

(No Model.)

C. W. EMERSON.

HANGING DOOR.

No. 314,005.

Patented Mar. 17, 1885.

FIG. 1.

FIG. 2.

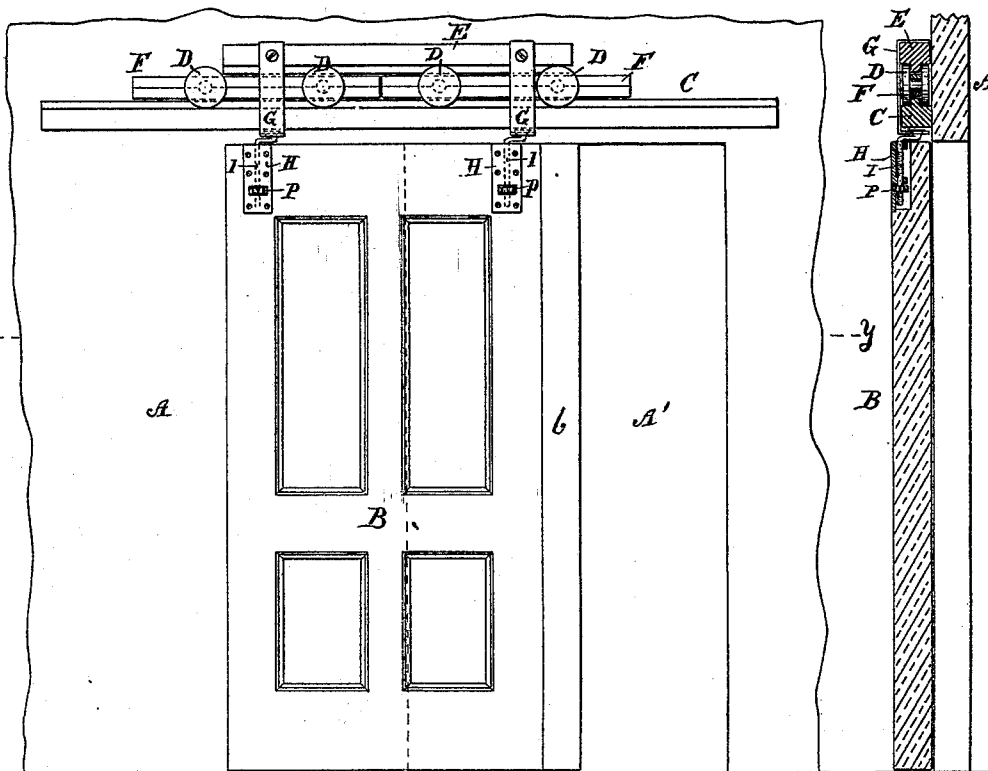


FIG. 3.

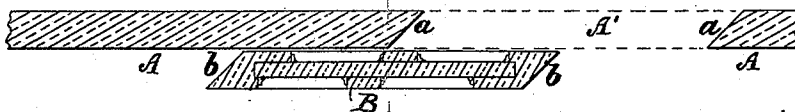


FIG. 4.

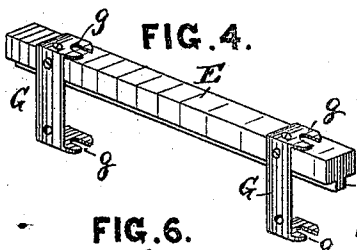


FIG. 5.

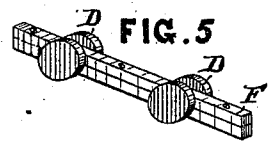


FIG. 9.

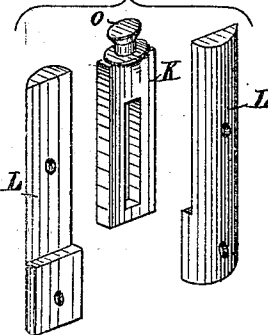


FIG. 6.

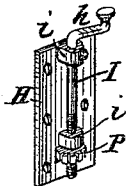


FIG. 7.

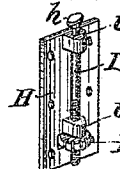
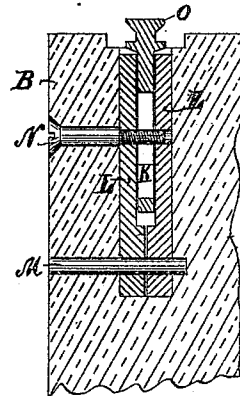


FIG. 8.



Witnesses

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CHARLES W. EMERSON, OF CHARLESTOWN, MASSACHUSETTS.

HANGING DOOR.

SPECIFICATION forming part of Letters Patent No. 314,005, dated March 17, 1885.

Application filed October 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. EMERSON, a citizen of the United States, residing at Charlestown, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Hanging Doors, of which the following is a specification.

My invention relates to an improvement in that class of doors which are suspended from bearings above the doors, with especial reference to Patent No. 295,743, granted to me March 25, 1884.

The object of the invention is to provide a means whereby the doors may be easily opened and closed, and also an improved means for remedying the sagging of the doors, and also to accommodate the door to any settling of the sill or floor. The invention is equally applicable to outside and inside doors of buildings, and also to railroad freight-cars.

The invention consists in certain details of construction and arrangements of parts, more fully hereinafter set forth.

Referring to the accompanying drawings, Figure 1 represents a door with my invention applied. Fig. 2 is a vertical section of the same. Fig. 3 is a cross-section on line *yy* of Fig. 1. Figs. 4 to 6 are details of the hanging connections enlarged. Fig. 7 is a modification of Fig. 6. Figs. 8 and 9 are enlarged views in detail of the adjusting device.

A represents the side of a room or building, or it may be a freight railroad-car, and A' is a portion of the doorway, the door B being partially open.

C is a beam or bar secured to the wall or frame above the door. It is made with a central longitudinal tongue or projection, as indicated in cross-section in Fig. 2.

DD are rollers or wheels, composed of side flanges and a central axis or groove, as shown in Fig. 2, so as to ride or roll upon the rail or beam C, the flanges being guided by the projection on beam C.

FF are two bars, in each of which are mounted two rollers or wheels, DD, the axes of the rollers or wheels passing through holes in said bars. The bars are made in two parts, the one resting on the other, and the two firmly secured together, as indicated in Figs. 1 and 5.

Above the wheels D, and resting upon the flanges of the same, is bar or beam E, having

a longitudinal tongue or projection, *e*, on the under side, as shown in Fig. 4, the said projection passing between the flanges of wheels D.

To the bar E are attached metal straps or hangers G G, of the form shown in Fig. 4, the upper end being bent over the top of the bar E.

To the outside edge of the door B, at the upper end, are secured plates or brackets H H, provided with ears *i i*, through which pass rods I I, having in Fig. 6 the upper end bent at a right angle and surmounted by a knob or head, *h*. The upper ends of the rods I I are fitted in the notches *g g* in the lower bent ends of the hangers G G. This arrangement admits of the door being swung in and out of its opening, as indicated in Fig. 3, so that when the door is closed its outer face will be flush with the side of the wall or framing. The side edges of the door are beveled, and are made to fit snugly in the beveled edges of the frame, as shown in Fig. 3. This arrangement is particularly adapted to railroad freight-cars. The rod in Fig. 7 is made straight for use on doors that are not intended to be closed within the opening.

In order to remedy the sagging of the door, and also to adapt it to any settling of the sill or floor, I have made the lower ends of the rods I I screw-threaded, the screw-threaded portion passing freely through the lower ear, *i*, of bracket H, the said ear resting upon a thumb-nut, P, on the screw-threaded portion of the rod I, so that by turning the nuts P the door may be adjusted upward or downward, as required. An additional means of adjusting the door is shown in Figs. 8 and 9.

LL are metal blocks designed to be inserted within the upper edges of the door. The blocks are made thicker at their lower ends, which parts come in contact with each other, leaving a recess in the parts above, as shown in Fig. 8. Within this recess is fitted so as to slide freely a plate, K, having a vertical slot at its center, as shown in Fig. 9, and a head, O, by which it can be raised or lowered. A bolt or bar, M, passes into the door and through holes in the lower parts of the blocks LL, by means of which the latter are held firmly in place. The upper parts of the blocks LL and the plate K are held together by a screw, N. When it is desired to raise or lower the door B, the screw N is withdrawn suffi-

ciently to allow the central bar, K, to be raised or lowered, or the door to be moved up or down, as required, and when in the right position the screw N is tightened up and the parts again firmly held together.

It will be seen that the vertical edges of the door are beveled, as shown at *b b*, Fig. 3, to fit within corresponding beveled sides, *a a*, of the doorway when the face of the door is made to close flush with the sides of the wall or car.

What I claim as my invention is—

1. The combination, with a door, B, of the bar E, provided with the tongue *e*, the rollers D, bar C, hangers G, rod I, and bracket H, as shown and described.

2. The combination, with the door B, beveled on both vertical edges, of the hangers G and swivel-rod I *h*, whereby the beveled edges

of the door are caused to fit in the beveled sides *a a* of the doorway when closed, and swing out of the same when opened.

3. The combination, with the door B, of the adjusting device P *i* and the swivel-rod I *h*, as and for the purpose set forth.

4. The combination, with the door B, of the hangers G, bar E, grooved rollers D, the bars F, each made in two parts longitudinally, and the bar C, provided with a tongue, as and for the purpose set forth.

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

CHARLES W. EMERSON.

Witnesses:

J. H. ADAMS,
GEO. L. LEWIS.