(No Model.)

C. D. LAWRENCE.

DOOR HANGER.

No. 484,157. Patented Oct. 11, 1892.

Fig. 1.

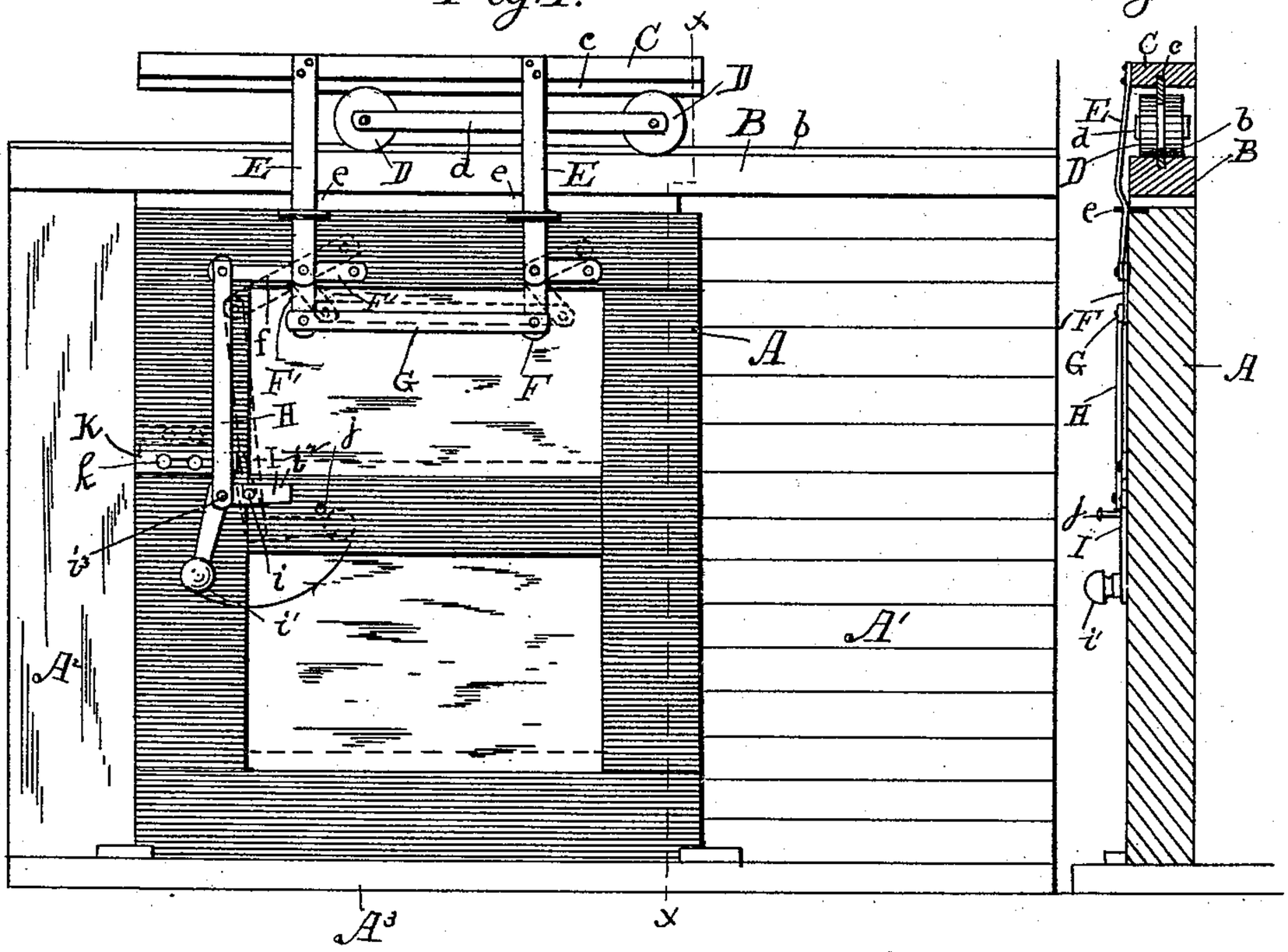
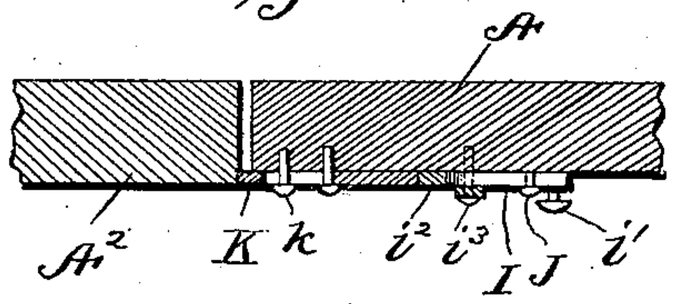


Fig. 2.

Fig. 3.



Witnesses:
Walter Tozier
H. E. McFadden

Charles D Lawrence
Inventor.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES D. LAWRENCE, OF FAIRFIELD, MAINE, ASSIGNOR OF ONE-HALF TO VAUGHN M. MAYO, OF SAME PLACE.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 484,157, dated October 11, 1892.

Application filed March 27, 1891. Serial No. 386,645. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. LAWRENCE, a citizen of the United States, residing at Fairfield, in the county of Somerset and State of Maine, have invented certain new and useful Improvements in Door-Hangings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to sliding doors, such as are used for barns, stables, &c., and which are usually suspended from rolls or trucks which run on a track overhead.

My present invention has several principal objects: first, to connect the door with its running-gear overhead, so that it can be dropped or lowered to a bearing on the sill when it is closed, so forming a tight joint at the sill; second, to provide means when it is so lowered which will cause it to set back closely against the wall, and so make the door tight at sides and bottom, and, finally, to provide antifriction-rolls which will enable it to be pushed back and forth with ease.

The construction which I use to carry out these objects of my invention I have hereinafter illustrated and explained, and the features of novelty I have claimed in the claims.

I illustrate my invention by means of the accompanying drawings, in which—

Figure 1 is a front view, and Fig. 2 is a section on the line *x x* of Fig. 1. Fig. 3 is a horizontal section taken just above the slide.

In the drawings, A represents the sliding door; A′, the side of the building; A^2, the door-jamb, and A^3 the threshold.

B is the overhead-rail, and *b* is a single track on said rail.

The door is hung or supported on two antifriction rolls or trucks D, which are joined together by a connecting-rod *d*, which keeps them in the same relative position. Each roll has a central groove on its rim, which fits over the rail *b*. Resting on the rolls D is a horizontal supporting-piece C, with a rail *c* on its under side corresponding to the rail *b* and fitting into the grooves on the rim of the rolls. It is obvious that this may be rolled back and forth on the track B with little or no friction. Secured to the support C are one or more vertical supporting-rods E, on the lower ends of which the door is suspended. In the present case I have shown two such rods; but it is obvious that one might be made to do the work. The rods E are so connected with the door that the latter can be raised to bear on the rolls or lowered to a bearing on the sill of the door. On the top edge of the door, as here shown, is a plate *e*, having an opening through which the rod E passes. At the point where it passes through the plate *e*, or just above, the rod E is bent or offset, so that the part immediately above the plate projects outward. As a result of this construction, when the door rises relative to the rod E it at the same time moves forward. The lower ends of the rods E are pivoted to the elbows of two elbow-levers F and F′, one arm of which is pivoted to the door. The free arms of these levers are connected by a link G, which so connects them that they move together. One of the elbow-levers F has a third arm *f*, which extends out horizontally, and to it is pivoted a link H, which serves to connect it with the lever by which the door is raised and lowered. This lever I is here shown as an elbow-lever pivoted to the lower end of the link H at its angle by the pivot i^3 and to the door at the point *i* on the arm i^2. *i′* represents the handle by which the lever is operated. It is obvious that when the handle is turned toward the right, as here shown, the pivot i^3 will pass under the pivot *i*, the arm *f* will be depressed, and the opposite arm of the lever F′ will be raised and the door lifted, as shown in dotted lines.

I provide a stop *j* for limiting the motion of the lever I after the two pivots *i* and i^3 have passed each other vertically, and thus the door will be securely held in its raised position, while the pivot i^3 remains to the right of the pivot *i*.

I provide for automatically tripping the lever I and letting the door down onto the sill when it is closed. This is done by a slide K, held by bolts *k*, passing through a longitudinal groove in the slide, so that the same may have a limited longitudinal motion. When the lever I is tipped up, its arm strikes the back end of the slide K and pushes it beyond the edge of the door. When the door is closed,

it is allowed to rest on the sill and its weight is disconnected from the rolls, as shown in Fig. 1; but when it is desired to open the door the lever I is turned to the right and the door is lifted to a bearing on the rolls, and at the same time it is brought forward from the face of the building. It may then be rolled easily back and forth, and when closed the end of the slide K strikes against the jamb of the door, pushes back the lever I, and allows the door to fall to the sill and at the same time to settle back against the wall of the building, making a tight joint at the bottom and sides of the door.

I claim—

1. In combination with a sliding door, rolls, and suspending devices for suspending said door from said rolls, a track on which said rolls are adapted to run, a threshold on which said door rests, and a lever connecting said door with said suspending devices for raising said door from said threshold to a bearing on said rolls, and a device for automatically and positively shifting the position of said lever to allow said door to drop when the same is shut, substantially as shown.

2. In combination with a sliding door, rolls, and a pair of suspending-rods supported by said rolls, elbow-levers pivoted to said door and to the lower ends of supporting-rods, a link joining said elbow-levers, a handle-lever pivoted to the door, and a link connecting said handle-lever with one of said elbow-levers, whereby they may be depressed and the door lifted to a bearing on said rolls, substantially as shown.

3. In combination with a sliding door, rolls, and a suspending device supported by said rolls, a lever pivoted to the door and to said suspending device for lifting said door, a stop for limiting the motion of said lever after the pivots have passed each other vertically, and a device for automatically and positively shifting the position of said lever to allow said door to drop when the door is closed, substantially as shown.

4. In combination with a door, rolls, and a suspending-rod supported by said rolls and connected with said door by a connection which allows the door a limited vertical movement in relation to said rod, a slotted plate or guide secured to the door through which said rod passes, said rod having a bend where it passes through said guide, which throws the door outward as it rises, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES D. LAWRENCE.

Witnesses:

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F. E. MCFADDEN.