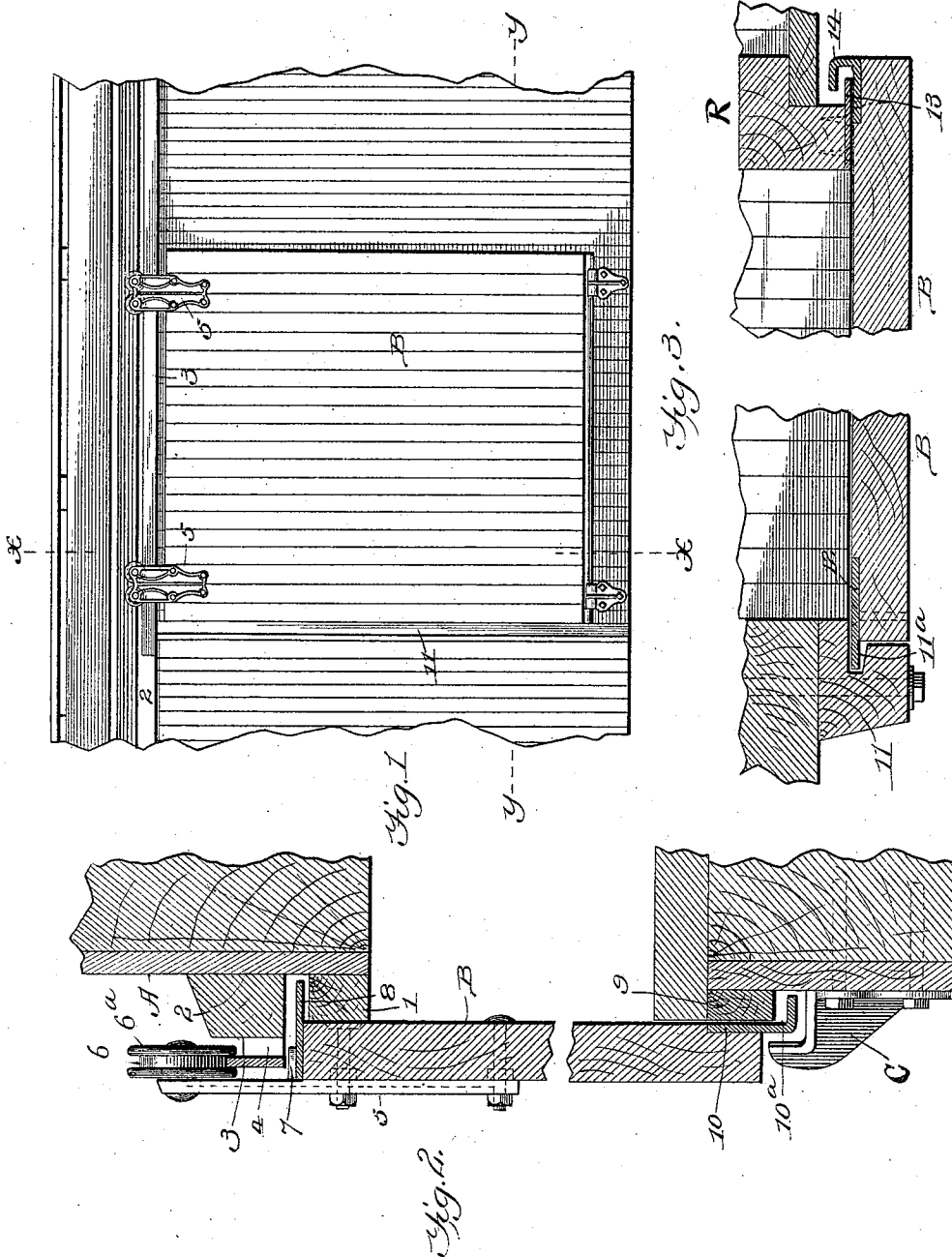


(No Model.)

A. M. WAITT.
CAR DOOR.

No. 570,074.

Patented Oct. 27, 1896.



WITNESSES:

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CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 570,074, dated October 27, 1896.

Application filed May 21, 1896. Serial No. 592,475. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR M. WAITT, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Car-Doors; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a freight-car together with a car-door embodying my invention. Fig. 2 is an enlarged vertical sectional view of the door on the line *x x*, Fig. 1, parts broken out, the section of the upper part of the door showing the trolley and limit-lug in elevation and the track and horizontally-projecting top guard-plate or guard-strip in transverse section and the section of the bottom of the door showing the bracket at the bottom of the door in elevation and the angle-plate or L-shaped bottom guard-plate in section. Fig. 3 is an enlarged horizontal sectional view of the door on the line *y y*, Fig. 1, parts broken out, the left of the figure showing in section the recessed front post of the doorway and the front guard-plate or guard-strip and the right of said figure showing the rear post of the doorway with rear guard-plate or guard-strip and the U or sheath plate.

Like symbols refer to like parts wherever they occur.

The object of my invention is the production of a simple and efficient sliding door for freight-cars and like structures, which door shall be weather and spark proof, of a character which cannot be tampered with without so mutilating the door as to at once attract attention, and which will not become displaced in case the hangers and trolleys should from any cause become broken or detached while the car is in service.

To this end the main feature of my invention, generally stated, embraces the combination, with a car-doorway having a projecting lintel-strip, a projecting door-post with continuous channel on its inner face, and a bracket-strip above and parallel with the lintel-strip, of a sliding door having on one side edge a laterally-projecting guard-plate and on its upper edge a horizontal inwardly-pro-

jecting guard-plate, whereby, when the door is closed, a "broken joint" is presented in front and above the door, which effectually prevents the entrance of dirt, rain, or cinders.

There are other features of my invention, involving the special combination of the track-trolley and horizontal guard-strip for the top of the door, a projecting continuously-channeled door-post with a sliding door having a horizontally-projecting guard-strip above, a laterally-projecting guard-strip in front, the U-shaped rear guard-strip, and offset rear post with projecting entrant guard-strip, as well as minor details of construction, all as will hereinafter more fully appear.

I will now proceed to describe my invention more specifically, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates a portion of the side of a freight-car, including the doorway, and B a sliding door to close the same.

Secured to the side of the car directly over the doorway and coextensive therewith is a projecting lintel-strip 1, and directly over the lintel-strip 1, but at such a distance therefrom as will admit a horizontal guard-strip secured to the top of the door B, is a bracket-strip 2, from which the track 3 is supported by brackets 4 or in other suitable manner.

5 indicate the suspension-hangers for the door, on which are journaled the trolley-rollers 6 6, having flanges 6^a, and projecting from the rear face of the hanger 5 at such a point as will cause it to pass beneath track 3 is a limit-lug 7, which prevents the derailment of the trolley, and consequently any loss or lateral displacement of the door.

The hangers 5 may be formed with hollow bosses on the inner face around the bolt-holes, (see dotted lines, Fig. 2,) which bosses are let into the door B to relieve the bolts from strain and serve to preserve the connection of the hanger and door and retain the door B in position in case the bolts become loose or drop out.

Secured to the top of the door and coextensive therewith is a horizontal inwardly-projecting guard-plate or guard-strip 8, which, when the door is in position, enters between

the lintel-strip 1 and bracket-strip 2 and thus effectively seals the top of the door against rain, snow, dirt, or cinders.

Beneath the doorway and coextensive therewith is a projecting sill-strip 9, and attached to the inner edge and projecting below the door B is an angle-plate or L-shaped bottom guard-strip 10 of equal length with the door and whose horizontal arm 10^a projects inwardly beneath the sill-strip 9 and effectually guards against the entrance of dirt, rain, snow, or cinders from below.

C indicates the guide-bracket secured to the side of the car below the sill-strip 9, and between which and the sill-strip the bottom guard-strip 10 10^a passes to prevent the outward swing of the door when partially drawn. When the door is completely closed, the lateral guard-strips hereinafter described will prevent any outward swing of the door, and so any ordinary guide-bracket may be employed.

Secured to and projecting from the front door-post in the plane of the sliding door B is a post-strip 11, having in that face against which the door closes a continuous recess or channel 11^a, and attached to the inner face and projecting beyond the front edge of the door B is a vertical front guard-plate or front lateral guard-strip 12, adapted to enter the recess or channel 11^a of the post-strip 11 and thus "break-joint" or seal the front of the door against cinders, rain, &c., when the door is closed.

The rear post R is allowed to project slightly beyond the side of the car until its outer face is about flush with the plane in which the sliding door moves, and to said projection of the rear post R is attached a vertical rearwardly-projecting guard-plate 13 or rear lateral guard-strip, its projecting portion being arranged to enter the U-shaped sheath-plate 14 or sheath-strip which is attached to the inner face and rear edge of sliding door B.

The construction being substantially such as hereinbefore specified and the hangers having been secured to the door B, the trolley-rollers 6 will have to be entered at the rear end of track 4, so that the limit-lug 7 and horizontal top guard strip or plate 8 may pass beneath the track and within the space between the lintel-strip 1 and bracket-strip 2.

When the sliding door B is closed, the horizontal top strip 8 will be housed between the lintel-strip 1 and bracket-strip 2, the angle-plate or L-shaped bottom strip 10 10^a will lap under the sill-strip 9, the front lateral guard-strip 12 will be housed in the continuous channel 11^a of post-strip 11, and the rear lateral guard-strip 13 will be housed in sheath-strip 14, so that the entire door will be protected (by broken joints) in a very simple and effective manner against the entrance of rain, snow, dust, or cinders.

It will be noted that owing to the position

and arrangement of the guard-plates and housing-plates attached to both the doorway and the door the fastenings therefor are upon the inside, or so concealed that they can only be removed by taking the door off the cars, and especially is this the case as regards the fastenings of the projecting guard-plate 13 of rear post R and the sheath or U plate 14. Where bolts are used, they can only be driven out at the back end and at the bottom by removing the door from the car.

Among the advantages of the construction hereinbefore described are, first, the door cannot become displaced or drop off in case one or both of the hangers should be lost off; second, the door cannot swing out in case one or both of the bottom brackets C should be lost off, and, third, it is impossible to obtain unauthorized admission to the car without destroying the seal or so mutilating the door as to be immediately noticeable.

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

1. The combination with a car, having a doorway provided with a projecting lintel-strip, a bracket-strip above and parallel therewith, and a projecting door-post having a continuous channel on its inner face, of a sliding door having on its upper edge a horizontal inwardly-projecting guard-plate which enters the space between the lintel and bracket strip, and a laterally-projecting guard-plate upon its front edge which enters the continuous channel in the door-post; substantially as and for the purposes specified.

2. The combination with a car having a doorway provided with a projecting lintel-strip and projecting door-posts, one of said posts having a continuous channel on its inner face, and the other of said posts having a rearwardly-projecting guard-plate, of a bracket-strip above and parallel with the lintel-strip, a sliding door having on its upper edge a horizontal inwardly-projecting guard-plate, on one lateral edge a laterally-projecting guard-plate which enters the continuous channel of one of the door-posts, and on its other edge a sheath-plate which receives the guard-plate of the other door-post; substantially as and for the purposes specified.

3. The combination with a car, having a doorway provided with laterally-projecting lintel-strip, sill-strip, and door-posts, one of said posts having a continuous channel in its inner face, and the other of said posts having a rearwardly-projecting guard-plate, of a bracket-strip above and parallel with the lintel-strip, a door having on its upper edge a horizontal inwardly-projecting guard-plate, on its lower edge a guard-plate with horizontal inwardly-projecting flange, on one lateral edge a laterally-projecting guard-plate and on the other edge a U-shaped sheath-plate to receive the laterally-projecting guard-plate

of the door-post; substantially as and for the purposes specified.

4. The combination with a car having a doorway provided with a projecting door-post
5 and laterally-projecting guard-plate thereon, of a sliding car-door having a U-shaped sheath-plate to receive and house the laterally-projecting guard-plate of the door-post, said U-shaped sheath-plate having the outer
10 face of one flange secured to the inner face

of the door; substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 18th day of May, 1896.

ARTHUR M. WAITT.

Witnesses:

JOHN KIRBY,

CHAS. E. HATCH.