

W. M. KING, SR.
CAR PLATFORM CLOSURE.

(Application filed May 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

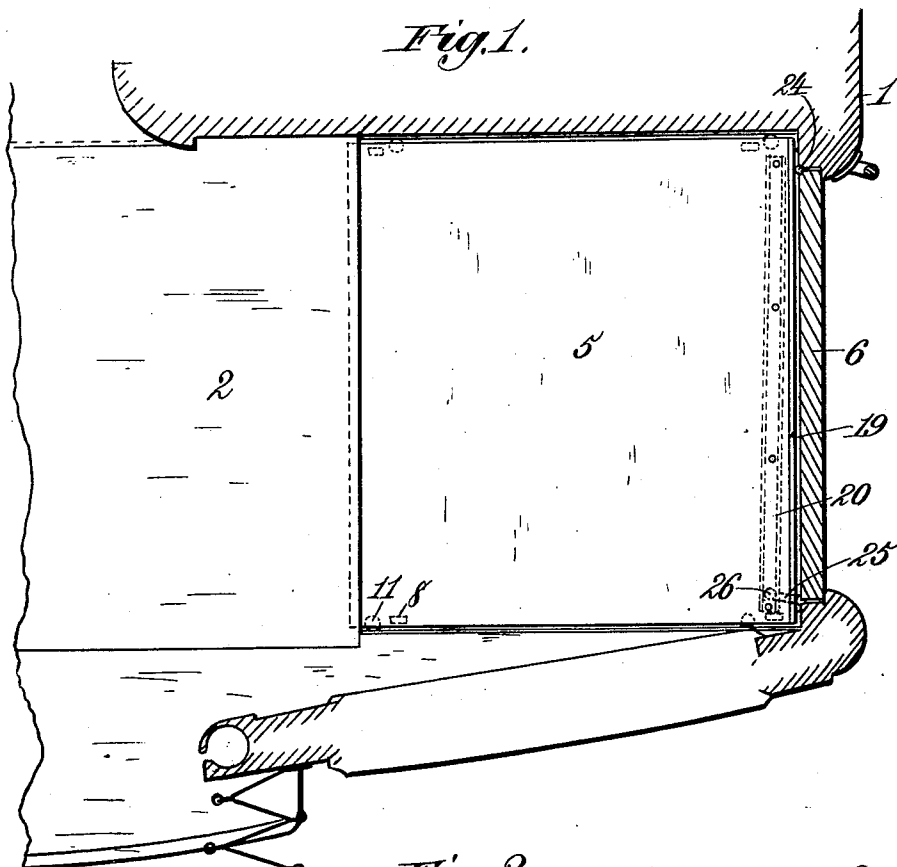


Fig. 2.

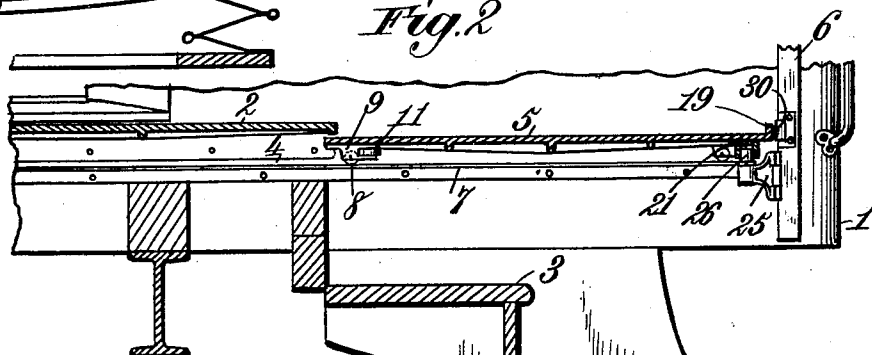


Fig. 8.

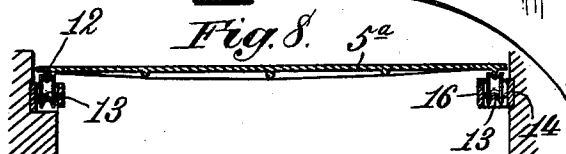
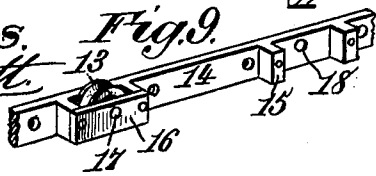


Fig. 9.



Witnesses.
Robert Smith.
Ed Parker

Inventor.
William M. King Sr.
By Wm. Stockbridge

No. 679,080.

Patented July 23, 1901.

W. M. KING, SR.
CAR PLATFORM CLOSURE.

(Application filed May 4, 1901.)

(No Model.)

2 Sheets—Sheet 2.

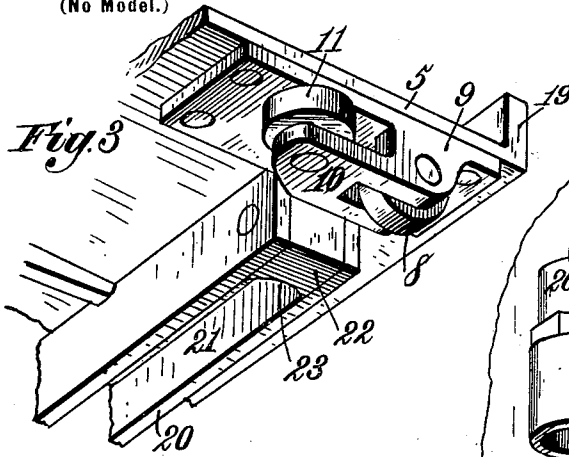


Fig. 3

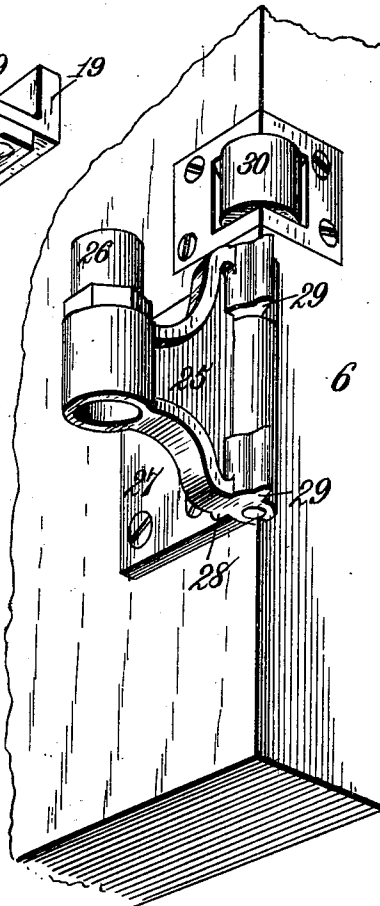


Fig. 4

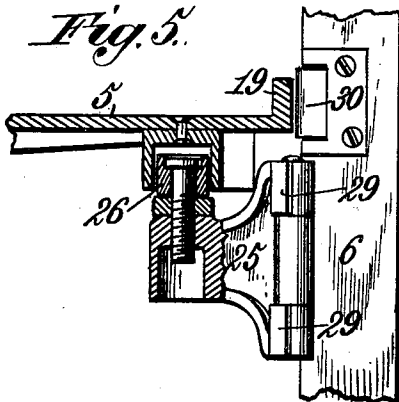


Fig. 5

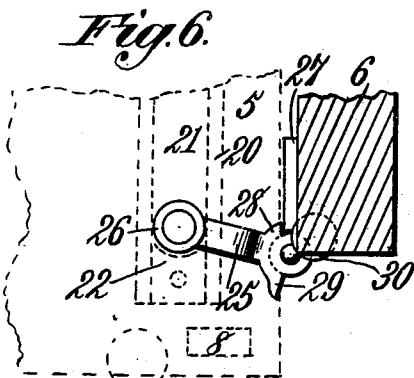


Fig. 6

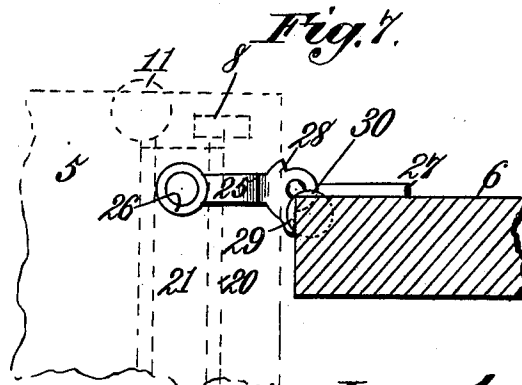


Fig. 7

Witnesses,
Robert Sweet,
J. P. Parker

Inventor:
William M. King, Sr.
By Wm. M. King, Jr.
Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM M. KING, SR., OF ALEXANDRIA, VIRGINIA, ASSIGNOR OF ONE-FOURTH TO CHARLES HOWARD BOWERS, OF WASHINGTON, DISTRICT OF COLUMBIA.

CAR-PLATFORM CLOSURE.

SPECIFICATION forming part of Letters Patent No. 679,080, dated July 23, 1901.

Application filed May 4, 1901. Serial No. 58,717. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. KING, Sr., a citizen of the United States, residing at Alexandria, Alexandria county, Virginia, have invented certain new and useful Improvements in Car-Platform Closures, of which the following is a specification.

My invention relates to platform-closures for vestibule-cars, one object of the same being to provide a novel construction of platform extension or guard for closing the space above the steps of a vestibule-car when the door is closed.

A further object of the invention is to provide improved means for operating said platform extension or guard from a door whose lower end projects below said guard, whereby said guard or platform extension is automatically drawn out, so as to cover or close the space above the steps when the door is closed and is retracted or forced rearwardly into a pocket beneath the main platform, so as to uncover or open the space above the steps when the door is opened.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will beset forth in the claims.

In the drawings forming part of this specification, Figure 1 is a sectional plan view of a portion of the platform end of a vestibule-car with my improvements applied, showing the door in its closed position and the platform extension or guard covering the space above the steps. Fig. 2 is a transverse sectional view of the platform. Fig. 3 is a detail perspective view of a portion of the platform extension or guard. Fig. 4 is a similar view of the door. Fig. 5 is a detail sectional view showing the connection between the door and the guard or platform extension. Figs. 6 and 7 are detail sectional views showing the relative positions of the door and guard when the same are in their closed and open positions, respectively. Fig. 8 is a detail transverse sectional view of a modified construction, and Fig. 9 is a detail perspective view showing the method of mounting the rollers in Fig. 8.

Like reference-numerals indicate like parts in the different views.

The body 1 of the car, the platform 2, and the steps 3 may be of the usual form and construction. The platform 2, as is customary, terminates at a point adjacent to the upper of the steps 3, leaving the space above said steps open. Beneath said platform, however, is formed a pocket or space 4, in which the guard or extension 5 is seated when the door 6 is in its open position for the entrance and exit of passengers. The guard or extension 5 is adapted to slide horizontally into and out of the pocket 4 on the rails 7, the same being provided with antifriction-rollers 8, which bear against said rails. The rails may be formed of angle-iron secured to the car on opposite sides of the opening for the steps or may be entirely dispensed with. If dispensed with, however, shoulders or ledges should be provided for the rollers 8 to move upon and for supporting said guard. The said rollers 8 are mounted in brackets 9, secured to the under side of the guard or extension 5, and said brackets are provided with flanges 10, in which and in the base of said brackets are mounted the horizontally-disposed antifriction-rollers 11. The rollers 11 are adapted to bear against the body of the car on opposite sides of the opening for the steps and serve to prevent friction due to the lateral thrust of the guard or extension 5 in its movements back and forth.

In lieu of the rollers 8 and the rails 7, on which said rollers move, I may employ the construction shown in Figs. 8 and 9 of the drawings, in which the guard or extension 5^a is provided with downwardly-extending ribs 12 on the under side thereof, movable upon the grooved rollers 13, mounted on stationary parts of the car. The ribs 12 are of course located adjacent to the side edges of the guard or extension 5^a and have been shown as integral with said guard. They may, however, be constructed of a separate piece, if so desired. The grooved rollers 13, in which the ribs fit and on which the guard 5^a moves, are mounted in brackets 14, secured to fixed parts of the car on opposite sides of the opening for the steps, the said bracket in the form of my invention herein shown consisting of a plate or bar having lugs 15 thereon arranged in

pairs, said lugs being connected in pairs by the plates 16. Said plates 16 are provided with openings 17, and the plate or bar 14 is provided with corresponding openings 18, directly opposite the openings 17, in which openings 17 and 18 the pintles or journals of the rollers 13 fit.

The outer edge of the guard or extension 5 is provided with an upturned flange 19, and the under side of said guard or extension has secured to it a channel-iron 20, provided for a purpose which will presently appear. The said channel-iron is secured to the guard 5 in inverted position, and the groove or channel 21 therein has one end closed by a stop-block 22, having a rounded inner wall 23. Instead of the channel-iron 20 I may employ any other suitable or equivalent device. For example, as will hereinafter appear, it is sufficient if a projection be formed on the under side of the guard 5, against which the correlative part on the door 6 may bear. I prefer, however, the construction herein shown. The groove or channel 21 of the channel-iron 20 extends at a slight acute angle to the outer edge of the guard or extension 5, as most clearly shown in Fig. 1 of the drawings, for a purpose which will presently appear.

The door 6 is hinged, as shown at 24, and adapted to open and close in the usual manner. Connected with said door, along the side edge thereof opposite the hinge 24, is a pivoted arm 25, having mounted in the free end thereof and extending upwardly an anti-friction-roller 26. The said arm 25 has been shown as pivoted to a plate 27, which plate is screwed or otherwise secured to the inner surface of the door 6, adjacent to its outer edge. The plate 27 and the arm 25, pivoted thereto, may therefore be said to constitute a hinge, one leaf of which is connected to the door 6 and the other of which is connected to the guard or platform extension 5. The means of connection between the arm 25, which constitutes a portion of the hinge, and the guard or extension 5 is by way of the roller 26, which fits and is adapted to move within the groove or channel 21 of the channel-iron 20. The arm 25 is provided with a shoulder 28 on one side of its pivot, which is adapted to engage the plate 27 when the door is in its closed position, for limiting the pivotal movement of said arm and for preventing rattling between the parts, and the same is also provided with a shoulder 29 on the opposite side of its pivot, adapted to engage the outer edge of the door 6 when said door is in its open position, for the purpose of limiting the pivotal movement of said arm 25 and for preventing rattling of the parts when the door is open.

Mounted in the edge of the door 6 above the pivoted arm 25 is an anti-friction-roller 30, the same being designed to bear against the flange 19 of the guard or extension 5 when the door 6 is being opened for the pur-

pose of forcing said guard or extension 5 rearwardly into the cavity or pocket 4.

The operation of my device is as follows: When the door 6 is in its closed position, as shown in Figs. 1 and 2 of the drawings, the guard or platform extension 5 is in its outward position, closing the opening or space in the platform above the steps 3. When in this position, said guard or extension 5 not only prevents danger of accidents due to a passenger or other person inadvertently walking out toward the door 6, and thereby stepping off the platform 2 and falling down the steps, but it permits any of the occupants of the car to walk with safety out to the door 6 for any purpose that may be desired. When the door 6 is opened, the roller 30 thereon engages the flange 19 along the outer edge of the guard or extension and forces the latter back to its seat in the pocket or recess 4 beneath the platform 2. The space above the steps 3 is thereby automatically opened and free ingress and egress of passengers into and from the car is permitted. In the passage of the guard or extension 5 inwardly the same moves without material friction on the rollers 8, supported on the rails 7, and friction between said guard or extension and the body of the car is prevented by the anti-friction-rollers 11. Upon closing the door the roller 26 on the free end of the pivoted arm 25 moves within the groove or channel 21 in the channel-iron 20 and engages the inner surface of the front flange thereof. The said guard or extension 5 is thereby moved outwardly with the door 6, the roller 26 moving in contact with the channel-iron 20. When the door 6 is in its closed position, as shown in Figs. 1 and 2 of the drawings, the guard or extension 5 is in its extreme outermost position, closing the space above the steps 3. It has heretofore been stated that the groove 21 or the channel-iron 20, in which said groove is located, is disposed at an angle to the outer edge of the guard or extension 5. This arrangement is provided for the purpose of producing close or jamming engagement between said guard or extension 5 and the door 6 when said door is in its closed position. As the roller 26 reaches the end of the groove 21 during the outward movement of the door 6 the same comes in contact with the curved wall 23 of the stop-block 22 in said groove, and the same is thereby prevented from slipping out of the end of said groove. The shoulder 28 is simultaneously thrown around into engagement with the plate 27, and further rocking or turning movement of the arm 25 is prevented and rattling of the parts avoided.

It will be noted that during the opening and closing movements of the door 6 the arm 25 turns on its pivot and assumes a position when the door is open at right angles to the position it is in when the door is closed. A connection between the door 6 and the guard or extension 5, which provides for this move-

ment, is necessary when the door 6 extends down below the guard or extension 5, and the latter is provided with an engaging portion on its under side. As the roller 26 engages the channel-iron 20 only when the door 6 is being opened and the guard or extension 5 is being shifted to its outward position, it will be obvious that the rear flange of the channel-iron 20 may be dispensed with and for the said channel-iron any other construction of device may be substituted which provides for the engagement of the roller 26 therewith during the outward movement of the door.

While I have described my invention in its preferred form, I desire it to be distinctly understood that I do not limit myself to any of the details of construction shown and described, except as defined by the appended claims.

I also desire it to be understood that while I have shown and described but one door 6 and guard or extension 5 connected therewith these parts and those which cooperate therewith will be in duplicate, one set on each side of the platform 2.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension, of a pivoted arm operatively connected with said door and guard, as and for the purpose set forth.

2. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension, of an arm pivoted to one of said parts and having a sliding connection with the other, as and for the purpose set forth.

3. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension, of an arm pivoted to said door and having a sliding connection with said guard, as and for the purpose set forth.

4. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door having a projection thereon parallel to its pivot, and an elongated engaging portion for said projection on said guard, as and for the purpose set forth.

5. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door having a projection thereon parallel to its pivot, and a rib or flange on said guard or extension against which said projection is adapted to bear, as and for the purpose set forth.

6. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the

space above the steps, of an arm pivoted to the edge of said door opposite its hinge having an upwardly-extending projection thereon parallel to its pivot, and an elongated engaging portion for said projection on said guard, as and for the purpose set forth.

7. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to the edge of said door opposite its hinge having an upwardly-extending projection thereon parallel to its pivot, and a rib or flange on the under side of said guard or extension against which said projection is adapted to bear, as and for the purpose set forth.

8. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door, an antifriction-roller carried by the free end of said arm, and an elongated engaging portion on said guard or extension against which said roller is adapted to bear, as and for the purpose set forth.

9. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door, an antifriction-roller carried by the free end of said arm, and a downwardly-extending rib or flange on the under side of said guard or extension against which said roller is adapted to bear, as and for the purpose set forth.

10. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door, stops for limiting the pivotal movement of said arm in both directions, an antifriction-roller carried by the free end of said arm, and a projecting rib or flange on said guard against which said roller is adapted to bear, as and for the purpose set forth.

11. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door, an antifriction-roller carried by said arm, and a channel-iron secured to said guard or extension in which said roller fits and is adapted to move, as and for the purpose set forth.

12. In a car-platform closure, the combination with a swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door, an antifriction-roller carried by said arm, a channel-iron secured in inverted position to the under side of said guard or extension in which said roller fits and moves, and a stop-block in said channel-iron against which said roller is adapted to abut, as and for the purpose set forth.

13. In a car-platform closure, the combination with the swinging door, a guard or plat-

form extension for the space above the steps, and antifrictional rollers on which said guard or extension is mounted to slide, of an arm pivoted to said door, an antifrictional roller carried by the free end of said arm and extending upwardly therefrom, and a channel-iron secured to the under side of said guard in which said roller fits and is adapted to move, as and for the purpose set forth.

14. In a car-platform closure, the combination with the swinging door, and a slidingly-mounted guard or platform extension for the space above the steps, of an antifrictional roller carried by said door and adapted to bear against said guard for forcing the same inwardly, and connections between said door and said guard for moving the latter outwardly, as and for the purpose set forth.

15. In a car-platform closure, the combination with the swinging door and a slidingly-mounted guard or platform extension for the space above the steps, the outer edge of said guard or extension being provided with an upwardly-extending flange, of an antifrictional roller carried by said door and adapted to bear against said flange for forcing said guard inwardly, and connections between said door and said guard or extension for moving the latter outwardly, as and for the purpose set forth.

16. In a car-platform closure, the combination with the swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door, a projection on said arm parallel to its pivot, and an elongated engaging portion on said guard or extension against which said projection is adapted to bear, the said engaging portion being set at an angle to the outer edge of said guard, as and for the purpose set forth.

17. In a car-platform closure, the combination with the swinging door and a slidingly-mounted guard or platform extension for the space above the steps, of an arm pivoted to said door, an antifrictional roller carried by the free end of said arm, and a channel-iron secured to the under side of said guard or extension in which said roller fits and is adapted to move, the said channel-iron being set at an angle to the outer edge of said guard, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WM. M. KING, SR.

Witnesses:

WM. M. STOCKBRIDGE,
EWELL A. DICK.