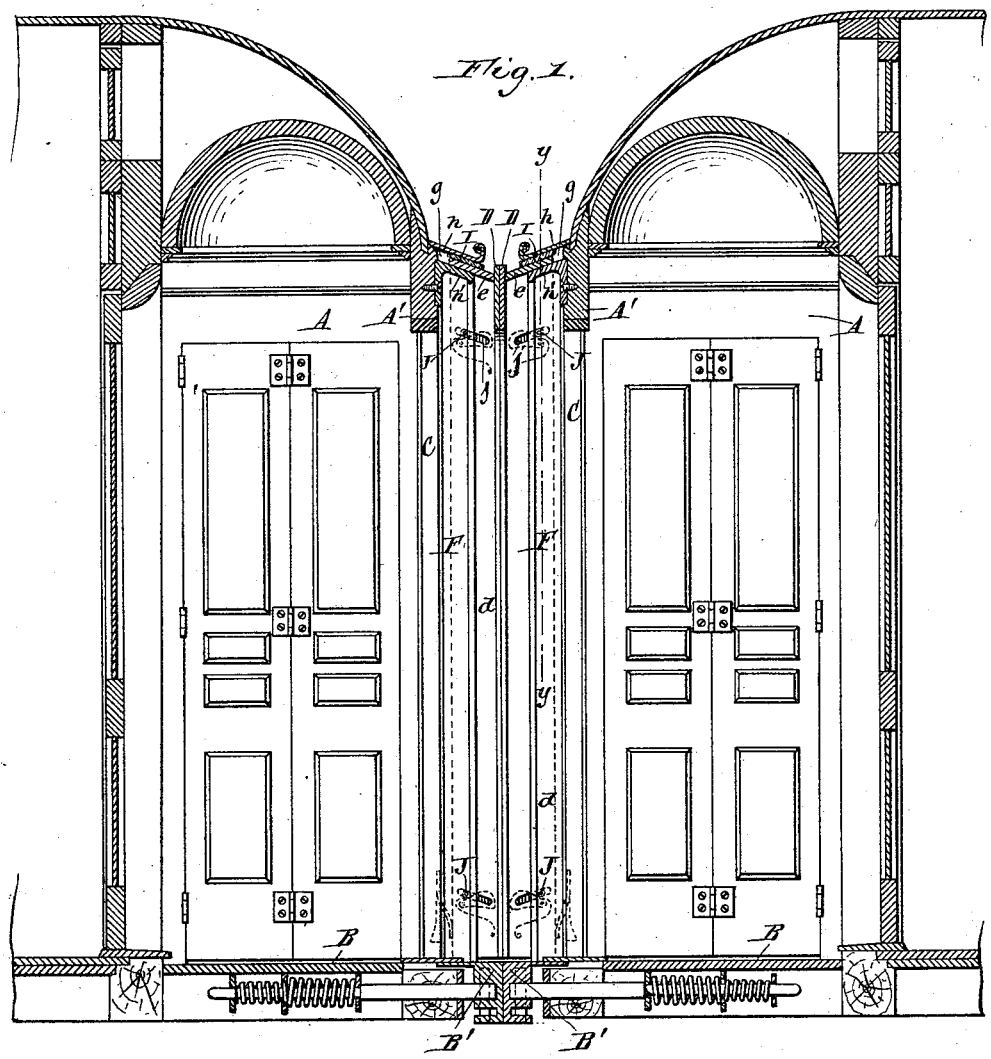
(No Model.) 3 Sheets—Sheet 1.

A. FEINE, C. KOCH & A. MILLER.

VESTIBULE HOOD FOR CARS.

No. 454,996. Patented June 30, 1891.

Fig. 1.



August Feine,
Carl Koch,
August Miller,
Inventors.

Witnesses:
Emil Neuhart
Thos. L. Popp.

By Wilhelm Bonn
Attorneys

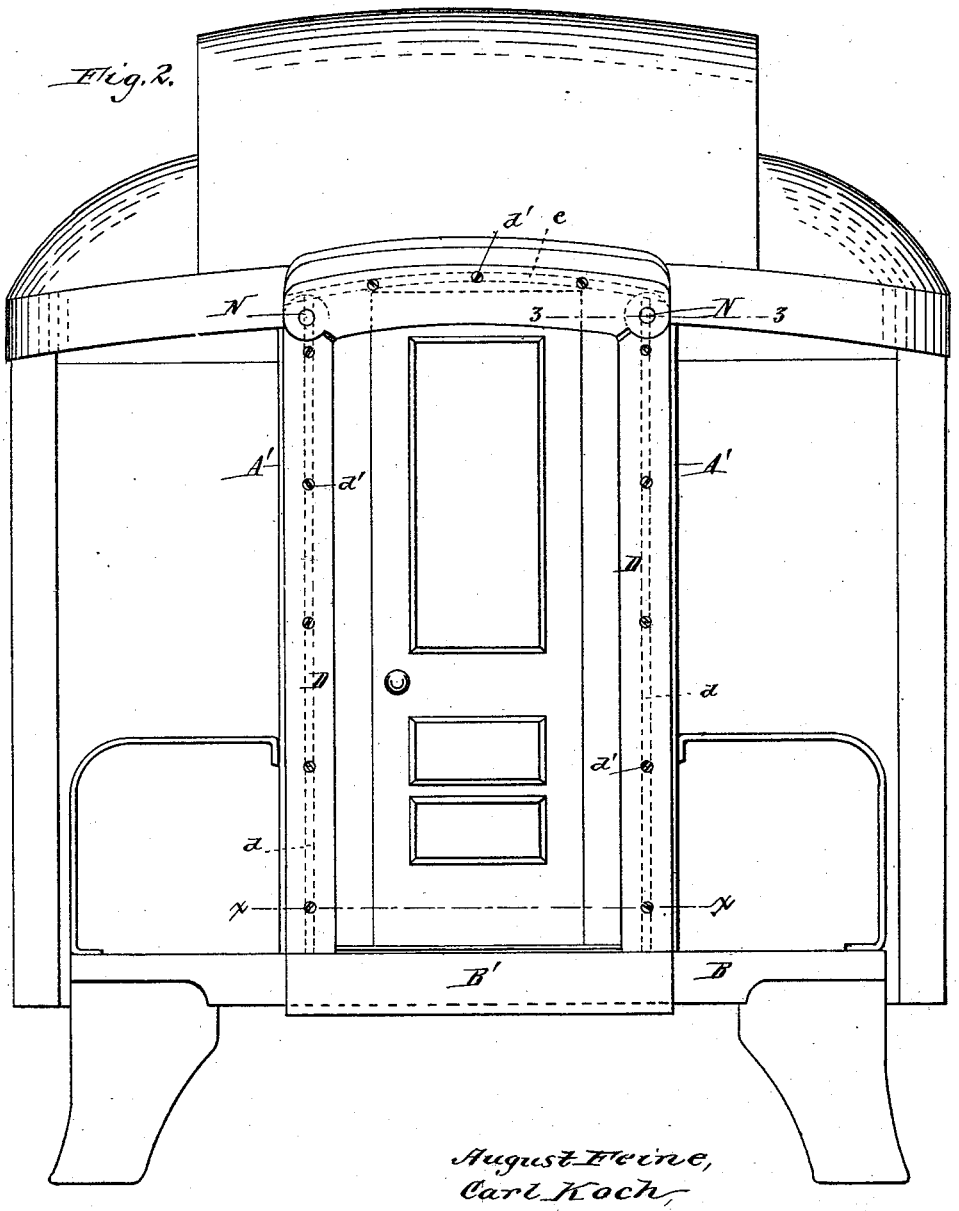
(No Model.) 3 Sheets—Sheet 2.

A. FEINE, C. KOCH & A. MILLER.

VESTIBULE HOOD FOR CARS.

No. 454,996. Patented June 30, 1891.

Fig. 2.



August Feine,
Carl Koch,
August Miller,
Inventors,

Witnesses:
Theo. L. Popp.
Friedrich G. Wilhelm.

By Wilhelm & Bonner
Attorneys.

(No Model.) 3 Sheets—Sheet 3.

A. FEINE, C. KOCH & A. MILLER.

VESTIBULE HOOD FOR CARS.

No. 454,996. Patented June 30, 1891.

Fig. 3.

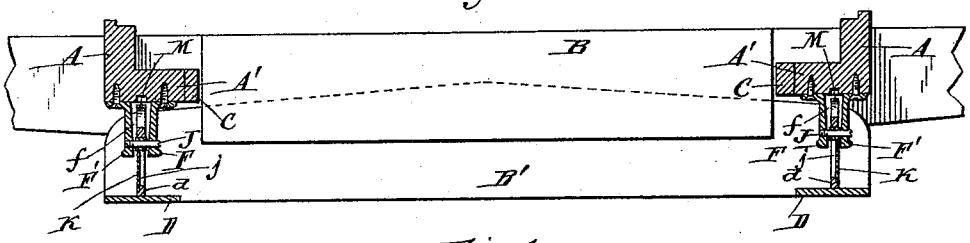


Fig. 4.

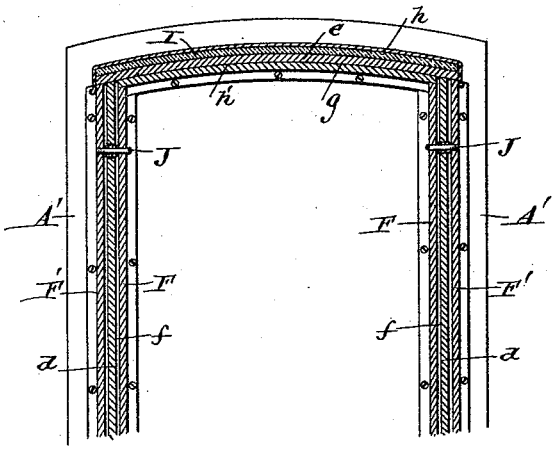


Fig. 5.

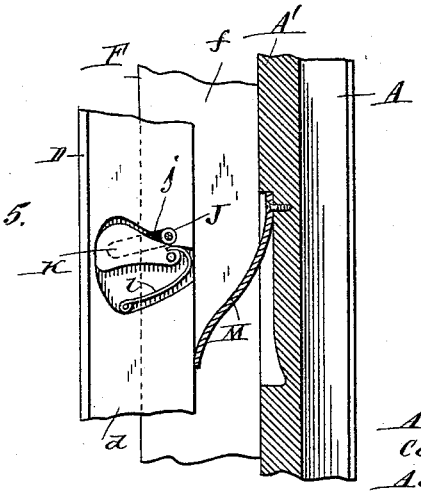
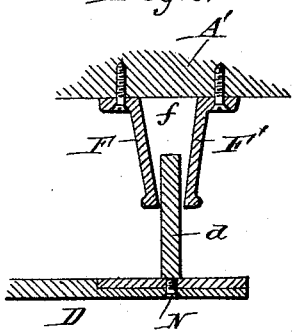


Fig. 6.



August Feine,
Carl Koch,
August Miller,
Inventors.

Witnesses:
Emil Neuhart
Theo. L. Popp.

By Wilhelm Bonner
Attorneys.

UNITED STATES PATENT OFFICE.

AUGUST FEINE, CARL KOCH, AND AUGUST MILLER, OF BUFFALO, NEW YORK.

VESTIBULE-HOOD FOR CARS.

SPECIFICATION forming part of Letters Patent No. 454,996, dated June 30, 1891.

Application filed March 19, 1891. Serial No. 385,606. (No model.)

To all whom it may concern:

Be it known that we, AUGUST FEINE, CARL KOCH, and AUGUST MILLER, all citizens of the United States, residing at Buffalo, county of Erie, and State of New York, have invented new and useful Improvements in Vestibule-Hoods for Cars, of which the following is a specification.

This invention relates to that class of railway-cars which are provided with end vestibules having hoods forming a closed passage between the vestibules of two adjoining cars.

Heretofore these hoods were composed of movable face-plates connected with the vestibules by means of flexible curtains, and the face-plates were yieldingly held in contact with each other by springs or weights.

The object of our invention is to dispense with the flexible curtains and utilize the weight of the face-plate to form a tight joint between the vestibule-hoods.

In the accompanying drawings, consisting of three sheets, Figure 1 is a sectional elevation of the end portion of two adjoining cars provided with our improvements. Fig. 2 is an end elevation of the car and its vestibule. Fig. 3 is a horizontal cross-section in line *x x*, Fig. 2, on an enlarged scale. Fig. 4 is a fragmentary vertical section of the hood in line *y y*, Fig. 1. Fig. 5 is a fragmentary sectional view of the hood and one of its supports on an enlarged scale. Fig. 6 is a fragmentary horizontal section in line *z z*, Fig. 2, on an enlarged scale.

Like letters of reference refer to like parts in the several figures.

A represents the side walls of the vestibules, and A′ the end walls thereof.

B represents the stationary platform of the cars, and B′ the movable buffer-plates, which are yieldingly supported at the front ends of the platforms.

C represents the open frames, which are secured in the openings or passage-ways in the end walls of the vestibules.

D represents the arch-shaped face-plates arranged in the front of the end walls of the vestibules. Each of these face-plates is provided on its rear side with two vertical ribs *d d*, arranged on opposite sides of the face-plates, and a transverse rib *e*, arranged across the top of the face-plate and connecting the upper ends of the vertical ribs. These ribs may be secured to the face-plate by screws *d′*, as shown, or formed integral therewith. The free ends of the vertical ribs are arranged to move in vertical channels or recesses *f f*, formed on opposite sides of the end wall of each vestibule. Each of these recesses is preferably formed by two vertical guide-plates F F′, secured to the end wall of the vestibule and arranged, respectively, on the inner and outer sides of the vertical ribs of the face-plates. The transverse rib of the face-plate is arranged to move in a groove *g*, formed transversely on the upper portion of the vestibule end wall, by two transverse guide-plates *h h′*, secured to the vestibule and arranged, respectively, on the upper and lower sides of the transverse rib of the face-plate. The transverse rib of the face-plate inclines upwardly with its rear end, and the transverse guide-plates are correspondingly inclined, so that the weight of the face-plate has a constant tendency to slide down on the lower incline guide-plate and move forward.

I represents a packing-strip of rubber or similar material arranged between the upper side of the transverse rib of the face-plate and the under side of the upper guide-plate *h*, whereby water and dust are prevented from entering the vestibule through the top of the hood. The transverse rib of the face-plate and its guide-plates are preferably curved, so that the sides are lower than the center, whereby the water falling upon the hood is shed over the sides of the hood.

J represents pins arranged in the vertical guide-plates, whereby the vertical portions of the face-plate are supported and guided. Each side of the face-plate is supported by two of these pins. Each of the supporting-pins is secured with its ends in the vertical guide-plates by a screw-thread, as shown, or otherwise, and passes with its central portion through an inclined slot *j*, formed in the adjacent rib of the face-plate. The inclination of the slots *j* in the face-plate ribs is of the same angle as the inclined transverse rib, which causes the face-plate to move parallel lengthwise. The slots *j* limit the forward and back-

ward movement of the face-plate, and each supporting-pin J is preferably surrounded by an anti-friction roller in the slot of the rib, which enables the face-plate to move with greater freedom and reduces friction and wear.

K represents escutcheons or shutter-plates arranged in recesses formed on the outer side of each rib and overlapping the slots in which the supporting-pins move. The inner ends of the shutter-plates are pivoted to the ribs, and are yieldingly held in contact with the supporting-pins by a spring *l*, secured with its ends to the shutter-plate and the face-plate rib, thereby practically closing the slots in any position of the face-plates. In the normal or uncoupled position of the hoods the face-plates slide out by gravity and are extended to the limit of the inclined slots. When the face-plates of two opposing cars strike each other, the face-plates recede and ride upwardly, with their inclined slots on the supporting-pins and the inclined transverse rib between the inclined guide-plates. The face-plates having a tendency to move forward by gravity cause them to remain constantly in contact with each other and adjust themselves to the movements of the cars when the latter approach or recede from each other slightly, thereby forming a perfectly-closed passage between the vestibules.

M represents springs arranged in the lower portions of the vertical recesses and bearing against the rear side of the vertical ribs of the face-plate, whereby a firm contact between the lower portion of the opposing face-plates is insured. When the cars turn a curve, one side of the face-plate recedes, while the opposite side is extended. The receding side of the face-plate rises on the inclined supports during its backward movement and the opposite side of the face-plate descends in moving outward, thereby causing the sides of the face-plate to move slightly vertical in opposite directions. In order to permit this independent vertical movement of the face-plate sections and prevent binding of the face-plates in the grooves between the guide-plates when the cars turn a curve, the transverse portion of the face-plate and its rib are formed separate from the vertical portions of the face-plate, and the transverse portion is pivotally connected with its ends to the upper ends of the vertical portions by means of bolts or rivets N, the parts being fitted together by an overlapping joint in such manner as to leave a flush finish on the front side of the face-plate. This pivotal connection between the vertical and transverse portions of the face-plates allows the vertical portions to move independent vertically in opposite directions when one side of the face-plate recedes more than the other, thereby avoiding cramping and binding of the parts.

In order to further facilitate the free movement of the face-plate, the inner portions of the grooves or recesses which receive the ribs of the face-plate are made inwardly flaring or undercut, so as to allow of a limited lateral movement of the ribs between the guide-plates.

Our improved hood for vestibule-cars is very simple and inexpensive in construction, positive in its action, and not liable to get out of order.

We claim as our invention—

1. The combination, with a railway-car having a vestibule provided in its end wall across its top with an inclined groove and on opposite sides of its passage-way with upright grooves, of a face-plate provided on its rear side with rigid upright ribs or flanges forming the sides of the vestibule-extension and arranged in the upright grooves of the vestibule, and across its top with a rigid inclined rib or flange forming the top of the vestibule-extension and arranged in the inclined groove of the vestibule, substantially as set forth.

2. The combination, with a railway-car having a vestibule, of upright guide-plates secured to the end wall of the vestibule on opposite sides of the passage-way, an inclined guide-plate secured transversely to the top of the vestibule, a face-plate provided on its rear side with vertical ribs or flanges arranged adjacent to the upright guide-plates of the vestibule and provided with inclined slots and across the top of its rear side with an inclined rib or flange guided upon the inclined plate of the vestibule, and pins secured to the upright guide-plates of the vestibule and passing through the slots of the face-plate flanges, substantially as set forth.

3. The combination, with a railway-car having a vestibule provided with guide-plates on its front sides, of a face-plate having rearwardly-extending ribs arranged adjacent to said guide-plates and provided with slots which incline upwardly with their rear ends, pins secured to the guide-plates and engaging with said slots, and shutter-plates pivoted to the ribs and closing said slots, substantially as set forth.

Witness our hands this 14th day of March, 1891.

AUGUST FEINE.
CARL KOCH.
AUGUST MILLER.

Witnesses:
THEO. L. POPP,
ALICE G. CONNELLY.