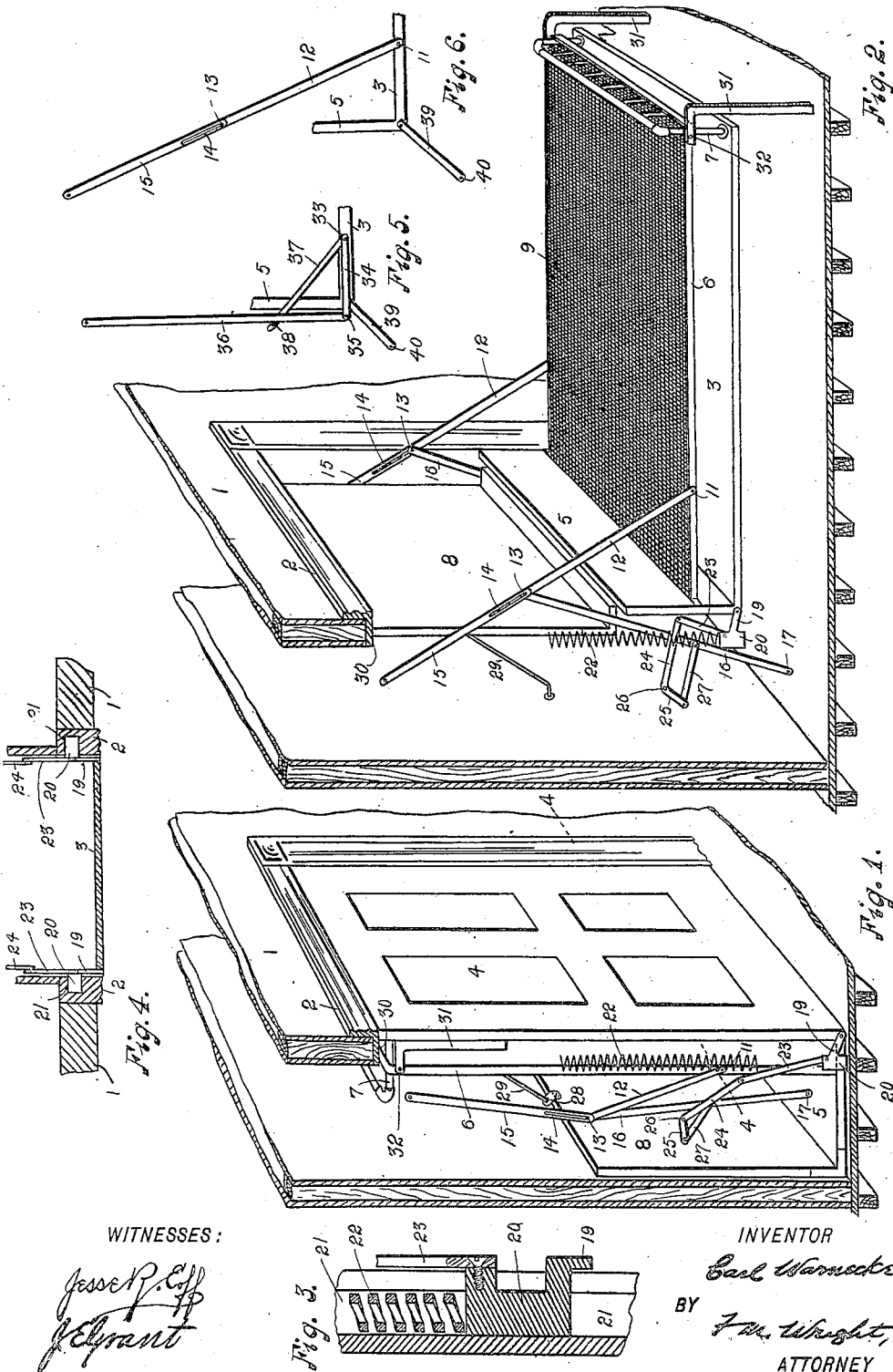


No. 838,760.

PATENTED DEC. 18, 1906.

C. WARNECKE.
WALL OR CLOSET FOLDING BED.

APPLICATION FILED MAY 23, 1906.



WITNESSES:

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WALL OR CLOSET FOLDING BED.

No. 838,760.

Specification of Letters Patent.

Patented Dec. 18, 1906.

Application filed May 23, 1906. Serial No. 318,343.

To all whom it may concern:

Be it known that I, CARL WARNECKE, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Wall or Closet Folding Beds, of which the following is a specification.

This invention relates to improvements in wall or closet beds which fold into a wall when closed and then present the appearance of a closet-door, mantel, wainscoating, or the like, the object of the invention being to provide a bed of this character which will be simple in construction and durable in use, will open and close easily, and will present as little as possible the appearance of a bed when closed.

In the accompanying drawings, Figure 1 is a perspective view, partly in section, showing my improved bed closed. Fig. 2 is a similar view showing the bed open. Fig. 3 is an enlarged vertical section showing the sliding block. Fig. 4 is a horizontal section on the line 4 4 of Fig. 1. Figs. 5 and 6 are side elevations showing in different positions a modification of the operative portions of the framework.

Referring to the drawings, 1 indicates the wall of a room, having set therein a jamb 2, resembling that of a door. It may, moreover, resemble the periphery of a mantel or match the general design of the wall of the room, which might be wainscoating, dado, or the like. Within said jamb is received the frame 3 of the bed, comprising an outer panel 4, in appearance like a door or otherwise suitable to the character of the part 2; a lower head-section 5, rigidly attached at right angles to said panel; side bars 6, extending parallel with the panel 4; posts 7 for the foot of the bed, to which posts and to the lower head-section 5 said side bars 6 are attached, and an upper head-section 8, pivotally attached to the lower head-section. Said side bars, lower head-section, and foot have attached thereto the wire mattress 9. Said frame is suspended at points 11 a short distance from the headboard by means of a pair of lower hanger-sections 12, having at their upper end pins 13, sliding in slots 14 in upper hanger-sections 15, pivotally attached at their upper ends to the sides of the jamb 2, the tops of the lower hanger-sections being also pivotally attached to the upper ends of

arms 16, pivoted at 17 to the sides of the jamb or wall. Said bed-frame is also connected by links 19 with blocks 20, sliding in grooves 21 in the sides of the jamb, said blocks being depressed by means of coiled springs 22. To said blocks are also pivotally attached links 23, connected to arms 24 of bell-crank levers 25, also pivoted at 26 to the sides of the jamb or wall, the other ends of said levers being connected by links 27 with the arms 16.

To the upper edge of the upper head-section is secured a loop 28, which slides on a guide-rod 29, secured to the back of the closet and to the under side of the head-jamb 30 of the opening, said rod serving to guide the upper edge of said head-section in its upward and forward movement. The legs at the foot of the bed are formed by angle-pieces 31, pivotally attached, as shown at 32, to the foot-piece and side bars at their junctions, so that they can be swung out and down when opening the bed.

The following is the operation of the apparatus: To open the bed, the foot end is lowered, the lower ends of the lower hanger-sections thus swinging outward, and consequently the arms 16 also swing outward. This draws down the rear ends of the levers 25, raising the front ends of said levers, and thereby lifting the slide-blocks 20 and the lower end of the bed-frame. This facilitates the lowering, as otherwise the pressure transmitted through the bed from the top when lowering would cause the lower end of the bed to bind when ascending by reason of its pivotal movement upon the points of attachment 11; but because said lower edge of the bed is positively raised through the medium of the hanger and the bell-crank levers 25 this binding is avoided, and the bed turns easily on its points of suspension. The springs bearing down upon the slide-blocks have the effect of counterbalancing more or less the weight of the bed. At the same time that the bed is swung downward and forward the upper head-section is moved upward, closing the space at the head of the bed within the jamb. When the front end of the bed has been swung downward into a horizontal position, the legs 31 are then swung forward, as shown in Fig. 2, and the bed is ready for use. To close the bed, the operation is reversed.

In the modification shown in Fig. 5 the

frame of the bed is attached at 33 to links 34, pivoted at 35 to hangers 36, pivotally attached at their upper ends to the sides of the jamb in like manner with the upper link-sections 15, said links having also pivoted thereto
 5 braces 37, which slide in openings formed in said hangers, the downward and forward movement of the links from said hangers being limited by pins or projections 38 at the ends
 10 of said braces, which engage the rear sides of the hangers and arrest the movement of the braces through said openings, and instead of the frame of the bed being attached to the blocks by links extending from the corner
 15 thereof, as in the first modification, said frame is secured to arms 39, which are pivoted at their rear ends to the sides of the wall or jamb, as shown at 40, so that said arms can swing from an inclination slightly downward
 20 to one slightly upward in opening the bed. In Fig. 6 these arms are used in conjunction with the upper and lower hanger-sections 12 and 15 of the first modification. The object of these arms is the same as that of the links
 25 and blocks in the first modification—namely, to hold the head of the bed away from the casing of the wall as it moves up or down in opening or closing the bed, thus avoiding friction or binding. This modification is particularly suitable for a light bed or one which
 30 resembles when closed a door, but would not be suitable for a mantel in which there are projections extending forward, almost touching the floor, for in the latter case it is absolutely necessary to raise the bottom of the
 35 bed from the floor as soon as it begins to swing; otherwise any such projection would impinge upon the floor and prevent the turning movement of the bed.
 40 By suspending, as it were, the head portion of the bed from above it is no longer necessary to provide a support for the head of the bed, which support will extend forward from the front panel of the bed when closed.
 45 Therefore it is possible with this construction to make the front panel of any desired form, such as a plain door or any other form not requiring a projection at the foot to furnish a support for the head of the bed when
 50 it is open. Beds which require such a projection are objectionable in that such projection through long-continued use makes a mark upon the carpet or wood floor. This is entirely avoided by the present construction.
 55 An advantage of the present construction over those in which a wall or closet bed swings forward by turning upon the floor itself is that in the latter construction should the floor of the apartment deviate from the
 60 exact horizontal, owing to the settling of the building, which is frequently the case, the bed would then swing in an accurately vertical plane, and it would not be possible for it to be swung into position between the jambs.
 65 By the present construction this is avoided.

The present construction also possesses great advantages in point of economy, first, because the under side of the bed or its front when closed can now be made much plainer than before, since no projections are now
 70 needed, these projections requiring a considerable amount of ornamentation to disguise the character of the panel; secondly, the heavy counterbalanced weights which were formerly required are now dispensed with,
 75 and, thirdly, the closet can now be made shallow on account of the general construction and the mechanical movements involved therein. As a further result it can be made
 80 of any desired width, either larger or smaller than that conforming to the width of a mantel.

I claim—

1. In combination, a bed-frame, suitable supports at the sides thereof, hangers by
 85 which the frame is suspended from said supports at points on said frame spaced from the head of the bed, levers pivoted on the respective supports, and operative connections between the ends of said levers and the head of
 90 the bed-frame and the corresponding hanger, whereby the head of the bed is positively lifted with the outward movement of the hangers, substantially as described.

2. In combination, a bed-frame, suitable
 95 supports at the sides thereof, hangers by which the frame is suspended from said supports at points on said frame spaced from the head of the bed, levers pivoted on the respective
 100 supports, a link connecting an end of each lever with the head of the bed-frame, and an operative connection between the other end of said lever and the hanger, whereby the head of the bed is positively lifted with the
 105 outward movement of the hangers, substantially as described.

3. In combination, a bed-frame, suitable supports at the sides thereof, sectional hangers by which the frame is suspended from
 110 said supports at points in said frame spaced from the head of the bed, levers pivoted on the respective supports, a link connecting an end of each lever with the head of the bed-frame, a swinging arm at each side of said
 115 head pivotally attached to the corresponding sectional hanger, and a link connecting the other end of the corresponding lever with said arm, substantially as described.

4. In combination, a bed-frame, suitable supports at the sides thereof, hangers by
 120 which the frame is suspended from said supports at points on said frame spaced from the head of the bed, means for guiding the head of the bed upward as the hangers swing outward, and a train of mechanism at each side
 125 of the bed between said means and the corresponding hanger for producing from the outward movement of the hanger an upward movement of the head of the bed, substantially as described.

5 5. In combination with a wall having an opening, suitable supports, a bed-frame, links comprising upper hanger-sections pivoted to said supports, lower hanger-sections pivoted to said bed-frame at points spaced from the head of the bed, said link-sections having a telescoping connection, arms connected to the lower link-sections, slide-blocks, channel-ways in which said slide-blocks move, springs depressing said blocks, bell-crank levers, and 10 arms connecting the ends of said levers respectively to said forward arms and slide-blocks, substantially as described.

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Witnesses:

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