

(No Model.)

2 Sheets—Sheet 1.

J. G. PEACE.
FOLDING BED.

No. 464,387.

Patented Dec. 1, 1891.

Fig. I.

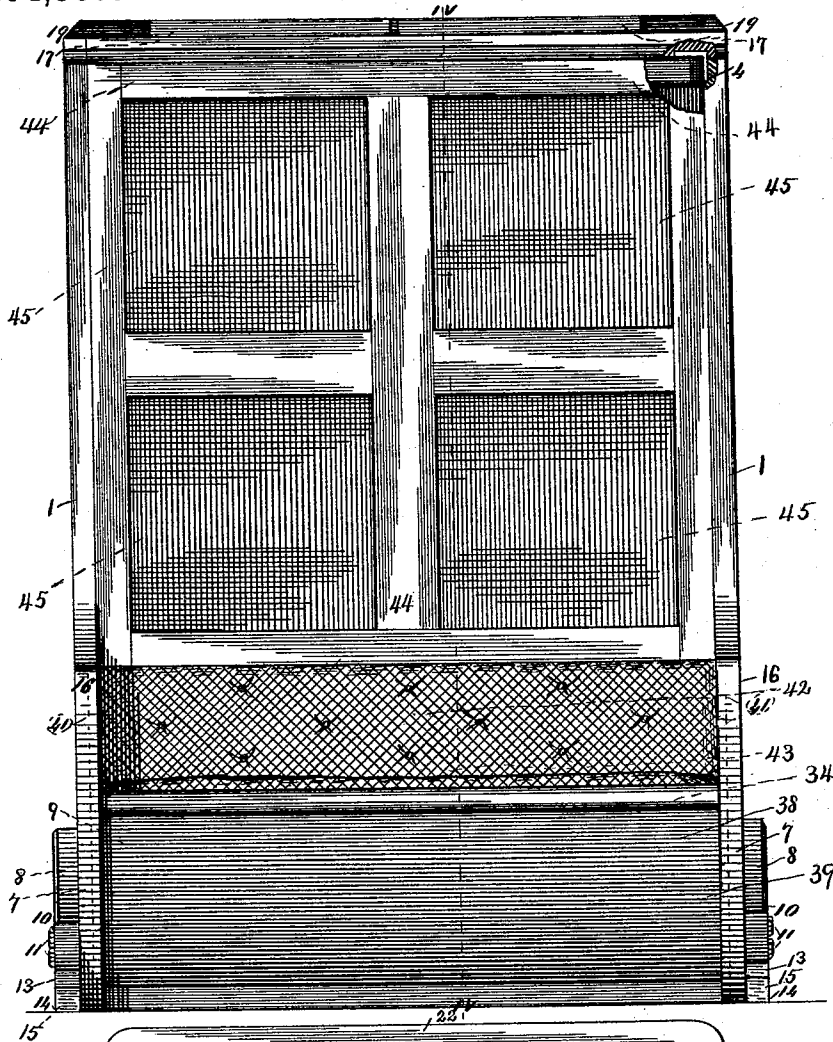
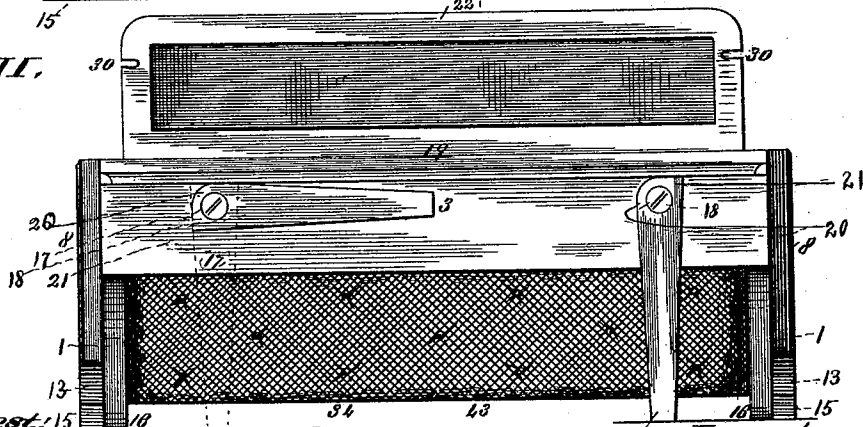


Fig. II.



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attys.

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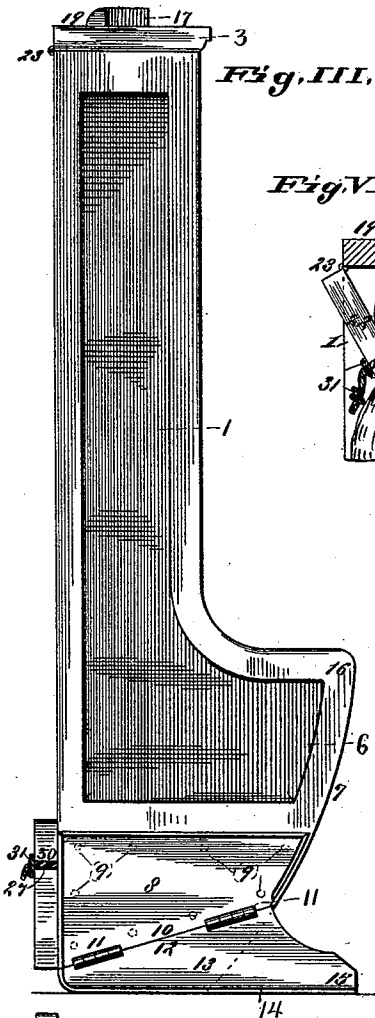


Fig. VI.

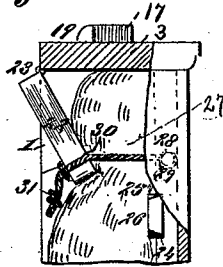


Fig. VII.

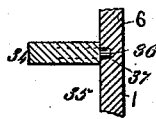
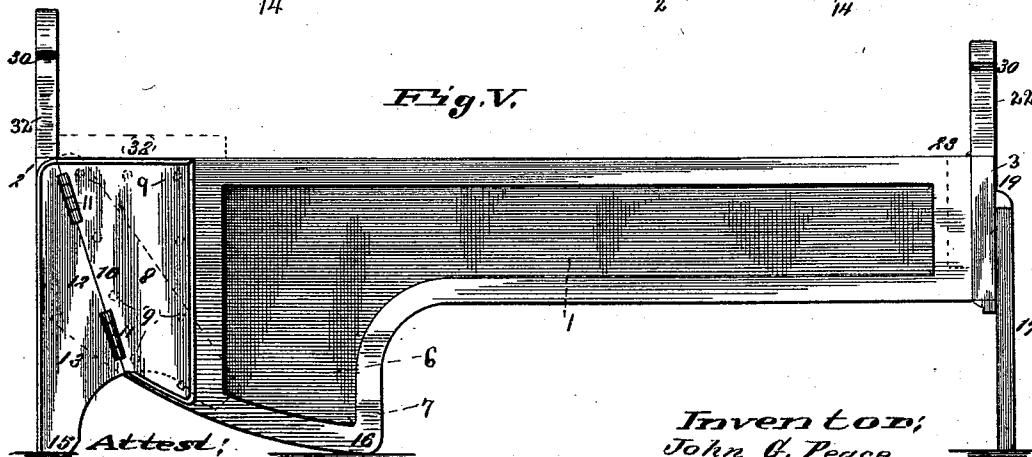


Fig. V.



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UNITED STATES PATENT OFFICE.

JOHN G. PEACE, OF SALEM, MISSOURI.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 464,387, dated December 1, 1891.

Application filed July 28, 1890. Serial No. 360,141. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. PEACE, of Salem, Dent county, Missouri, have invented a certain new and useful Improvement in Folding Beds, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a folding bed that elevates and lowers on rockers attached to its head independent of any inclosing or supporting case and which is provided with diagonally-folding transverse hinged feet at its head, which fold clear out of the way of the action of the rockers when rocking to or from its elevated position, and which feet have a dual functionary service to support or stay the bed in its elevated vertical position and support the head of the bed in its lowered horizontal position, also having pivotal foot-legs that drop by their own gravity in said position; and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is an elevation of my rocker folding bed with part broken away to show the bracket attachment of the knockdown parts and shows said bed in its rocked elevation with its hinged feet unfolded and resting on the floor to prevent the forward pitch of said bedstead. Fig. II is an end view of the same in its unfolded or lowered position, looking toward the foot of the bed. It also shows in the distance the hinged feet in their secondary operative position as foot-rests for the bed in its unfolded lowered position. Fig. III is a side elevation of the bed in its folded position and shows one of its unfolded feet, the projecting sole of which treads the floor to brace the bed in said position. It also shows the surmounting head-board fastened by a knotted cord to its folded position. Fig. IV is a vertical section taken on line IV IV, Fig. I, and shows the pivoted seat between the rockers and the detachable brackets that constitute the device a knockdown. Fig. V is a side view of the bed unfolded and shows the hinged foot on said side at its head unfolded to steady and support the head of the bed. Fig. VI is a longitudinal detail

section and shows the hinged foot-board adjustably secured by the knotted cord to retain the bedding in place when the device is elevating and elevated, and Fig. VII is a vertical detail section and shows the pivoted knockdown attachment of the seat.

Referring to the drawings, 1 represents the side boards or frames of the folding bedstead, 2 the head-board, and 3 the foot-board of the same, while 4 are the metal angle-brackets that secure said sides and ends and other knockdown parts together by the aid of the screws 5, by which said brackets are secured to said end and side boards. By means of these detachable brackets the parts are easily taken apart for close packing for moving.

6 represents curvilinear extensions of the side boards at and near the head of the bed, the lower edges of which are formed in regular arc lines to constitute rockers 7, on which the bed has a rocking movement in elevating to its fold and lowering to its unfold.

8 represents batten-hinge attachment boards, which are made of approximate size and shape to fit transversely across the side boards near their heads, to which they may be secured by blind screws 9 or other suitable means. The hinge-attachment edge 10 of said batten-board 8 is cut diagonally to provide the proper edge for the hinges 11, which may be secured by screws both to said diagonal edges and to the corresponding diagonal edges 12 of the transverse feet 13. The said feet when folded back, as shown in dotted lines in Fig. V, are retired out of interference with the action of the rockers when the bed is being either folded or unfolded. The said feet when unfolded into their operative position have a dual function, by which, respectively, when the bed has been elevated to its vertical position and said feet are swung down on their hinges and unfolded, as shown in Figs. I, III, and IV, then the under or outer edges of said feet form their soles 14 and tread the floor, and when the bed is on the other hand lowered to its unfolded position, then the same feet when unfolded again tread the floor; but on this occasion the extended projected toes 15 tip-toe said floor, and in conjunction

then with the most widely-expanded tip 16 of the rocker the head of the bed is supported. It will thus be seen that by a unique construction of said feet and of the diagonal hinge attachments by which they are hung and by the capability of standing with the sole 14 on the floor (see Figs. I, III, and IV) in the elevated folded position of the bed and standing a tip-toe with the toe 15 on the floor (see Figs. II and V) in the lowered unfolded position of said bed the same foot has dual functions, by which it supports the bed in its varied positions, and also braces it from falling over when in its elevated position. By their own gravity, in conjunction with the movement in elevating, said feet drop into their operative position by the time that their rocker elevation is accomplished, when they are required to pass from their dormant folded positions (shown in broken lines in Fig. V) to said operative positions, in which said feet hold and brace the folded bed from unfolding.

When the bedstead is to be elevated, the transverse feet 13 are folded up from their operative position (shown in full lines in Figs. III, IV, and V) to that shown in broken lines in Fig. V. Now it will be seen that when so folded they are exactly on their center-bearing, with the slight advantage of the favorable brace leverage of the outer edges of the material of which, respectively, the feet and cleats are formed and the slight frictional tension of the hinges in favor of their maintenance in the position to which they have been folded, which position they retain, therefore, during the process of elevating, as there is no concussion or jar to cause any vibrating action that would move the feet past their center-bearing, or indeed, considering the slight buffer-stay exercised by the favorable leverage of the outer edge of the material of which said feet are made, slightly outside their center-bearing, which center-bearing, it is evident, is at the mean diametric line of said material. Therefore the concussion would require to be sufficient to vibrate said feet the slight distance to and past their center-bearing. Thus the feet securely retain their folded position (shown in broken lines in Fig. V) during the folding elevation of the bedstead; but as the head of the side boards of said bedstead has a square heel-section at the said ends past the curved rocker line it follows that the heel-corner at said end strikes the floor when folding with a slight concussion that is amply sufficient to shake the feet and force them past their center-bearings, so that they automatically assume the positions shown in Figs. III and IV, in which their elongated soles, with their projecting tip-toes 15, automatically drop their operative tread without the touch of a hand or a foot and securely hold the bedstead from tilting. When, again, it is desired to unfold the bed, the said hinged feet are folded up out of the way of the action of the rockers, and the bed is lowered on said rockers to its horizontal position

for use as a bed, after which said feet are folded back in their tip-toe position, (shown in Figs. II and V,) in which they, in conjunction with the tips of the rockers 16, support the head of the bed; also, as the bed is unfolded the drop legs 17, which are secured to the outside of the foot-board 3 by the pivot-screws 18, turn on said pivots and drop by their own gravity into their operative position, so as to support the foot of the bed at the same level as the tip-toes of the feet 13, and the tip of the rockers 16 support the head of said bed. 19 represents a buffer-stay cleat that surmounts the pivotally-attached ends of said drop legs and is secured to the foot-board by any suitable means. One of the upper corners of each of the legs is rounded off at 20, so as to allow the turning of the heads of said legs until they reach their vertical operative position, in which they support the foot of the bed. The reverse corner at top being left square serves as a buffer-stay 21 to arrest the further turning of said legs after they have reached said vertical position, so that automatically by their own gravity they swing round to said operative position, and also automatically by said buffer-stay they are there arrested from passing said vertical position.

22 represents the surmounting folding foot-board, which is pivotally connected to the lower foot-board by the hinges 23, and the screws by which said hinges are attached.

24 represents the slat-bearer cleats, which are secured by screws or other suitable means to the inside of the side boards near their lower edge, and 25 are the slotted seats in said cleats, in which when the knockdown parts are set up the ends of the slats 26 are seated. The said slots are preferably made dovetail in shape and the ends of the slats of dovetail form, as shown in Figs. IV and VI, so as to be dovetail-locked therein. It will be seen that as the side and end boards are of knockdown construction, being secured together by the corner angle-brackets 4 at the ends, therefore before the fastening of the angle-brackets on the last side the dovetail ends of said slats can be readily made to slip in endwise into their dovetail seats, and after the fastening of said corner-bracket said bottom slats, it is evident, will be securely held in their place from any tendency to drop out when the bed is folding, which are also held to their seats by the corded fastening of the surmounting head and foot-board hereinafter described; but while it is much preferable to thus dovetail-lock fasten the bottom slats, yet I do not confine myself to that formation, for both the slots and ends of the slats may be made correspondingly rectangular, and the slats in that case can be simply dropped into their slotted seats at any time or lifted therefrom.

27 represents knotted cords, the fast ends of which are secured in their perforate seats 28 in the slat-bearer cleats, being therein retained by knots 29 on their fast ends or by

other suitable means, and the loose ends of said cords are seated, respectively, in the grooves 30 in each end of the surmounting foot-board, where they are adjustably held by the knots 31 in accordance with the tightness of the pressure desired to be effected by said surmounting foot-board on the bedding that it presses against when so fastened, preparatory to the folding or elevation of the bed for the purpose of retaining the bedding in position.

32 represents the surmounting folding head-board, which is pivotally secured to the lower head-board 2 by the hinges 33 and the screws by which said hinges are attached, and which, when folded against the bedding at the head, is there secured by a knotted cord, which is a duplicate of the one that secures the foot-board above described, alike fastened in its perforate seat in the slat-bearer cleat and in the duplicate slot in said head-board, all which parts being duplicates are alike numbered with the parts above described that they duplicate. The said head-board and the feet 13 should be folded before the elevation of the bed.

34 represents the combined pivotal seat and lid of the depository-box 35, whose dowel-pin pivot-hinges 36 are loosely seated in the sockets 37 in the curvilinear extensions 6 of the side boards 1, (which extensions, as stated, form the rockers.) Thus it will be seen that said combined seat and lid 34 is located between said rockers, and the forward extension of said rockers, with their tips 16, form inclosing arms or elbows to the seat when the bed is in its elevated position. The curved front board 38 of said depository-box connects the two rocker-extensions of the side boards 1 in a channel-groove 39, in which it may be seated, one edge coming in contact with one edge of the head-board 2. It will thus be seen that it will be held in its place without the necessity of any other fastening when the knockdown side and end boards are secured together by the angle-brackets 4, and said front board 38 also knocks down with the other knockdown parts when said brackets are detached. The front of the combined lid and seat 34 when closed rests on the upper edge of said board.

40 represents a broad back board to and above the seat, which may be alike fitted as is the front board 38 in like channel-grooves 41 in the side boards, and is alike knocked down with the other parts on the detachment of said angle-brackets. The said back board serves as a back to the seat and a stiffening-brace to the bed-frame. An elastic cushion 42 is attached to the front of said back board and a like cushion 43 to the top of the combined seat and lid.

The depository-box is useful for the storage of spare bedding for use on the folded bed, and the seat makes a convenient settee or lounge when the bed is folded in its elevated position through the day, in which position

the tips 16 of the rockers 7 form convenient elbows to the seat.

44 represents a cabinet-frame secured in channel-grooves or other suitable means to the bottom of the bed-frame, which cabinet-frame, when the bed is folded to its vertical position, surmounts the back board to the seat, and with the parts already described gives to the piece of furniture the appearance of a settee surmounted by a cabinet. Within the stiles and cross-bars of said frame is inclosed the panels 45, any of which panels may, when desired, be replaced by mirrors. Now it will be seen that this rocker knockdown folding bed, unlike the generality of folding beds, is free from the impediment of any inclosing casing, being itself its own frame and case, and works direct on its own rocker parts. In consequence it follows that it must be free of any journal connection to the usual case, which case, as stated, it does not possess, and so avoids the most fruitful causes of adverse action in folding beds. It also avoids the attachment of heavy metal journal-bearings and still heavier metal counterpoise-weights common in folding beds to balance their bearings, which amount of metal is a dangerous attraction in electric disturbances, and which heavy weight (the counterpoise-weights alone frequently amounting to over three hundred pounds) adds largely to the wear and tear in the folding operations of the bed. The hinged feet, with their diagonal fold, are out of interference with the rock elevation and lowering of the bed on the one hand, and on the other by their unfold into their operative position when the bed is elevated, the soles of the feet, as in Figs. I, III, and IV, treading the floor to prevent the falling forward of said elevated bed, and again when the bed is unfolded the same feet, being unfolded, tread the floor a tip-toe to steady and support the head of the bed, the same feet having, it will thus be seen, dual functions. It will also be seen that by the avoidance of the usual outer casing and the journal-bearing attachments, &c., the device is of very economic construction.

I claim as my invention—

1. In a folding bed, the combination of the knockdown side and end boards, the angle-brackets by which said knockdown parts are secured together, the slat-bearer cleats 24, secured to the side boards, the folding hinged head and foot extensions, said head and foot extensions provided with edge grooves 30, the knotted cords 27, having attachment knots 29, by which said cords are secured at their fast ends to said cleats 24, the adjustable fastening-knots 31, by which, when said cords are seated in the grooves 30 of said head and foot extensions, said parts are tightly held against the bedclothes and hold said clothes from disarrangement when the bed is rocking to and from its fold, and the hinges by which said head and foot extensions are attached to the base end boards, substantially as and for the purpose set forth.

2. In a folding bed, the combination of the knockdown end and side boards, said side boards having curved arc extensions 6 at their heads, on the arc edges of which extensions
5 the bed rocks to and from its fold, the combined lid and seat 34, the dowel-journals 36, that carry said seat 34, the rocker-extensions of said side boards being provided with sockets 37, in which said dowel-journals have their
10 bearings, and the board 38, that connects and braces the extension-rockers 6 of the side boards 1 and incloses the front of the depository-box 38, the said seat and lid arranged to shut down on the top of said board 38, sub-
15 stantially as and for the purpose set forth.

3. In a folding bed, the combination of the knockdown end and side boards, the curvilinear extension 6 at the head of the side boards,

the outer edges of said extensions being of arc form, on which said bed rocks to its fold 20 and unfold, the said side boards inclosing a depository-box 35 and being provided with the channel-grooves 39 and 41, the knock-down board 38, which, when set up, is seated in the channel-grooves 39, and the back board 25 of seat 40, which, when set up, is seated in the channel-grooves 41, and the dowel-jointed combined seat and lid 34, that when elevated forms a seat between the rocker-extensions of the side boards and the tips 16 of which 30 rocker-extensions form arms for said seat, substantially as and for the purpose set forth.

JOHN G. PEACE.

In presence of—

WALLACE McDONALD,
THOS. A. BRUCE.