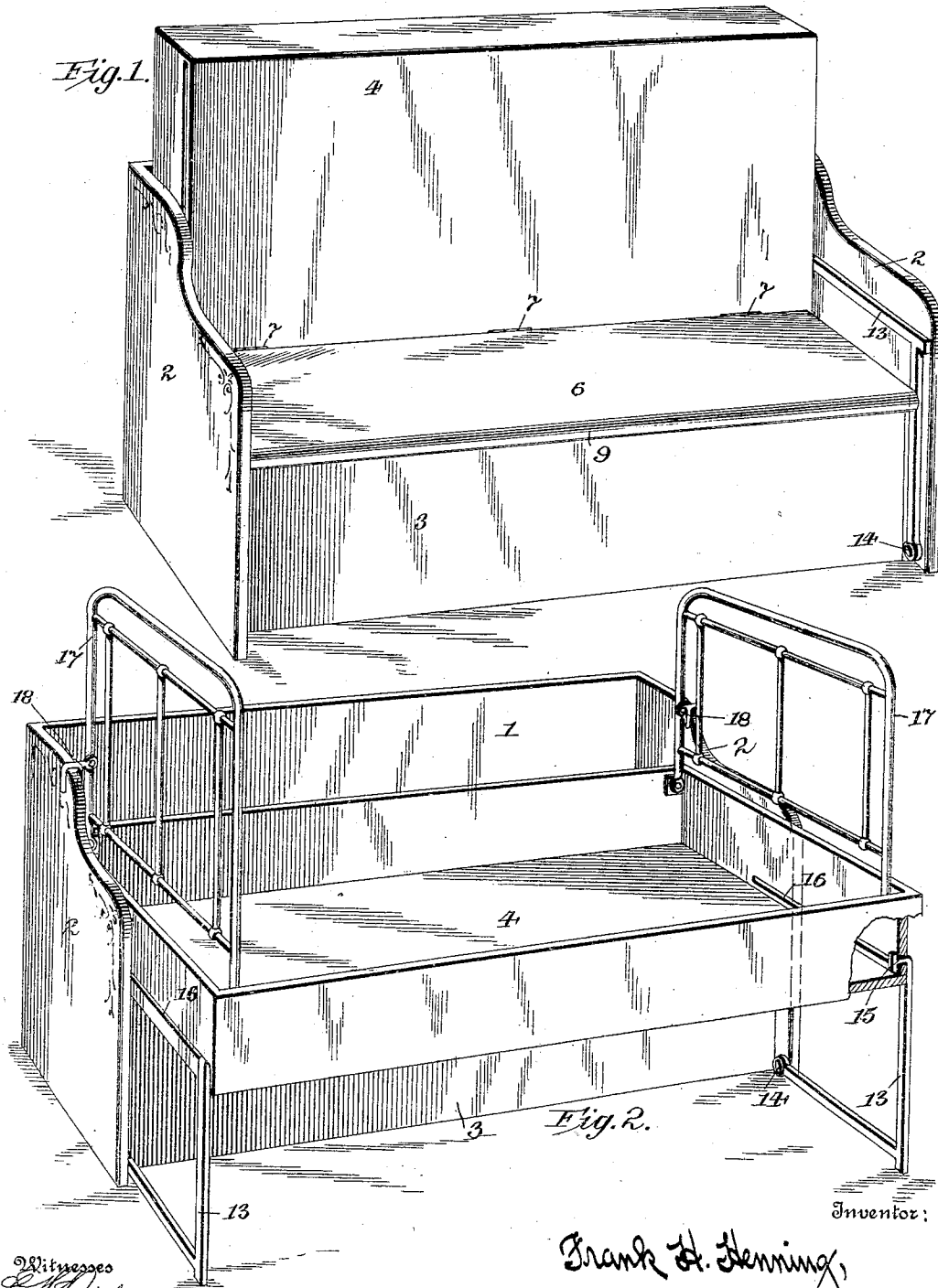


F. H. HENNING
 CONVERTIBLE FURNITURE.
 APPLICATION FILED APR. 2, 1909.

931,304.

Patented Aug. 17, 1909.

2 SHEETS—SHEET 1.



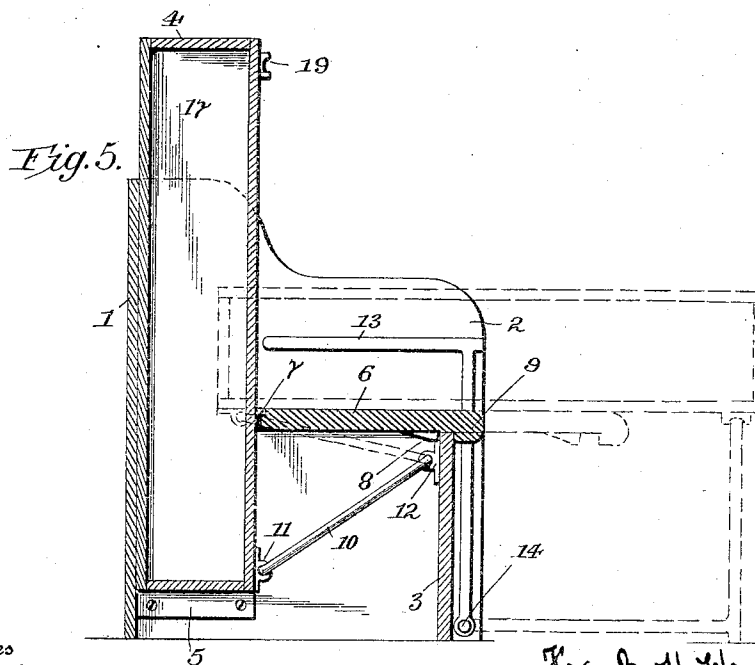
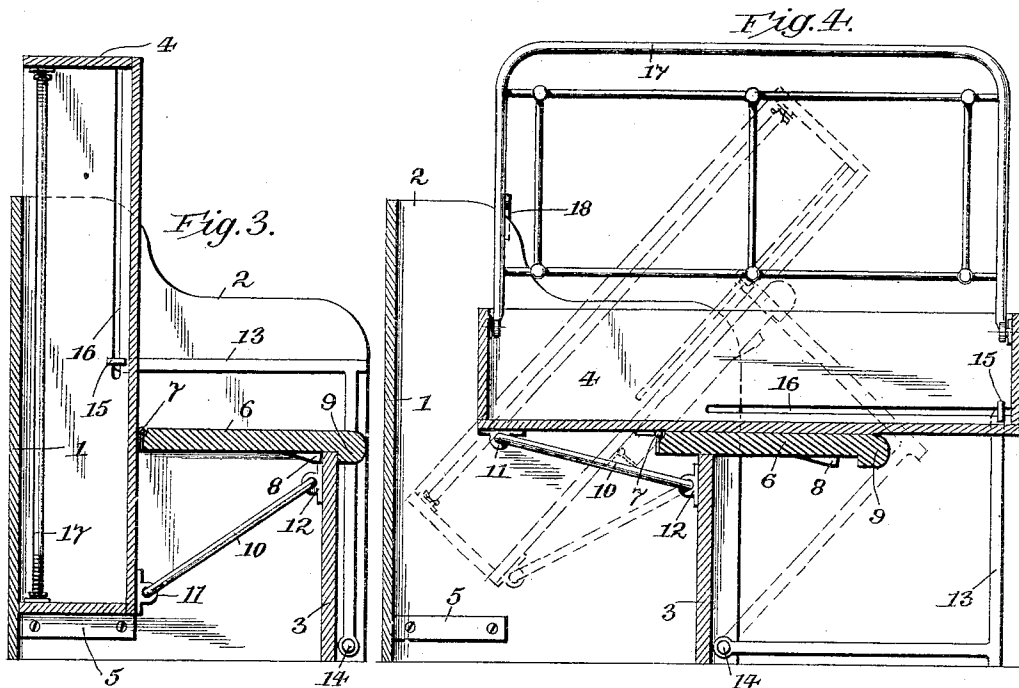
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UNITED STATES PATENT OFFICE.

FRANK H. HENNING, OF CHICAGO, ILLINOIS.

CONVERTIBLE FURNITURE.

No. 931,304.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed April 2, 1909. Serial No. 437,376.

To all whom it may concern:

Be it known that I, FRANK H. HENNING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Convertible Furniture, of which the following is a specification.

My present invention relates to convertible furniture of that type which in a closed position forms a davenport or seat, and in an open position forms a bed or a table, the bed or table portion of the structure forming the back of the davenport or seat.

The invention is fully illustrated in the accompanying drawings, the structure being shown as a combined davenport and bed in Figures 1, 2, 3 and 4 and as a combined davenport and table in Fig. 5.

As will be obvious to those skilled in the art the change from the bed to a table structure is merely the addition of a table top to the moving frame which carries the springs in the bed structure and such changes in proportion and dimension as the requirements of use occasion. The table top might be permanently or temporarily attached, and the bed springs might be omitted entirely or not as desired.

In the drawings, Fig. 1 is a perspective view of the structure in the davenport position; Fig. 2 is a perspective view of the structure in the bed position, the bed springs, mattress, etc., being omitted for purposes of clearness; Fig. 3 is a transverse sectional view of the structure in the davenport position. Fig. 4 is a transverse sectional view of the structure in the bed position, an intermediate position being indicated in dotted lines; and Fig. 5 is a transverse sectional view of the device as applied to the convertible settle and table, and also illustrates a modified form of auxiliary support which will be described in detail hereafter.

The object of the invention is to secure by a novel arrangement and combination of parts an inexpensive and stable construction, offering the advantages of easy operation, comfort in use, and many others which will hereinafter appear.

Referring particularly to Figs. 1, 2, 3 and 4, it will be noted that the base frame of the structure consists of a rear panel 1, two end panels 2, and a front panel 3, which last is of seat height and forms a support for the seat board 6, in the davenport position.

These members may be framed together in any desirable manner, and might be provided with casters if desired. Supported in this base frame is the bed frame 4, which in Fig. 3 is represented as standing in a vertical position on its side, its open top resting against the back board 1, and its bottom serving as a back for the davenport seat. In this position its weight is carried upon supporting members 5 attached in any suitable manner to the end panels 2 of the base frame, and the bed frame is prevented from tipping forward by the seat board 6, attached to the bed frame at the seat line by the hinges 7, and carrying near the front edge cleats 8 and 9, engaging the front panel 3 of the base frame. It will be noted that a slight lifting of the seat board will release these cleats from engagement, and allow the bed frame to be tipped forward for use as a bed. To guide the bed frame while being thus tipped forward, I provide the links 10, one at each end of the bed frame pivoted in the hangers 11 at the lower edge of the frame, and in the hangers 12 at the upper edge of the front panel 3.

Referring to Fig. 4, it will be noted that as the bed frame is tipped forward the first motion is a rotation about the pivot in hanger 11 as a center, the seat board 6 sliding over the front panel 3 until the bed frame rests against said panel 3. From then on until the bed frame assumes a horizontal position the rotation is about the pivot in hanger 12. It is highly desirable in order to secure smooth action and avoid scraping and sliding of the various parts, to place the hanger 11 as near the lower edge of the bed frame and the hanger 12 as near the top edge of the front panel as possible. In the horizontal position the bed frame will be seen to rest upon the seat board 6, which is in turn supported upon the front panel 3.

To provide a further support at the outer edge, I use the rigid L-shaped members 13, one at each end of the bed, pivoted at one extremity to the end pieces 2 of the base frame at 14, and provided at the other extremity with the tongue 15, having a T-shaped head running in a slot 16 formed in the end of the bed frame 4. Thus, as the bed frame tips forward, the L-shaped members swing forward, turning about the pivot 14, while the tongue 15 runs out in the slot 16, so that one arm of the member 13 forms

a leg or support for the outer edge of the bed, while the other arm assumes a position approximately horizontal.

Pivoted to the top of the bed frame at its ends are the frames 17, preferably of metal tubing. These when raised form the head and foot boards for the bed, and when closed and fastened down by straps or by any other of the means in common use, serve to retain the mattress and bed clothes in position, and prevent their derangement when the bed is folded up. These frames 17 carry hook-shaped catches 18 designed to engage the end panels 2 of the frame when in the bed position. They thus serve the double purpose of retaining the head and foot boards upright, and preventing the bed from folding up by accident.

It will be noted that in the davenport position the space beneath the seat is entirely vacant, and by the placing of partitions near the ends to prevent interference with the links, this space would be made available for the storage of pillows, extra bed clothing, and the like.

The mode of preparing for use as a bed is as follows: The seat board 6 is lifted and the bed frame 4 is tipped forward. As the bed frame first swings forward, since it has not departed far from the vertical position, very little weight will be brought upon the operator, but were this rotation continued long the center of gravity of the frame would move out so far as to bring most of the weight upon the operator. Before this can occur, engagement is had with the front panel 3 of the base frame, which therefore carries most of the weight of the frame, as the latter is approximately balanced on the former. I thus secure the advantage of counterbalancing without the use of any weights or springs. Throughout the forward motion of the bed the outer support 13 swings outward and assumes its supporting position automatically. The head and foot boards 17 are next swung to position and latched. Since these head and foot boards provide ample means for preventing derangement of the bed while folded up, it is perfectly feasible to make up the bed before closing to the Davenport position, and if this be done, the bed is ready for use as soon as folded down.

To return the bed to the Davenport position, the operations are simply reversed, the only point requiring attention being the proper engagement of the cleats on the seat board 6 with the front panel 3 in order to prevent forward tipping of the bed frame. In the modified form it will of course be necessary after latching the bed frame in position to swing the auxiliary supporting members upward, there being no means of effecting this automatically, as will be explained.

It will be noted that any desirable form of springs might be provided for use with the bed, so that it could readily be accommodated to the preferences of the individual user, and that the bed is adapted to the ordinary commercial form of springs, thus doing away with the necessity of special manufacture. Furthermore, the springs may be attached in the bed frame, so as to be readily removable for cleaning and the like.

Referring now to Fig. 5 it will be seen that the structures are essentially identical in their general characteristics, whether forming a bed or a table in open position. In Fig. 5 a top has merely been added to the frame 4 which in the structure previously described was the bed frame. The positions assumed in the supporting frame are identical and the links 10 and the hangers 11 and 12 are identical in form and similarly located to those used in the bed structure, and in short the working parts are identical in general design and method of operation. As before stated, Fig. 5 illustrates a modified form of auxiliary support. This is designed to eliminate the guiding slot 16 and the tongue 15. In this case the auxiliary supports consist simply of L-shaped members 13 pivoted to the bed frame at 14, and adapted to be swung downward to a supporting position by hand before the bed or table portion is drawn out to an open position. As will be seen by reference to Fig. 5 the general form and position of the supports are identical with that previously described with the exception of the omission of the tongue. The bed or table frame is provided with cups or recesses 19 adapted to receive the upwardly projecting ends of the auxiliary supports and prevent lateral displacement thereof. After the table or bed frame has been swung to the closed position it is of course necessary to swing the auxiliary supports upward manually.

I particularly call attention to the fact that either form of auxiliary supports is adapted for use with the bed structure and with the table structure.

In case it is intended that in the open position the device shall form simply a table, the frame 4 might be made more shallow or otherwise varied in its proportions, but as these are matters solely of dimension they need not be discussed at length.

The arm portions of the end panels 2 might be omitted, but in that case the auxiliary supports would serve as arms when folded up. In this way the structure in the closed position would form a chair or seat.

Having thus described the invention, what I claim is:—

1. An interchangeable davenport and bed comprising in combination a supporting frame having a front member at seat height; a bed frame adapted to form the back of a

davenport seat; links pivotally connected to the bed frame near a lower edge thereof, and to the front member of the supporting frame near the seat line; a seat member hinged to the bed frame; cleats on said seat member to engage the front member of the supporting frame; an auxiliary bed support pivoted on the supporting frame and having a tongue running in a slot formed in the bed frame; members pivotally mounted on the bed frame and adapted to form head and foot boards; and latches for holding these hinged members in a raised position and locking the bed frame in a bed position.

2. An interchangeable davenport and bed comprising in combination a supporting frame having a front member at seat height; a bed frame adapted to form the back of a davenport seat; links pivotally connected to the bed frame near a lower edge thereof, and to the front member of the supporting frame near the seat line; a seat member hinged to the bed frame; cleats on said seat member to engage the front member of the supporting frame; an auxiliary bed support pivoted on the supporting frame; members pivotally mounted on the bed frame and adapted to form head and foot boards; and latches for holding these hinged members in a raised position and locking the bed frame in a bed position.

3. In a folding bed structure in combination with a movable bed frame; a base frame having a front member adapted to support the bed when in a lowered position; links pivotally connected to the bed frame near a lower edge thereof and to the front member of the supporting frame near its upper edge; and auxiliary bed supports to carry the outer edge of the bed, the said supports being brought to a supporting position by the opening movement of the bed frame.

4. In a folding bed structure in combination with a movable bed frame; a base frame having a front member adapted to support the bed when in a lowered position; links pivotally connected to the bed frame near a lower edge thereof and to the front member of the supporting frame near its upper edge; and auxiliary bed supports to carry the outer edge of the bed.

5. A folding bed structure comprising in combination, a movable bed frame, a base frame having a forward bed supporting member; and links pivotally connected to the forward supporting member of the frame and to the bed frame, the point of connection with the base frame being forward from and above to the point of connection with the bed frame when the bed frame is in the folded position.

6. Interchangeable furniture comprising in combination a supporting frame having a front member at about seat height; a movable frame adapted to form the back of a

seat; links pivotally connected to the movable frame near a lower edge thereof, and to the front member of the supporting frame near the seat line; a seat member hinged to the movable frame; cleats on said seat member engaging with the front member of the supporting frame; and an auxiliary support pivoted on the supporting frame and provided with a tongue running in a slot in the movable frame.

7. Interchangeable furniture comprising in combination a supporting frame having a front member at about seat height; a movable frame adapted to form the back of a seat; links pivotally connected to the movable frame near a lower edge thereof, and to the front member of the supporting frame near the seat line; a seat member hinged to the movable frame; cleats on said seat member engaging with the front member of the supporting frame; and an auxiliary support pivoted on the supporting frame.

8. In combination with a supporting frame and a movable frame mounted therein, an auxiliary support comprising a rigid L-shaped member pivoted at the extremity of one of its arms to the supporting frame near the bottom thereof, and free of any connection intermediate its ends, said member being adapted to be swung out so that the other arm assumes an upright position beneath the movable frame to support the latter.

9. In combination with a supporting frame and a movable frame mounted therein, an auxiliary support comprising a rigid L-shaped member pivoted at the extremity of one of its arms to the supporting frame near the bottom thereof, and having at the extremity of its second arm a tongue running in a slot in the movable frame, whereby said second arm is guided to an upright supporting position as the movable frame is folded down.

10. In combination with a supporting frame and a movable frame mounted therein; an auxiliary support comprising a rigid L-shaped member pivoted at the extremity of one of its arms to the supporting frame near the bottom thereof, and adapted to be swung out so that the other arm assumes an upright position beneath the movable frame to support the latter; and means carried by said movable frame and engaging the extremity of said supporting arm to prevent lateral displacement of the latter when the L-shaped member is turned outwardly into supporting position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK H. HENNING.

Witnesses:

JOHN BORGE,
P. H. PAPE.