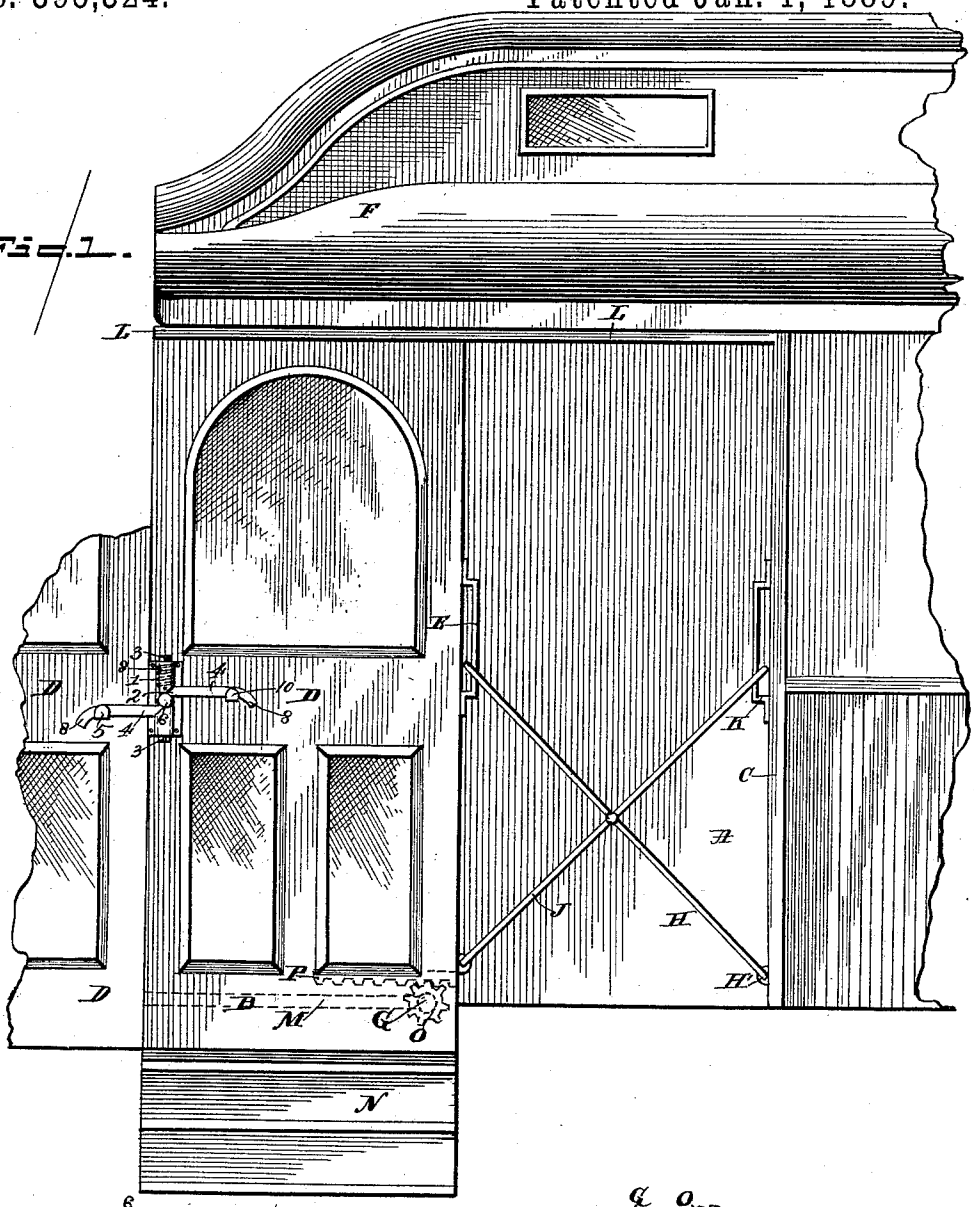
(No Model.)

J. HAISH.

PLATFORM DOOR FOR CARS.

No. 395,324. Patented Jan. 1, 1889.

Fig. 1.



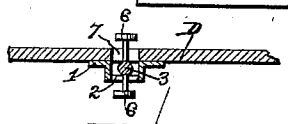


Fig. 3.

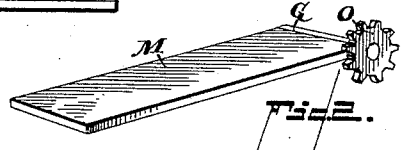


Fig. 2.

WITNESSES

Edwin I. Yewell

Jos. A. Ryan

INVENTOR

Jacob Haish

By John G. Manahan

his Attorney

UNITED STATES PATENT OFFICE.

JACOB HAISH, OF DE KALB, ILLINOIS.

PLATFORM-DOOR FOR CARS.

SPECIFICATION forming part of Letters Patent No. 395,324, dated January 1, 1889.

Application filed February 23, 1888. Serial No. 265,029. (No model.)

To all whom it may concern:

Be it known that I, JACOB HAISH, a citizen of the United States, residing at De Kalb, in the county of De Kalb and State of Illinois, have invented certain new and useful Improvements in Platform-Doors for Railway-Coaches; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has reference to certain improvements in platform-doors for railway-coaches, and pertains more particularly to special mechanism for carrying the door to and from the platform, and coincidently raising the lid or trap-door which covers the interval in the platform occupied by the side steps thereof.

It is the design of my invention to place a sliding door connected with the trap or lid aforesaid at each side of each end of the railway-coach. There would therefore be four of the devices shown in the drawings attached to each railway-coach; but inasmuch as each is identical with the other I do not deem it necessary to show or describe the construction and operation of more than one of said devices. It is the intention also that the sliding door, when projected to the end of its outthrow, will be coterminous with the projecting roof of the coach and the outer verge of the platform, so that when said door is met by the adjacent sliding door upon the adjoining coach the combined effect of the two doors will be to completely close the interval between the adjacent ends of the two coaches and thereby render transit from one coach to the other safe and comfortable, and also to exclude from the entrance within the coach, in case the doors of the latter should be open, all storm, and cinders from the locomotive, or dust occasioned by the passage of the train.

In the drawings, Figure 1 is a side elevation of the end of a railway-coach provided with my invention, and a portion of the sliding door of the adjacent coach. Fig. 2 is a detail perspective view, and Fig. 3 is a detail section of the securing-bolt.

A is an ordinary railway-coach, with the projecting platform B and hood F.

C is an external stanchion attached vertically to the outside of the coach at about the width of the sliding door from the end of the coach.

D is a sliding door suspended and hinged to the stanchion C by means of the diagonal pivoted braces H and J.

As shown in Fig. 1, the brace H is pivoted at its lower end to the clip H′, attached near the lower extremity of the stanchion C, and is extended from its pivotal point aforesaid diagonally upward to the rear of the door D. On the rear or inner edge of the door D is suitably attached a vertically-slotted bracket, E. The upper end of the brace H is bent inward at right angles, and the bent portion projected within and fitted to traverse the slot E in the side movement of the door D, or the upper end of the brace H may be furnished with a bolt-hole fitted to receive a bolt, which can be passed through said brace perpendicular thereto and set loosely in said slot E.

The diagonal brace J is suitably pivoted at or near the lower inner corner of the door D, and projected diagonally upward and across the brace H, and seated, substantially as has been described in reference to the upper end of the brace H, in the vertically-slotted bracket K attached to the stanchion C.

The relative positions of the braces H and J are such that when the door D is at the limit of its outthrow they cross each other at substantially right angles, and when said door is thrown inward, to open the passage to the platform B, said braces are each substantially vertical. As the door D is moved inward—that is, alongside of the coach A, from the position shown in Fig. 1—the upper ends of the braces H and J traverse upward the slots E and K, and thus accommodate themselves to the change of space between the door D and the stanchion C. When the door D passes from this position to the outward, (shown in Fig. 1,) the upper ends of the braces H and J descend, respectively, in the slots E and K, and thus are enabled to extend across the increased space between the stanchion C and door D.

It is the intention to support and carry

substantially all of the weight of the door D upon the braces H and J, and the latter are made of sufficient strength and seated sufficiently strong to accomplish this purpose. In this sliding movement the upper edge of the door D is held within and traverses a horizontal groove or inverted trough, L, formed in the lower edge of the roof F.

G is a rock-shaft seated transversely of the coach A, at or near the inner edge of the platform B, and to the shaft G is rigidly attached the lid or trap-door M, the function of which is to open and close the opening at the side of the platform B occupied by the steps N.

The shaft G is in length equal to the width of the lid M, or should at least be sufficiently long to rigidly and certainly control said lid. On the external end of the shaft G is rigidly seated the pinion O, directly beneath and in line with the lower edge of the door D. To the bottom of the door D, and in proper relation to the pinion O, is affixed the rack P, adapted to engage and partially rotate said pinion in certain portions of the sliding movements of said door. The rack P is located near the inner side of the door D, although its precise location is comparatively unimportant. It is essential, however, that the rack P be of sufficient length to engage and rotate the pinion O, and thereby the shaft G, sufficiently to change the lid M from a vertical to a horizontal position, and reversely, as the case may be. After the rack P has sufficiently rotated the pinion O, as aforesaid, the residue of the door D, beyond the end of said rack, is carried over said pinion without in any way affecting the latter.

The contiguous edges of the door D are held in proper relation and from withdrawal by any suitable devices.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The combination of the coach A, provided on its side with the vertical and external stanchion, C, and the slotted bracket K, attached thereto, the way or groove L on the lower edge of the roof, the door D, sliding on said way or groove and provided with the slotted bracket E and the rack P, the shaft G and pinion O engaging said rack and operating the door, and the lid M, attached to the shaft G, all substantially as and for the purposes set forth.

2. The combination of the coach A, having a way or trough, L, along its roof and an external vertical stanchion, C, having the slotted bracket K attached thereto, the door sliding in said way or trough and upon the rack P, and the braces H and J, pivoted at one end, and at the other sliding in the slots of said bracket.

3. In combination with the car, the door D, sliding in the way or trough L at its upper end, and at its lower end on the rack P, with the lid M, and the pinion O and shaft G, to which shaft said lid and pinion are fixed.

4. In a car, the lid M, combined with and fixed to the shaft G, which carries the pinion by which the door is moved, and with the door, substantially as described.

5. In a car, the combination of the sliding side door with a lid to cover the steps, substantially in the manner set forth, whereby the forward or backward movement of the door serves, respectively, to lower or raise said lid, substantially as set forth.

6. In a railroad-car having movable side doors, a lid for covering the steps when the side doors are moved forward operated simultaneously with the movements of said side doors.

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

JACOB HAISH.

Witnesses:
SAML. P. BRADSHAW,
L. J. RECTOR.