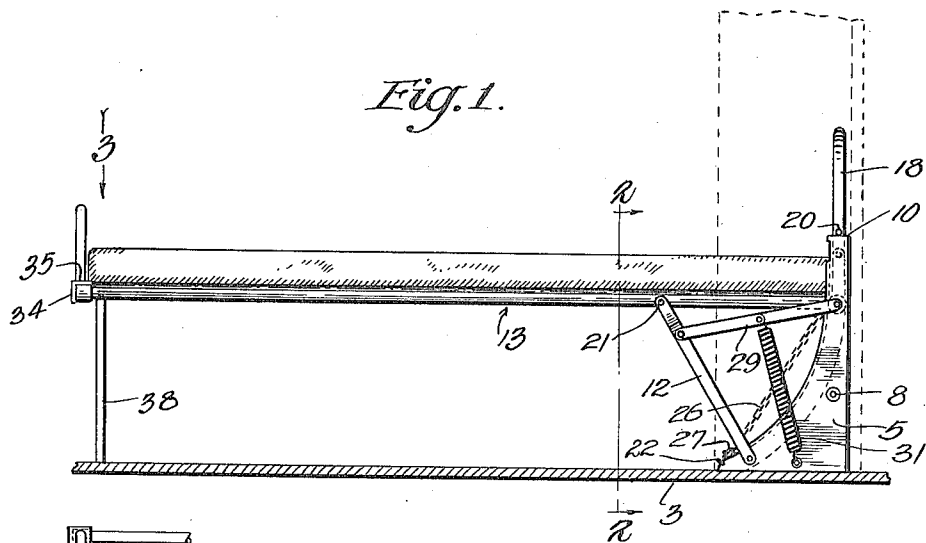
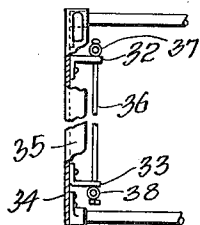
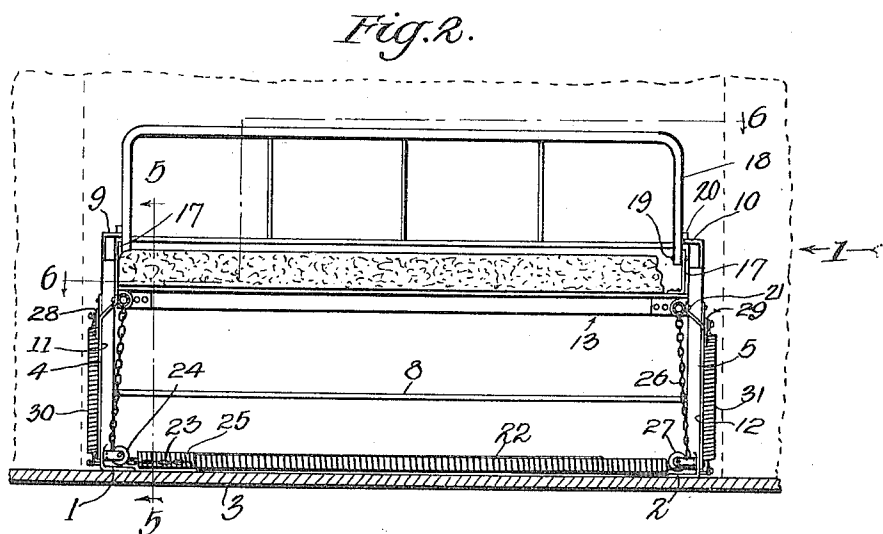


F. M. CALER.
WALL BED.
APPLICATION FILED APR. 14, 1915.

1,164,594.

Patented Dec. 14, 1915.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

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Fig. 4.

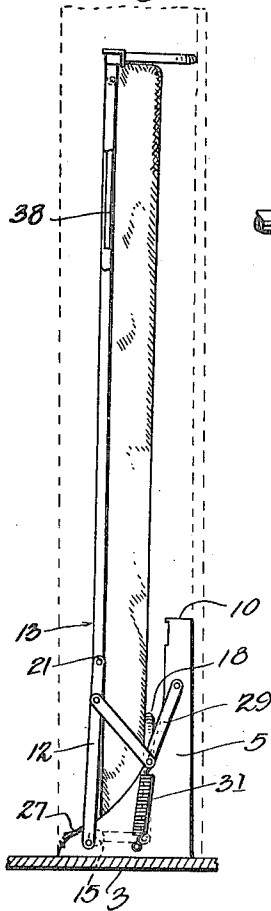


Fig. 5.

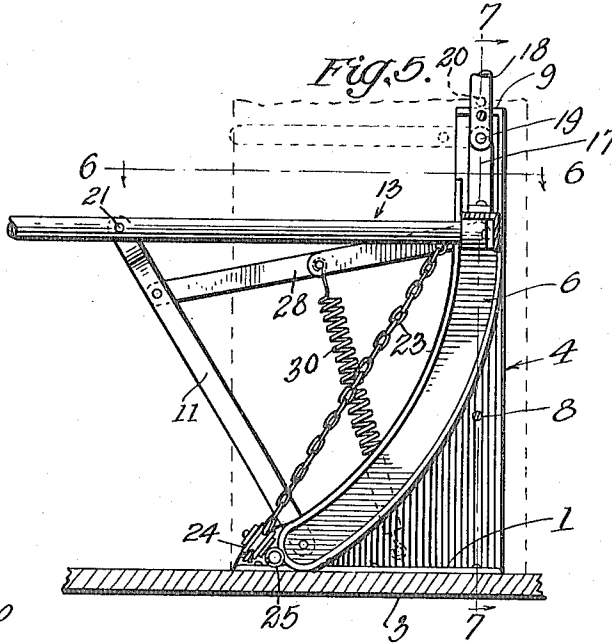


Fig. 6.

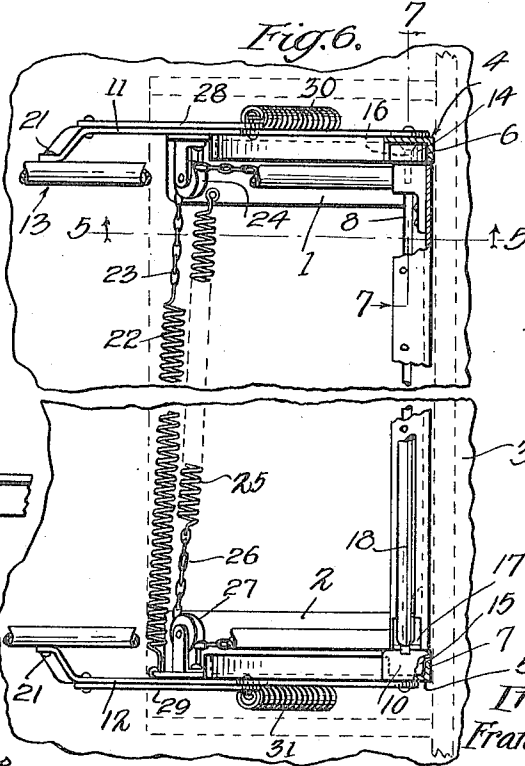
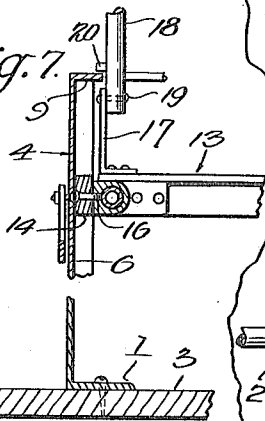


Fig. 7.



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UNITED STATES PATENT OFFICE.

FRANCIS M. CALER, OF INGLEWOOD, CALIFORNIA.

WALL-BED.

1,164,594.

Specification of Letters Patent.

Patented Dec. 14, 1915.

Application filed April 14, 1915. Serial No. 21,190.

To all whom it may concern:

Be it known that I, FRANCIS M. CALER, a citizen of the United States, residing at Inglewood, in the county of Los Angeles and State of California, have invented a new and useful Wall-Bed, of which the following is a specification.

My object is to make a bed of the type which swings to a vertical position out of use and to a horizontal position for use and to completely balance the bed in all positions by the use of springs and levers, thereby doing away with the necessity for heavy counterbalancing weights; and my invention consists of the novel features herein shown, described and claimed.

Figure 1 is a side elevation of a wall bed embodying the principles of my invention, the bed being down and in position for use. Fig. 2 is a vertical cross section on the line 2—2 of Fig. 1. Fig. 3 is a fragmentary plan of the foot end of the bed frame, as indicated by the arrow 3 in Fig. 1. Fig. 4 is a side elevation analogous to Fig. 1 and showing the bed in its upright position out of use. Fig. 5 is an enlarged fragmentary sectional detail on the line 5—5 of Figs. 2 and 6. Fig. 6 is an enlarged horizontal fragmentary sectional detail on the line 6—6 of Figs. 2 and 5. Fig. 7 is a fragmentary vertical cross section on the line 7—7 of Figs. 5 and 6.

The base plates 1 and 2 are adapted to be rigidly mounted relative to each other, either by being secured to the floor of the room 3, or to the bottom of the casing, or to any similar suitable foundation. The side plates 4 and 5 extend upwardly from the bases 1 and 2, said side plates being made right and left handed. A curved guide way 6 is formed upon the inner face of the side plate 4 and a similar curved guide way 7 is formed upon the inner face of the side plate 5. The side plates 4 and 5 are connected together by the rod 8, so as to hold the upper parts of the plates from spreading apart. Stops 9 and 10 extend inwardly from the extreme upper ends of the guide plates 4 and 5. A brace 11 is pivoted to the lower front corner of the guide plate 4 and a similar brace 12 is pivoted to the lower front corner of the guide plate 5. The upper ends of the braces 11 and 12 are pivoted to the bed frame 13 some distance from the head end. Rollers 14 and 15 are mounted

upon trunnions 16 extending outwardly from the extreme head end of the side rails of the bed frame 13, said rollers operating in the guide ways 6 and 7. Posts 17 extend upwardly from the head corners of the bed frame 13 and the head-board frame 18 is pivotally connected to the upper ends of the posts by bolts or rivets 19. Stops 20 extend outwardly from the head-board frame 18 to engage on top of the stops 9 and 10, so that when the bed frame is in its horizontal position, as in Fig. 1, and the head-board frame 18 is in its vertical position, the stops 20 engage the stops 9 and 10 to hold the bed frame from being elevated to its vertical position. In other words, the object is to hold the bed frame locked rigidly in its horizontal position.

When the head-board frame 18 is pulled forwardly, the stops 20 pass out of engagement with the stops 9 and 10 and then the bed frame may be raised to its vertical position. The guide ways 6 and 7 are substantially concentric to the pivot pins 21 at the upper ends of the braces 11 and 12. A retractile coil spring 22 is connected to the base 2 and extends horizontally along the foundation 3 toward the base 1. A chain 23 is connected to the end of the spring 22 and extends around the guide pulley 24 attached to the side plate 4 and then upwardly and is connected to the head end of the side rail of the bed frame 13. A similar retractile coil spring 25 is connected to the base 1 and extends along the foundation 3 toward the base 2 and a chain 26 is connected to the end of the spring and runs around the guide pulley 27 attached to the side plate 5 and then upwardly and is connected to the head end of the side rail of the bed frame 13. The tension of the springs 22 and 25 is exerted to counterbalance the bed frame 13.

Two links of substantially equal length are connected together and connected to the upper part of the side plate 4 and to the upper part of the brace 11, so as to form a toggle joint 28, and two similar links are connected together and connected to the upper part of the side plate 5 and to the upper part of the brace 12, so as to form a toggle joint 29. The retractile coil spring 30 connects the center of the toggle joint 28 to the bottom of the side plate 4 and a similar retractile coil spring 31 connects the center of the toggle joint 29 to the bottom of

the side plate 5, the tension of the springs 30 and 31 being exerted to help the springs 22 and 25 counterbalance the bed, and when all four springs are properly adjusted, the bed may be balanced from its vertical position to its horizontal position so nearly that only a slight exertion will be required to move it in either direction.

Assuming that the bed is in its horizontal position, as shown in Fig. 1, and the foot end of the bed is raised, the rollers 14 and 15 will travel down the guide ways 6 and 7 to near their lower ends and continued operation of raising the bed will swing the braces 11 and 12 upwardly to and beyond their vertical positions, as shown in Fig. 4, and during this operation, the toggle joints 28 and 29 will buckle downwardly and assume a V-shaped position. It is obvious that a bed thus constructed may be mounted upon the floor of a room, or upon any suitable foundation and that it may be mounted in a recess in the wall, or in an independent casing, or without any casing. Angle brackets 32 and 33 are connected to the vertical flange 34 of the cross piece 35 at the foot board of the bed frame 13. A rod 36 is mounted in the brackets and legs 37 and 38 are loosely mounted upon this rod, so that when the bed swings downwardly to its horizontal position, the legs 37 and 38 will assume a vertical position and support the foot end of the bed, and so that when the bed is raised to its vertical position, the legs will fold against the bottom of the bed frame 13.

The details of construction may be varied in many ways without departing from the spirit of my invention, as set up in the following claims.

I claim:

1. In a wall bed, foundation bases secured to foundation side plates, extending upwardly from the bases and having guide ways in their inner faces, a bed frame mounted between the side plates and having rollers extending into the guide ways, braces pivoted to the lower parts of the side plates and to the bed frame some distance from its head end, toggle joints connecting the upper ends of the braces to the upper parts of the side plates, springs connecting the toggle joints to the lower parts of the side plates and springs connected to the side plates and crossing over toward the opposite side plates and having chains connected to their free ends and extending around rollers and connected to the head end of the bed frame.

2. In a wall bed, a foundation; bases secured to the foundation; side plates extending upwardly from the bases and having guide ways in their inner faces; a bed frame mounted between the side plates and having rollers extending into the guide ways; supporting stops upon the upper ends of the side plates adjacent to the head end of the bed frame; and a head board pivotally mounted upon the bed frame and having stops to engage the supporting stops when the head board is in a vertical position, so as to lock the bed frame in its horizontal position and so that when the head board is swung from its vertical position the head board stops and the supporting stops are disengaged to allow the bed frame to swing.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."