

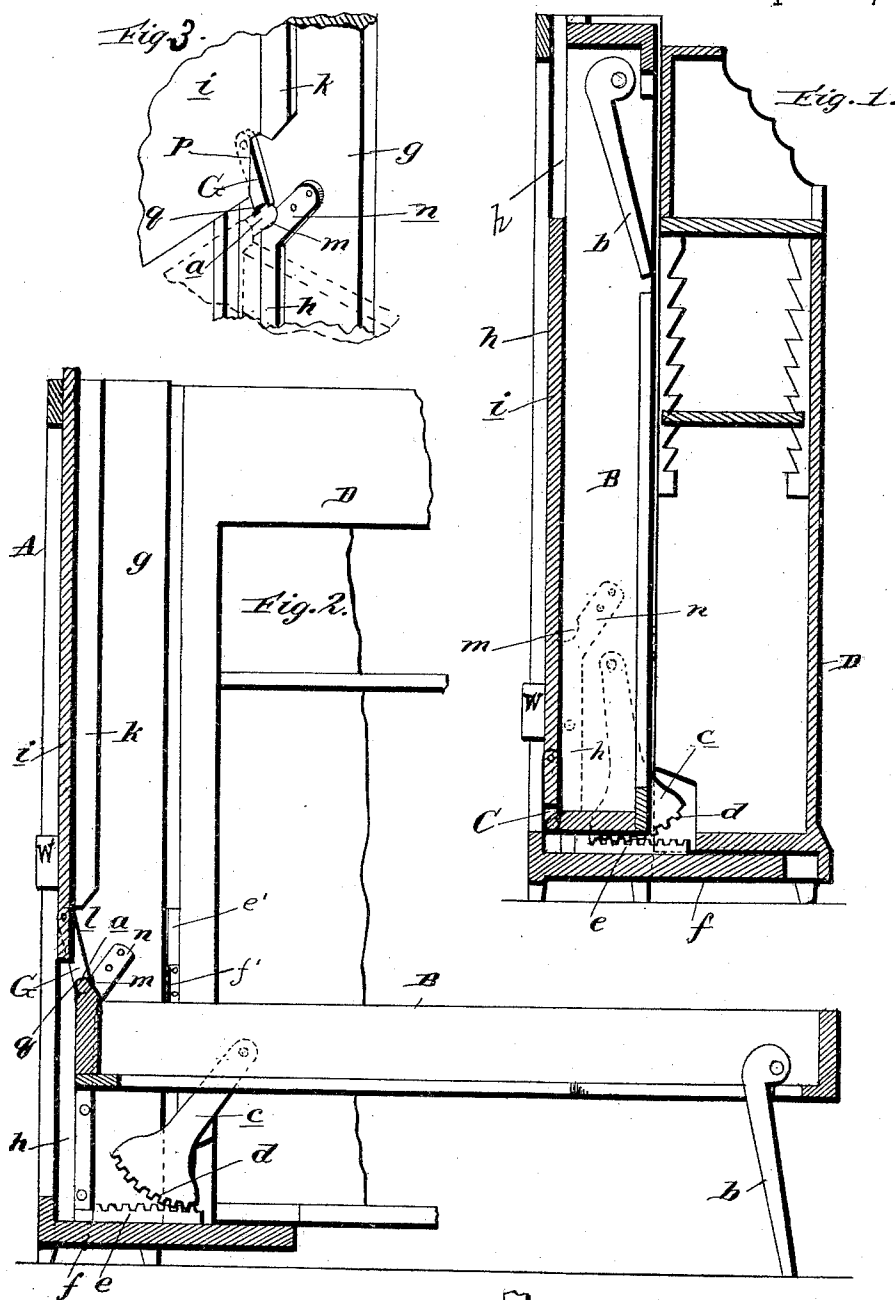
(No Model.)

2 Sheets—Sheet 1.

D. C. RICE & H. A. GORE.
FOLDING BED.

No. 460,217.

Patented Sept. 29, 1891.



Witnesses:

C. Haeder

Thomas E. Turpin

Inventors
Darius G. Rice
and
Henry A. Goss
James Shuey
Attorney

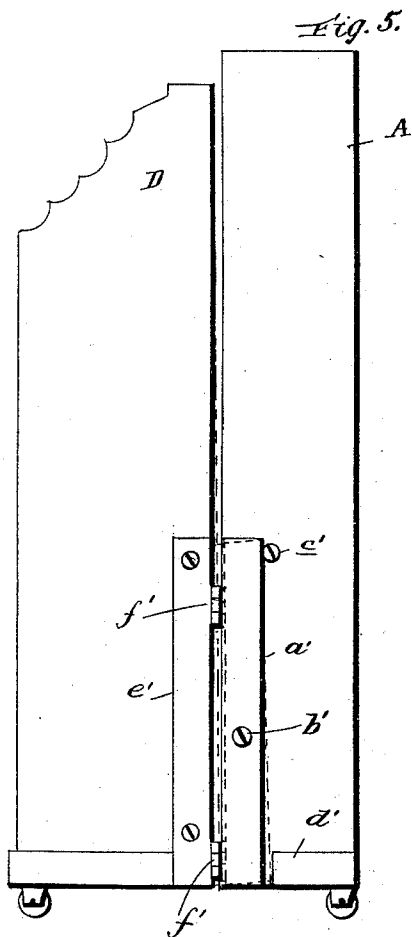
(No Model.)

2 Sheets—Sheet 2.

D. C. RICE & H. A. GORE.
FOLDING BED.

No. 460,217.

Patented Sept. 29, 1891.



Witnesses:
C. A. Paeder
Thomas E. Turpin

Inventors
Darius C. Rice.
and
Henry A. Gore.
James J. Shuey
Attorney

UNITED STATES PATENT OFFICE.

DARIUS C. RICE AND HENRY A. GORE, OF GOSHEN, INDIANA, ASSIGNORS TO
THE GOSHEN FOLDING BED COMPANY, OF SAME PLACE.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 460,217, dated September 29, 1891.

Application filed March 13, 1891. Serial No. 384,915. (No model.)

To all whom it may concern:

Be it known that we, DARIUS C. RICE and HENRY A. GORE, citizens of the United States, residing at Goshen, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Folding-Beds; and we do 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 has relation to an improvement in that class of folding beds known as "wardrobe-beds;" and it has for its object to improve such devices by providing a swinging or laterally-movable or hinged frame, capable of being used as a desk, book-case, wardrobe, or the like; by employing a hinge capable of allowing a perpendicular movement to the hinged or swinging section, whereby said section may rest firmly on any uneven surface; by providing an adjustable hinge connection between the sliding back of the stationary frame and the movable section; by so constructing such as to allow or afford a switch for the bed-frame, so that should the pivoted legs or supports at the outer end of the folding section fail to fall into position the entire upright frame will be prevented from tilting by disconnecting from each other at the hinge connection; by so constructing this connection or hinge that the bed cannot fold by weight unevenly placed within it; by providing fulcrum-arms and means for seating the gudgeons of the hinged section of the bed, so that said section will be locked when let down and rested at the outer end by the supporting-legs; by pivoting said legs so that a proper opening or falling movement will be effected to support the hinged bed-section when let down.

Other objects and advantages will appear from the following description and claims, when taken in connection with the annexed drawings, in which—

Figure 1 is a vertical transverse sectional view of our improved folding-bed frame and attachments. Fig. 2 is a similar view of the upright or stationary frame and the folding frame let down with the wardrobe or desk frame partly broken away. Fig. 3 is a perspective detail illustrating a part of the race-

way, the links, and gudgeon on the hinged section of the frame. Fig. 4 is a detail view illustrating the gudgeon, one of the links, and the sliding back board. Fig. 5 is a side elevation of the improved frame and hinged case or desk, illustrating the hinge connection of the part.

Referring by letter to said drawings, A indicates the upright or stationary frame, and B indicates the hinged section designed to fold therein. This hinge-section or bed-frame proper is mainly of the ordinary construction, carrying at the opposite ends of the inner cross-bar or frame laterally-projecting gudgeons *a*, designed to travel in a raceway and be received in stop notches of the stationary section, as will be presently explained. This folding section is also provided in the inner sides of the side rails, at their outer ends, with pivoted supporting-legs *b*, which legs are pivoted, and beyond their perpendicular center, so as to throw forward before striking the floor, and pivoted or otherwise suitably connected to the outer or inner sides of the side rails, near their opposite ends, are arms. These arms are preferably provided with segmental faces or lower ends carrying teeth, as shown, although said ends may, instead of having teeth, be provided with plain rocker edges or pivoted to the case. When these arms terminate at their lower ends in teeth *d*, which is the preferred construction, we employ a corresponding toothed or notched base *e* to receive them. These fulcrum-arms *c* are pivoted to the folding part or section B a sufficient distance from the back end so that a small amount of weight will counterbalance its front part. A further advantage following from this construction is that we can use a very narrow upright case and make a very narrow bed complete, as the folding part or section is carried back snugly into the upright case as the former is raised, and it is obvious that the farther out we connect this arm to the side rails of the bed the less weight it will require on the head-board to raise the bed-frame.

The upright or stationary section of the bed-frame is mainly of the ordinary construction, comprising a base *f* and two parallel vertical upright sides *g*, a way or track *h* being formed in the inner sides of these upright

sides to receive the vertically-sliding back *i*, and also the gudgeons of the hinged section. The forward strips *k*, comprising one of the walls of this way, are cut away at a suitable point, as shown at *l*, and the lower section of said strips have their upper ends terminating in notches *m*, which are designed to receive the gudgeons of the hinged section of the bed-frame when the latter has been let down into a horizontal position.

Arranged inwardly and vertically oblique are guide-strips *n*, which are designed to form a bearing for the gudgeons in their outward movement should they leave the bearing notches, as before described. These strips are secured to the inner sides of the upright sides *g*, as shown.

G indicates the links. These links are arranged in a cut-out portion or notch *p* at the opposite lower edges of the sliding back wall *i*, as better shown in Fig. 3 of the drawings. The links G, which are pivoted at their upper ends to the side edges of the sliding back board and move in the guideways of the upright frame, have their lower ends notched, as shown at *q*, and rest upon the gudgeons *a*, so as to move therewith. These links are designed in moving with the head-board of the hinged section of the bed to allow the trunnions to pass out of the raceway into the notches, although holding contact therewith; but in case of accident will allow said trunnions to leave the way entirely and ride over the strips *n*.

From the construction described it will be readily understood that as the folding section of the bed-frame is let down in a horizontal position the trunnions will rest in the notches *m* and the links G will follow said trunnions and rest the sliding back board thereon. It will also be observed that should the folding legs or supports *b* fail to come in proper position for supporting the outer end of the pivoted frame said frame, owing to its increased leverage, will draw the trunnions out of the bearing notches and over the strips *n*, while the links will in a measure serve to switch the folding section out of the raceway and prevent the stationary frame from being pulled over with the hinged frame, as the latter will strike the floor at its outer end.

D indicates a swinging frame, which may form a desk, book-case, wardrobe, or the like. This frame, which may have its face suitably ornamented, is hinged at one side to one of the sides of the stationary bed-frame with an adjustable hinge and is designed to close from view the folding section of the bed when the latter has been closed into the upright or stationary section. This swinging or hinged section D has its bottom slightly elevated to close over the projected portion of the base *f* of the stationary section and is also provided on its under side with suitable casters, as shown, to form a steady bearing for the same.

The adjustable hinge which we employ for connecting the swinging frame to the main or

upright case is of a peculiar construction and is designed to permit a perpendicular movement of said swinging section or frame, and thereby accommodate said swinging section or frame to any inequalities in the surface of the floor or of its support.

In the present illustration, as will be seen by reference to Fig. 5, this adjustable hinge is composed of a strip or bar *a'*, which is pivotally connected at a suitable point to one of the side uprights of the stationary section, as shown at *b'*, so that said strip or bar might be free to vibrate, and in order that said strip might be limited in its vibratory movements we provide an upper stop *c'* and a lower stop *d'*.

e' indicates a similar strip secured at a corresponding point to the adjacent side upright of the swinging section D. This latter strip is secured in a fixed manner, and both strips are connected at points above and below the pivot *b'* by ordinary hinges *f'*. In some cases both strips might be hinged or pivoted, and we do not wish to be understood as limiting ourselves to the particular construction shown, as it is simply necessary to connect the frame or section D with the section A, so that the former section may swing laterally and at the same time be permitted to move perpendicularly.

The sliding back board of the stationary section is provided with a suitable weight *W* to assist in balancing the hinged or folding section of the bed-frame.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination, with an upright stationary frame having raceways, as described, and also a switch or opening in the said ways, of the upwardly and forwardly disposed obliquely-arranged guide-strips extending from the base of said opening, and a pivoted or hinged bed-section having trunnions adapted to move in said ways, substantially as specified.

2. The combination, with an upright stationary frame having vertical raceways and the vertically-movable back arranged in said raceways, of the hinged bed-section, the gudgeons carried by the hinged bed-section and movable in the raceways of the upright stationary frame, the links pivotally connected to the vertically-movable back and bearing upon the gudgeons of the hinged bed-section, the arms *c*, pivoted at their upper ends to said bed-section, and supporting-legs pivoted at one end to the outer end of said hinged bed-section, substantially as specified.

3. The combination, with the upright stationary section, of the laterally-swinging section adapted to form a book-case or the like, the strips secured to the respective sections, and one or both of said strips being pivoted so as to be allowed a vibratory movement, and the hinges connecting the strips, substantially as specified.

4. The combination, with an upright sta-

tionary frame having raceways, as described, and also a switch or opening in said ways intermediate the length thereof, of the forward and upwardly disposed obliquely-arranged guide-strips extending from the base of said opening, a pivoted or hinged section having trunnions movable in the ways, legs pivoted to the outer or opposite end of the hinged section, and the vertically-movable back for the stationary section, having the links pivoted to its lower end and adapted to bear upon the gudgeons, substantially as specified.

5. In a folding bed, the combination, with an upright frame having vertical raceways and a switch or opening in said raceways intermediate the length thereof at an elevation above the normal horizontal plane of the bed to permit the bed or pivoted section to disconnect itself from the upright section when said bed-section is unsupported at its outer end, of the hinged or pivoted bed-section having gudgeons movable in said ways and a vertically-movable back also arranged in the vertical ways, and links pivoted to the back

and adapted to bear upon the gudgeons, substantially as specified. 25

6. The upright stationary section having the raceway in its inner upright side, and having the switch or opening *l* therein at an intermediate point in the length thereof, and also having the bearing notch *m*, in combination with the vertically-movable back having its lower sides notched or cut away, the link *G*, pivoted at one end in said notches, the folding section *B*, having pivoted legs at its outer end, the pivoted arms *c* at the inner ends of said section, and the head-board of the folding section having gudgeons adapted to enter the notches *m* and also receive the links *G*, substantially as specified. 30 35 40

In testimony whereof we affix our signatures in presence of two witnesses.

DARIUS C. RICE.
HENRY A. GORE.

Witnesses:

FRED H. NIEDERAUER,
S. CHAS. BREIDING.