the connecting bars are pivoted by the V-shaped stay irons G, G , which are 65 secured in place by the nuts k' , as shown.

In order to complete the appearance of a bookcase or cabinet when the bed is closed,

I secure to the cabinets, so as to depend from their front and side edges, the base-boards H , as shown, and I hinge to the rear vertical 70 edges of the base-board depending from the sides a section of base-board J , which is of such length that, when the bed is closed it can be swung back so as to provide a base-board for and hide the lower edges of case. 75 When the bed is to be opened these sections J are folded the base-boards depending from the sides of the cabinets, and then the cabinets are moved laterally and swung around 80 to the sides of the case.

If desired, instead of a single connecting bar at each point where the cabinets are connected to the case, I could arrange them in pairs, as indicated by $S? S?$ in Fig. 8. This 85 arrangement would keep the cabinets at such distance from the case when they were being swung away from in front of the case that there would be no danger of its being marred and damaged by contact therewith. I prefer, however, to construct the said connecting 90 bars, as hereinbefore described.

What I claim as new is—

1. The combination with a suitable case, and a bed adapted to fold therein, of two corresponding cabinets which are of a width corresponding to one half the width of said case, 95 in front of which they are normally located so as to confine the bed therein, and having permanent base-boards depending from their lower front and side edges, and a section of base-board hinged to the rear edge of said 100 permanent base-board depending from its sides which when said cabinets are in front of the case is swung back in alignment therewith to form base-boards for the sides of the 105 case but when said cabinets are moved laterally can be folded against the sides of said cabinets, as set forth.

2. The combination with a suitable case, a bed adapted to fold therein, and circular 110 plates secured, as described, to the top and base of said case near the sides thereof which are provided with pivotal pins arising from the center thereof, of two cabinets, links for connecting the same to the case which are 115 provided with lateral arms or wings having friction rollers journaled in their ends, which latter travel on the margins of said circular plates; said links being pivoted at one end to the pivotal pins arising from the centers of 120 said circular plates, and connecting the cabinets to the case, and said cabinets being normally located in front of said case and movable laterally in opposite directions from such normal position to the sides of the case 125 so as to permit of said bed being opened.

3. The folding bed case, bed adapted to fold therein, a base and pedestal thereon for supporting said case in such manner as to leave the side portions of the bottom of the case 130 unsupported, circular plates secured to the base plate under the unsupported parts of said case and to the top thereof each of which is provided with pivotal plates arising cen-

trally therefrom, in combination with two corresponding cabinets normally located in front of the case and movable laterally therefrom in opposite directions to the sides thereof, links connecting the cabinets to the case, as described having lateral arms or wings in the ends of which suitable rollers are journaled, and braces for reinforcing the pivotal pins of said circular plates, as set forth.

4. The combination with a suitable case, and a bed adapted to fold therein, of two cabinets which are normally located in front of said case so as to confine said bed therein, and are movable laterally in opposite directions from such normal position to permit of said bed being opened, links connecting the top and bottom of each of said cabinets to the case, having lateral wings, the extremities of which are provided with suitable friction rollers and continuous pintle bars extending vertically from top to bottom of said cabinets, to the ends of which said links are connected, as set forth.

5. The combination with a suitable case, and a bed adapted to fold therein, of two cabinets which are normally located in front of said case so as to confine said bed in the case and which are movable laterally in opposite directions from such normal position to permit of said bed being opened, links con-

necting the top and bottom of each of said cabinets to the case, and continuous pintle bars extending vertically from top to bottom of said cabinets which consist of metal tubing or piping having pyramidal shaped end pieces to which the contiguous ends of the links are rigidly secured, and nuts screwing onto the screw-threaded extremities of said pyramidal end pieces, as set forth.

6. The combination with a suitable case, and a bed adapted to fold therein, of two cabinets which are normally located in front of said case so as to confine said bed therein and which are movable laterally in opposite directions from such normal position to permit of said bed being opened, links connecting the top and bottom of each of said cabinets to the case, continuous pintle bars extending vertically from top to bottom of said cabinets to the ends of which said links are connected, and bearings in which said pintle bars are journaled consisting of a permanent pillow secured to the tops and bottoms of said cabinets, as described, and removable blocks which taper from top to bottom and are dove-tailed into said pillows, as set forth.

JAMES A. BLACKMER:

Witnesses:

FRANK D. THOMASON,
RICHARD J. JACKER.