

J. H. EDMONDS.

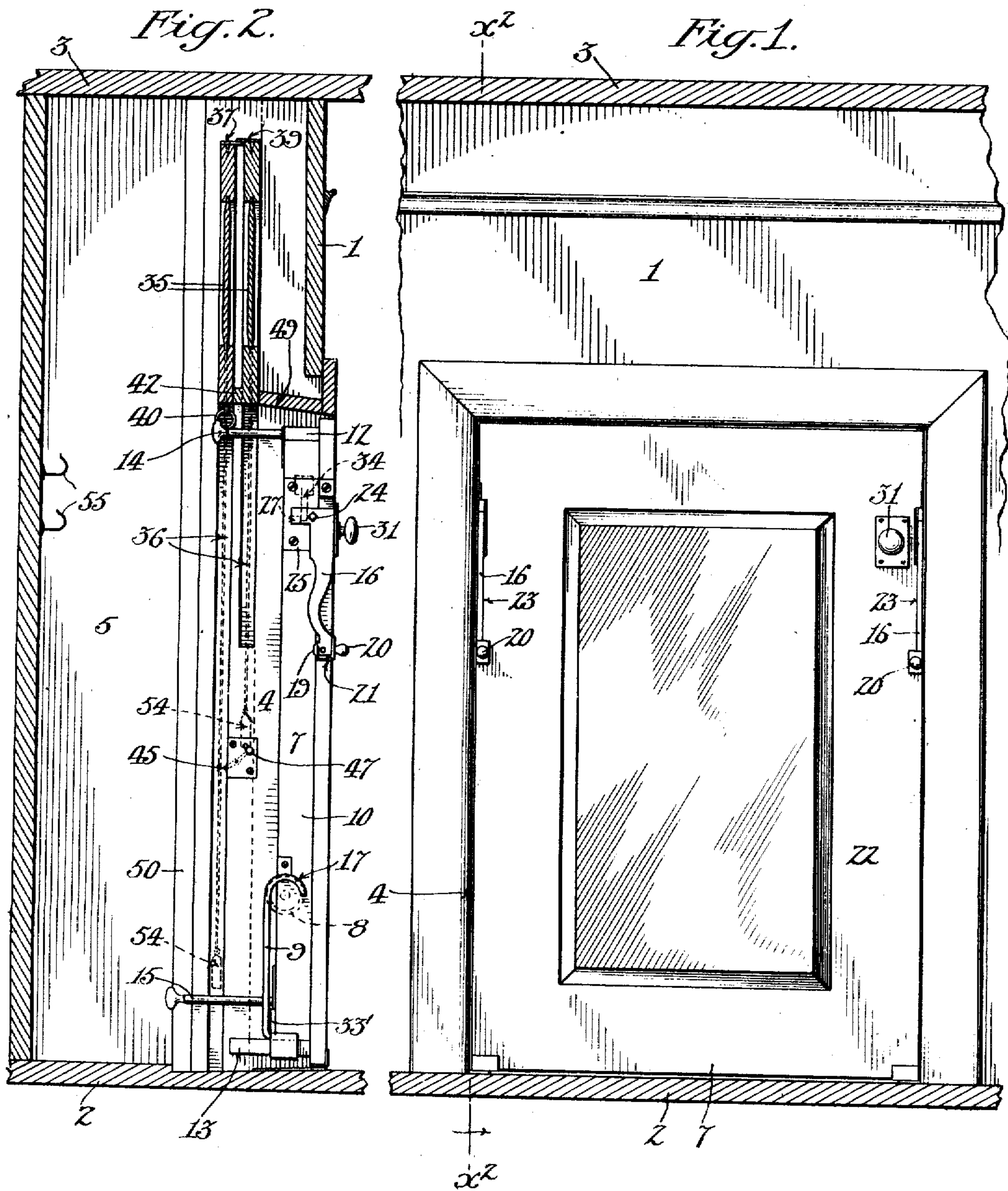
FOLDING WALL BED.

APPLICATION FILED DEC. 20, 1906. RENEWED JUNE 23, 1908.

910,996.

Patented Jan. 26, 1909.

3 SHEETS—SHEET 1.



Witnesses:
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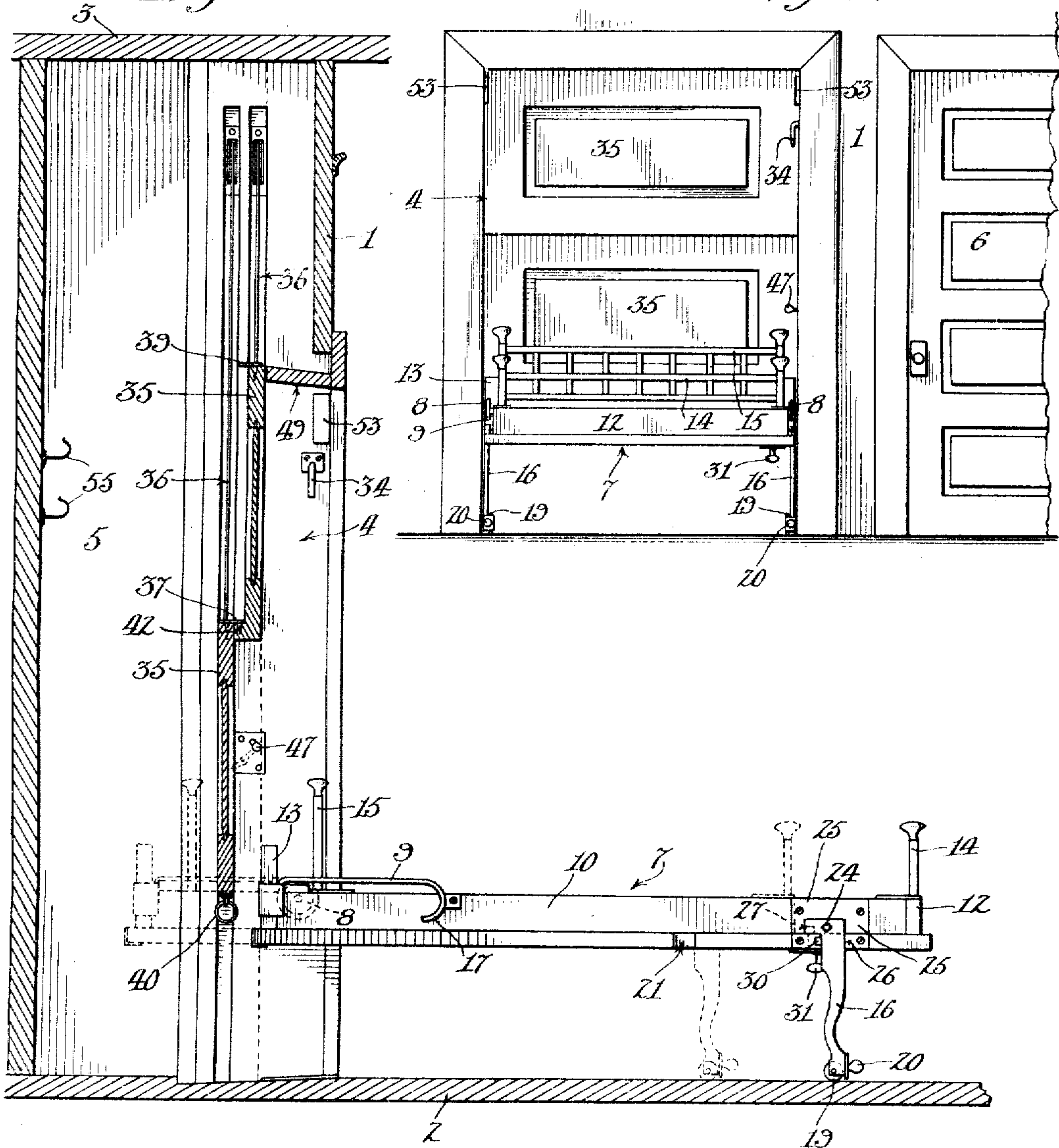
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3 SHEETS—SHEET 2.

Fig. 3.

Fig. 4.



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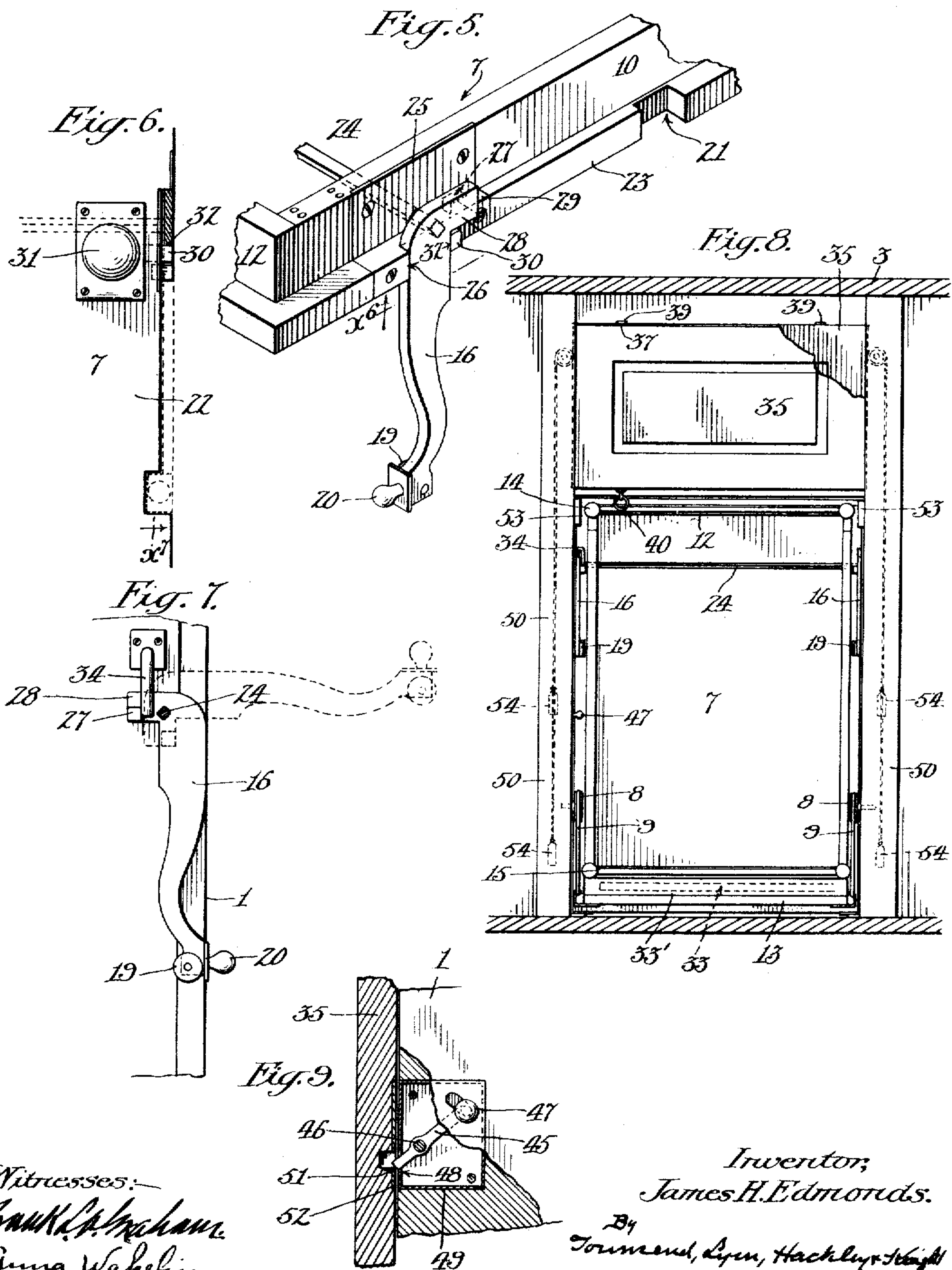
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UNITED STATES PATENT OFFICE.

JAMES H. EDMONDS, OF LOS ANGELES, CALIFORNIA.

FOLDING WALL-BED.

No. 910,998.

Specification of Letters Patent.

Patented Jan. 26, 1909.

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To all whom it may concern:

Be it known that I, JAMES H. EDMONDS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Folding Wall-Beds, of which the following is a specification.

This invention relates to the provision of a wall bed of extremely simple and efficient construction and in which a recess is provided in which the bed is adapted to be folded, the bottom of the bed when in such folded position forming a continuation of the wall and having the appearance of a door or other article of furniture or a continuation of the wall as desired, the bottom of the bed being preferably flush with the wall when in folded position.

The main object of the invention is to provide a wall bed construction in which the recess occupied by the wall bed when the wall bed is lowered for use, shall be closed by a movable closure device, a supplemental recess being provided above the bed receiving recess, and the closure means being so arranged as to be received in and retained in such supplemental recess when the bed is closed.

With this and other objects in view, the invention consists in providing a recess adapted to receive a folding or tilting wall bed, the bottom of which is adapted to form a continuation of the wall of the room preferably flush with the outer wall of the recess, a supplemental recess provided above the recess occupied by the wall bed when in folded position, and a closure means housed within such supplemental recess when the wall bed is in folded position, and adapted to be moved to close the closure of the wall bed recess when the wall bed is moved out into position for use as a bed.

The invention consists further in constructions and combinations of parts, all as hereinafter described and particularly set forth in the claims.

In the accompanying drawings:—Figure 1 is a front elevation of the bed in closed position. Fig. 2 is a vertical section on the line x^2-x^2 in Fig. 1. Fig. 3 is a vertical section showing the bed in lowered position, and the closure for the recess in closed position. Fig. 4 is a front elevation of the bed in lowered position, showing also a portion of the wall

and of a door leading to the closet back of the bed. Fig. 5 is a perspective of a folding leg for the outer end of the bed. Fig. 6 is a section on line x^4 in Fig. 5, showing the locking means for holding the leg in extended position, and for holding the lock ready for operation when the leg is closed. Fig. 7 is a vertical section on the line x^7 in Fig. 6. Fig. 8 is a rear elevation of the bed in raised position, showing also the shutters in their raised position. Fig. 9 is a vertical detail section showing the lock for holding the closure shutters in closed position.

1 designates a portion of the wall of a room, 2 the floor and 3 the ceiling. In said wall is formed a recess 4 for receiving the folding bed when the latter is raised, a closet 5 being preferably formed back of said recess and opening thereinto, so that the recess extends through the wall or partition 1 into the closet. The room may communicate with said closet by a door 6, as indicated in Fig. 4.

The folding bed consists of a frame or body 7, mounted both to turn and slide on suitable fulcrums or supports in the recess, said supports consisting of wheels or rolls 8 journaled in the side walls of the recess, each of said wheels being peripherally grooved to receive a rail 9 which fits and rides in the groove and is bent at each end, as at 17, to fit partially around the wheel, so as to limit the longitudinal movement of the bed on the wheels. These rails are attached to the side members 10 of the bed frame or body 7. These rails or guides are straight and extend longitudinally parallel to the length of the bed, so as to extend horizontally when the bed is lowered, and vertically when it is closed. The roller 8 on which this rail 9 runs is grooved to hold the rail. The space left between the bent over ends of the rail 9 at the bottom thereof enables removal of the bed frame from the supporting wheels when desired. The bed frame may be further provided with a foot board 12, a head board 13, and foot and head frames or grills 14, 15. Counterweight means 33 may be provided at the head end of the bed consisting of weights in a suitable box 33' at the head end of the bed frame.

Means are provided for supporting the outer end of the bed when lowered, said means consisting of legs 16, pivoted to the side members 10 of the bed, each of said legs

having a roller 19 to rest on the floor, and having a handle 20. When the bed is raised, these legs are folded in position, as shown in Fig. 1, with their lower ends resting in notches 21 in the front 22 of the bed frame, and the body of the leg resting in a depressed portion 23 of said front, so that the legs are practically concealed except for their handle which projects in position to be grasped. The two legs at the respective sides of the bed are preferably connected by a rock shaft or cross bar 24, which also forms the pivotal support for the legs, said rock shaft being mounted in fittings 25 on side members 10. Means are provided for limiting the rotative movement of the legs, said means consisting of a shoulder 26 formed on fittings 25 attached to the bed frame and engaging with the front face of the leg when in extended position, as shown in Fig. 3, and a lug 27 on an arm 28 extending rearwardly from the leg to engage with a ledge 29 on said fitting. Means are also provided for locking the leg in extended position, said means consisting of a latch or bolt 30 operated by a handle 31 and protruded by a spring or gravity means to engage with a shoulder 32 on the leg, when the leg is in extended position, to hold the leg in such position. By turning the handle 31 the latch can be retracted, enabling the leg to be turned down into folded position, the leg during this movement riding over the end of the latch on its side face and holds the latch in retracted position until the leg is moved out to extended position, whereupon the said face of the leg passes beyond the latch and the latter is shot out to engage the shoulder 32 of the leg.

Means are preferably provided for locking the bed in raised position, said means consisting, for example, of a lug or arm 34 attached to the side wall of the recess and extending downwardly in such position that when the bed is raised and the legs are folded, as shown in Fig. 7, the lug 27 on one of said legs will engage back of said arm and prevent forward movement of the bed. On turning the leg up to extended position, as shown in dotted lines, this lug is carried away from the arm leaving the bed free to be lowered. When the bed is raised it fits in the recess and closes the same, and when the bed is lowered it opens the recess.

As shown in the drawings I provide above the bed receiving recess a supplemental recess 60 extending above the upper end of the bed when in folded position. This supplemental or closure receiving recess is provided to receive and contain a closure device when the bed is folded or closed, such closure device or means being adapted to be moved downward to close the opening into the bed receiving recess when the bed is lowered to a position for use. This closure means preferably consists of a shutter or closure which

moves vertically downward from the supplemental or closure receiving recess to and below the top of the bed when in its lowered position and may consist of any suitable means for this purpose, and as shown in the drawings. The vertically moving closure may be in various forms, either as shutters, as shown, or many mechanical equivalents used therefor, and when lowered forms the head of the bed. Another form of this closure means is shown in my co-pending application, said means consisting of shutters 35 sliding in ways 36 at the sides of the bed recess and above the bed recess into the shutter or closure receiving recess 60 or in the closet back of the recess, one of said shutters being in front of the other, both of said shutters being provided with counterweights or counterbalance means 54 inclosed in casing 50. One shutter, for example the rear shutter, is provided with means for picking up the other shutter in its upward movement, said means consisting of projections or blades 37 on the rear shutter extending forwardly to engage under rearwardly extending projections 39 on the front shutter. The back shutter is also provided with manual operating means 40 for drawing the same downwardly, and the front shutter is further provided with a ledge 42 at the lower edge thereof, which, when the rear shutter is lowered is engaged by the projections 37 on the rear shutter to lower the front shutter. Latch means are provided for holding the shutter in lowered or closed position, said means consisting, for example, of a bar 45 pivoted at 46, (see Fig. 9) and having an operating handle 47, said bar extending rearwardly and downwardly through an opening 48 in the containing case 49', and adapted to engage with a notch 51 in a plate 52 on the rear shutter, when the latter is closed. When the rear shutter is pulled down it rides over the locking bar 45, the other end of the arm, by reason of its greater weight, tending to hold the toe of the bar against the shutter, so that when the notch portion of the shutter reaches this projecting toe the latter will pass therinto and the end of the bar will engage with the lower edge of notch 45 to resist upward movement of the shutter. When it is desired to release the shutter, the handle 47 is pressed rearwardly, thereby turning the toe end of the bar away from the notch 45 and allowing the rear shutter to rise. This shutter is sufficiently counterweighted to cause the shutter to rise when so released, and the front shutter is evenly balanced so that it will not rise of itself, but will be carried up by the rear shutter in the upward movement of the latter.

By constructing the bed in the manner above set forth, the amount of space required in the wall or partition between the closet and the apartment to receive the bed

when raised, is reduced to a minimum. Moreover, when the bed is in this position the closet is unobstructed and can be used for ordinary closet purposes, for example, 5 provided with hooks as indicated at 55 to hold articles of clothing. When the bed is raised its movement is arrested by a stop 53 at the side of the recess.

The top of the bed receiving recess 4 is provided with an upwardly and inwardly inclined closure or stop 49 which is placed inside the bed receiving recess and separates the bed receiving recess from the closure receiving recess, the inclination of the stop 49 10 being of such angle as to allow the foot grills 14 to pass when the bed is swung out of or into the recess, the end of the bed frame coming flush with and completely closing the recess 4 when the bed is in its folded position. 15 This closure or stop 49 also serves as a finish or casement when the bed is swung down for use, and the closure or shutters are pulled down to close the opening of the bed receiving recess. This enables me to make the bed 20 frame completely fill the front of the recess or closet without providing any extension strips or movable closure devices at the foot of the bed to cover any space between the end of the bed bottom and the top of the recess opening when the bed is folded up. 25 30

It will be obvious that the shutters for closing the recess when the bed is lowered may be mounted in any position to slide above the bed recess when the bed is to be raised, and I 35 do not limit myself to placing them in the closet, as they may be in the wall if it is of sufficient thickness.

It is thus seen that by providing a supplemental closure receiving recess 60 above the 40 bed receiving recess, I am enabled to provide a space for the bed recess closure means, when the bed is folded up, without requiring the lateral enlargement of the bed recess to enable the use of such closure means. By 45 this means I economize the space required for the wall bed and I am able to utilize a greater portion of the closet or recess room as storage or closet proper, at the same time providing most effectual means for neatly 50 and conveniently closing the bed recess when the bed is in use.

What I claim is:—

1. An apartment wall having a bed receiving recess extending from the floor part 55 way to the ceiling and a closure receiving recess above said bed receiving recess, and means for closing said recess when the bed is lowered, said closure means being slidably mounted to move out of and above the bed 60 receiving recess when the bed is raised.

2. An apartment wall having a bed receiving recess extending from the floor part way 65 to the ceiling, means for closing said recess when the bed is lowered, said closure means being slidably mounted to move above the

recess when the bed is raised and comprising a plurality of shutters sliding one in front of the other.

3. An apartment wall having a bed receiving recess extending from the floor part way 70 to the ceiling, means for closing said recess when the bed is lowered, said closure means being slidably mounted to move above the recess when the bed is raised, and comprising two shutters sliding one in front of the other, 75 one shutter having engaging means to pick up the other shutter in the upward movement.

4. An apartment wall having a bed receiving recess extending from the floor part way 80 to the ceiling, means for closing said recess when the bed is lowered, said closure means being slidably mounted to move above the recess when the bed is raised and comprising two shutters sliding one in front of the other, one 85 shutter having engaging means to pick up the other shutter in the upward movement, and both shutters being counterbalanced.

5. An apartment wall having a bed receiving recess extending from the floor part way 90 to the ceiling, means for closing said recess when the bed is lowered, said closure means being slidably mounted to move above the recess when the bed is raised and comprising two shutters sliding one in front of the other 95 in the upward movement, and both shutters being counterbalanced.

6. An apartment wall having a bed receiving recess extending from the floor part way 100 to the ceiling, and closure means for closing said recess when the bed is lowered, said closure means being movable out of and above the recess when the bed is raised.

7. An apartment wall having a bed receiving recess extending from the floor part way 105 to the ceiling and a closure receiving recess, and closure means for closing said recess when the bed is lowered, said closure means being movably mounted to move out of and above the recess when the bed is raised, and 110 catch means for holding said closure means in lowered position.

8. An apartment wall having a bed receiving recess extending from the floor part way 115 to the ceiling, closure means for closing said recess when the bed is lowered, a recess being provided to receive said closure means, said closure means being movably mounted to move above the bed receiving recess when the bed is raised, means acting on the closure 120 means to tend to raise the same, and catch means for retaining the closure means in lowered position.

9. An apartment wall having a bed receiving recess extending from the floor part way 125 to the ceiling, means for closing said recess when the bed is lowered, said closure being slidably mounted to move above the recess when the bed is raised and comprising two shutters sliding one in front of the other, one 130

shutter having engaging means to pull down the other shutter in the downward movement, and means for holding the lower shutter in lowered position, both shutters being counterbalanced.

10. An apartment wall having a bed receiving recess extending from the floor part way to the ceiling and a closure receiving recess thereabove, and closure means for closing said bed receiving recess when the bed is lowered, said closure means being retained in said closure receiving recess when the bed is in folded position and being movable downward to close said bed receiving recess when the bed is lowered.

11. An apartment wall having a bed receiving recess therein, slidable closure means for closing such bed receiving recess when the bed is lowered from such recess, and a recess provided above the bed receiving recess adapted to receive the closure means when the bed is in its elevated position.

12. In combination, an apartment wall having a bed receiving recess extending from the floor part way to the ceiling and a closure receiving recess thereabove, an inwardly and

upwardly inclined closure at the top of said bed receiving recess to permit the passage of the foot of the bed in closing, a bed pivoted to move in and out of said bed receiving recess and to close said recess when in its raised position, and closure means for closing said bed receiving recess when the bed is lowered, said closure means being slidably arranged in said closure recess.

13. An apartment wall having a bed receiving recess therein, vertically moving closure means for closing such bed receiving recess when the bed is lowered, said means forming, when in lowered position, the head of the bed, and a recess provided above the bed receiving recess to receive the closure means when the bed is in its elevated position.

In testimony whereof, I have hereunto set my hand at Los Angeles California this 14th day of December 1906.

JAMES H. EDMONDS.

In presence of—

ARTHUR P. KNIGHT,
FRANK L. A. GRAHAM.