(No Model.)

F. B. BOALT.

HANGING DOORS.

No. 315,230. Patented Apr. 7, 1885.

Fig. 1.

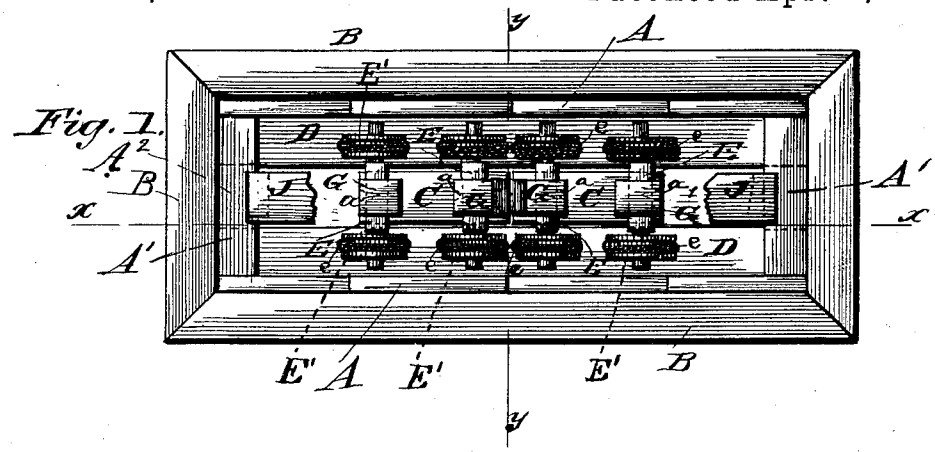


Fig. 2.

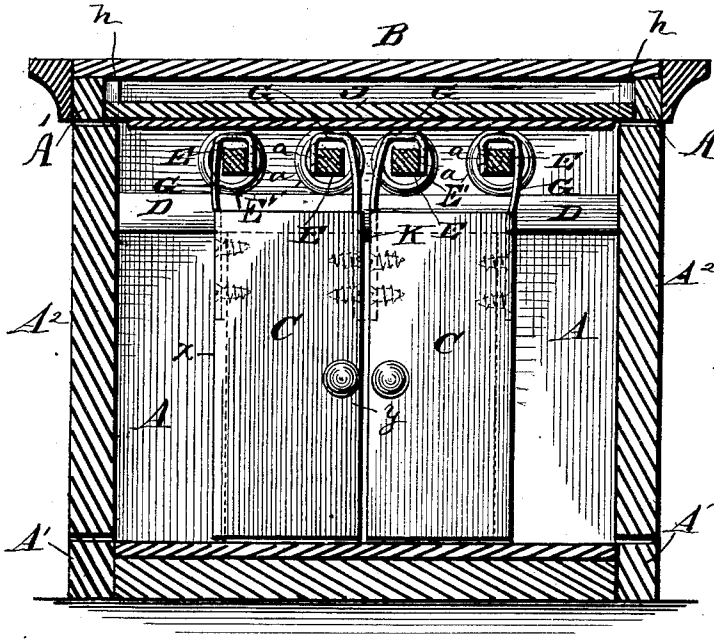
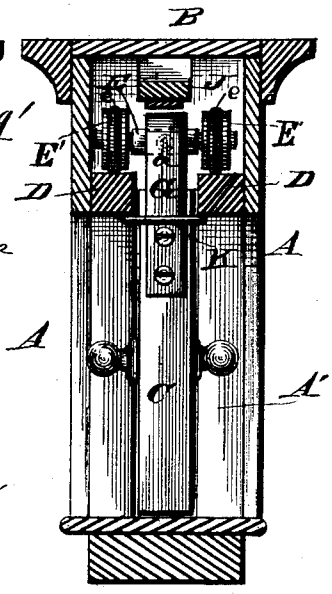


Fig. 3.



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FRANCIS B. BOALT, OF BINGHAMTON, NEW YORK.

HANGING DOORS.

SPECIFICATION forming part of Letters Patent No. 315,230, dated April 7, 1885.

Application filed October 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS B. BOALT, of Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Hanging Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a top view of the casing and doors, showing their suspension devices, part of the holding-down bar being broken away. Fig. 2 is a vertical section of the casing, taken in the plane indicated by dotted line *x x* on Fig. 1. Fig. 3 is a vertical cross-section through the casing between the doors, taken in the plane indicated by dotted line *y y*.

This invention relates to an improvement in hanging double or single sliding doors, whereby they are prevented from binding, and also whereby they are easily movable on rollers applied at the tops of the doors, as will be fully understood from the following description, when taken in connection with the annexed drawings.

A A′ designate the vertical portions of the casing, and B designates the head or lintel of the casing, which parts are boxed to receive the doors C C.

The drawings show double folding doors; but I contemplate hanging single doors in the same manner that I hang double doors. Both of the doors are hung by similar devices; therefore a description of the manner of hanging a single door will give a clear understanding of the mode of hanging two doors in the same frame or casing.

At the lower part of the box-lintel B are two horizontal rails, D D, which are parallel to each other, and arranged with a space between them slightly greater than the thickness of the door. Upon these rails D D each door is sustained by means of wheels E′, which are preferably constructed with grooved peripheries, having india-rubber tires *e*, secured in the grooves to render the wheels noiseless. The wheels are free to roll on the rails, and they are applied on axles E E. Their diameter should not exceed the width of the space between the said rails, for the purpose of allowing the wheels and axles to be removed and replaced when desired, as will hereinafter appear.

G G are angular hangers which rise vertically from the sides of the axles E, to which their ends are pivoted, in the central line of the hangers, by the pins *a*, and which bend horizontally over said axles a sufficient distance to clear the same, and then bend downward, having their lower depending ends screwed or otherwise fixed to the front and rear edges of the door.

The axles, hangers, and door are so arranged in relation to each other that the upper edge of the latter is held horizontal, and, as the upper ends of the hangers are pivoted on the axles, the door maintains its vertical position by gravity, and will not bind in the casing or against the rails, so that the wheels can move on the track if the rails thereof are not on the same horizontal plane.

For the purpose of keeping the door or doors down in proper position, I employ a holding-down bar, J, the ends of which lie in vertical grooves or recesses *h* in the inner sides of the uprights A′ A′ of the casing, at the upper ends thereof. This bar is not intended to impinge at all times against the heads of the hangers G, but merely to resist any upward thrust of a door while sliding it.

By unscrewing the hangers from the door and adjusting the axles of the wheels in line with the space between the rails D D, both the axles and the wheels can be removed from the lintel when it is found necessary to lubricate the journals.

At the bottom of the lintel of the casing I use for double or folding doors a transverse stop, K, which is centrally located, and against which the doors abut when fully closed. When a single door is used, the knob is placed on the edge *x*, instead of the edge *y*, as shown in Fig. 2 of the drawings. The edge *x* abuts, when the door is closed, against a piece, A^2, inserted in a recess made in the side A′ of the casing.

To remove the hanger above the edge *x*, the edge *y* slips back into the boxing of the casing.

The piece A^2 is then removed and the edge x slid in the recess in the side of the casing A', to remove the hanger over the edge y, which hanger could not be reached except for said recess. In double doors the central stop can be removed and the doors slid first to one side and then to the other, so as to clear the boxing to unscrew the hangers not over the meeting edges of the doors.

In Fig. 1 the top of the piece A^2 is designated by dotted lines.

Having described my invention, I claim—

1. The combination of the transverse stop K, applied to the lintel-rails of the casing, with the suspended doors, their hangers, the pivoted axles of the supporting-wheels, and the holding-down bar, all constructed and adapted to operate substantially in the manner and for the purposes described.

2. The combination, with the box door-frame and the supporting-rails, of a suspended door, the wheels E', axles E, and hangers G, pivoted by the pins a upon the axles, and secured by their lower ends to the front and rear edges of the door, substantially as described.

3. The combination, with a box door-casing and a door which is suspended by means of removable hangers and wheels connected with horizontally-pivoted axles, of the vertical removable piece A^2, substantially as and for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

FRANCIS B. BOÀLT.

Witnesses:
W. M. HAND,
A. W. CUMMING.