

(No Model.)

E. B. SEARLES.

CAR DOOR.

No. 395,457.

Fig. 1. Patented Jan. 1, 1889.

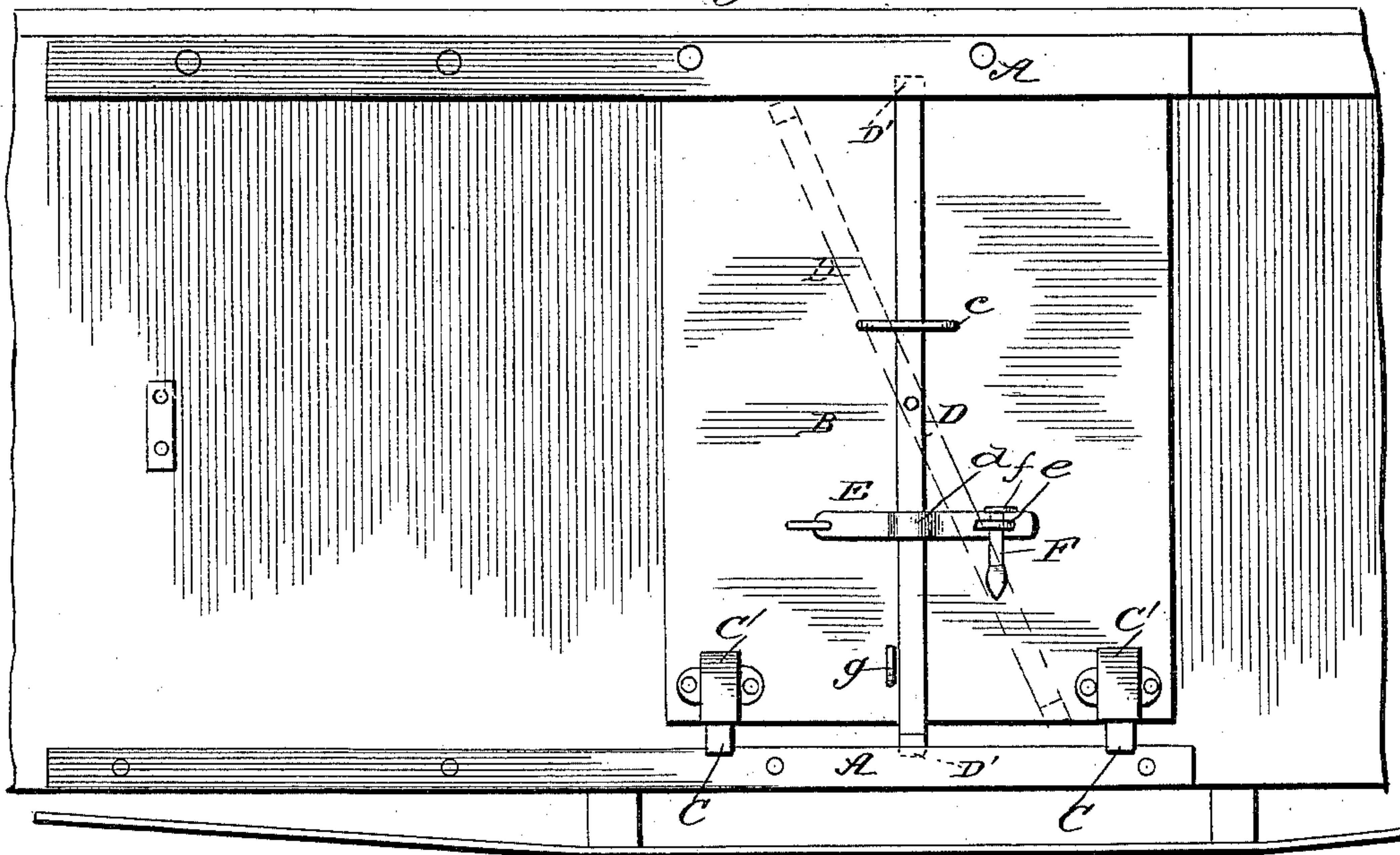


Fig. 2.

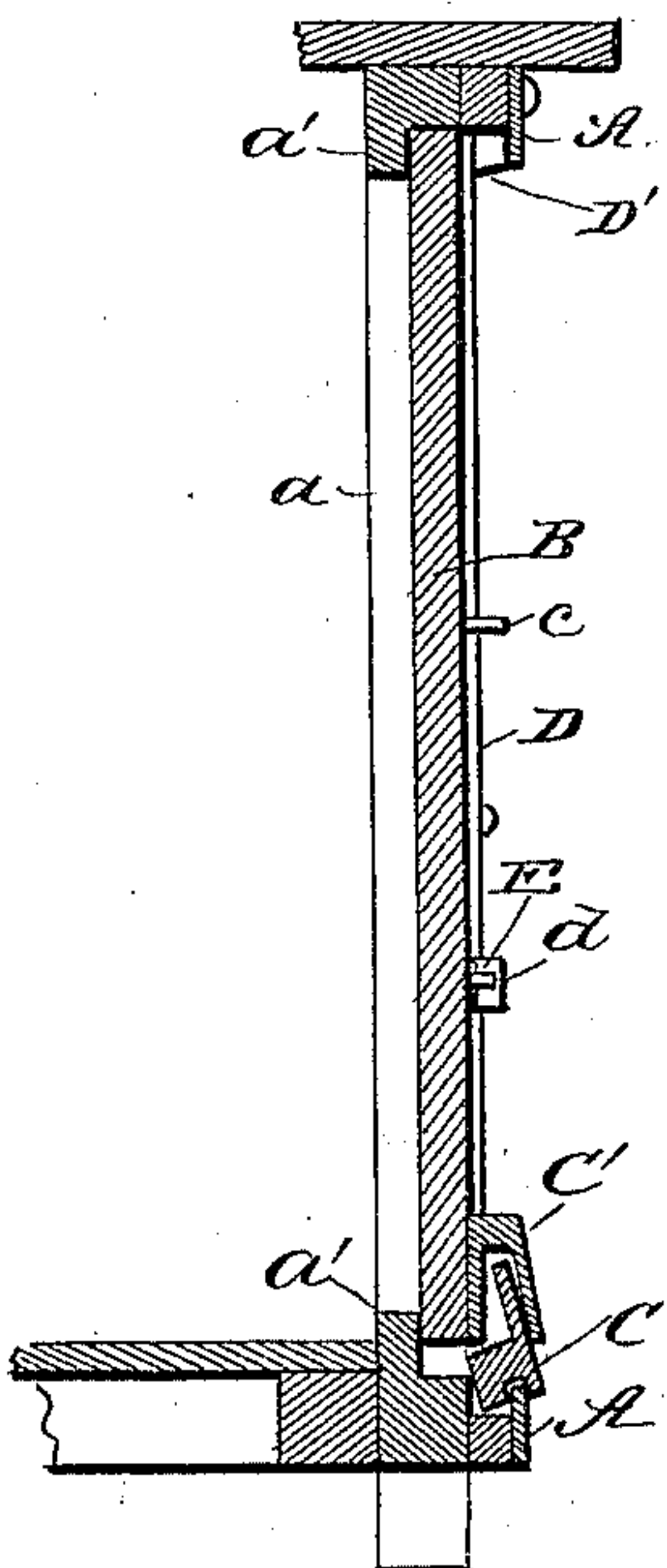


Fig. 3.

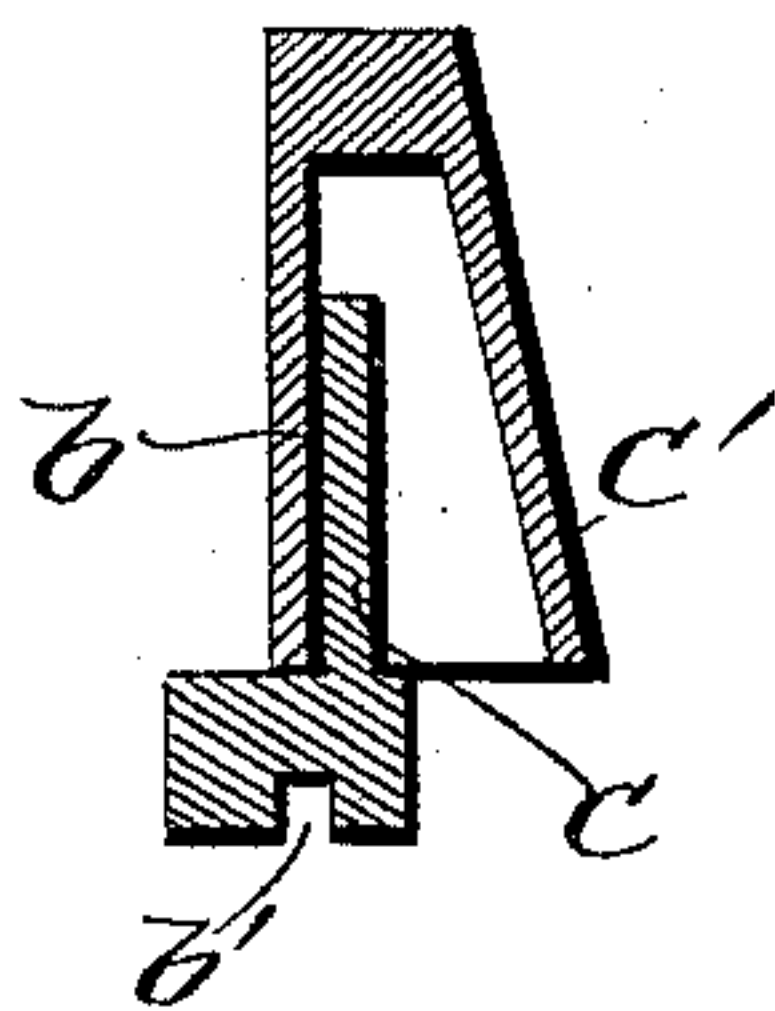
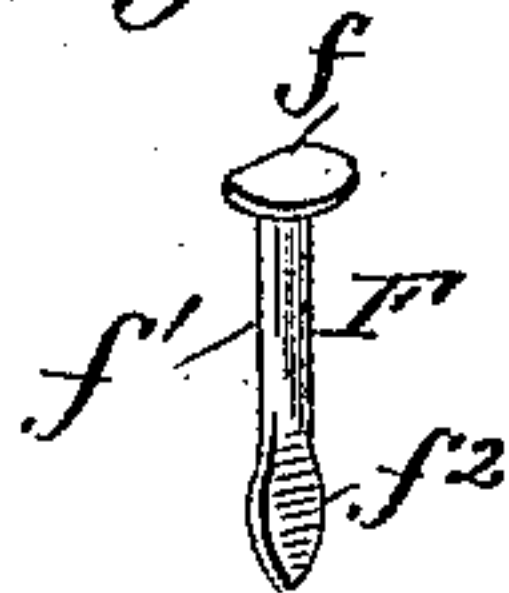


Fig. 4.



WITNESSES:

Fred G. Dietrich.

J. M. Winter.

INVENTOR

E. B. Searles

BY

Murphy

ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD B. SEARLES, OF BALTIMORE, MARYLAND.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 395,457, dated January 1, 1889.

Application filed August 8, 1888. Serial No. 282,203. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. SEARLES, of Baltimore city, in the State of Maryland, have invented a new and useful Improvement in Car-Doors, of which the following is a specification.

This invention has in view, principally, to prevent the entrance to the car around the closed car-door of flying sparks from the engine or locomotive of passing trains, &c., while it also excludes moisture, &c.; and to these ends the nature of the invention consists of peculiarly-constructed shoes or bearings for the door and their connection with the door, and of the door securing or fastening contrivance, substantially as hereinafter more fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of a car, partly broken away, with my improved door applied thereto and in its closed position, while in dotted lines is shown the unlocked position of the securing contrivance. Fig. 2 is a vertical sectional view thereof. Fig. 3 is an enlarged sectional view of one of the door shoes or bearings, including its socket or case; and Fig. 4 is also an enlarged view of the securing bolt or pin, but in perspective.

In the embodiment of my invention I employ, as usual, two rails, A A, one arranged parallel with the bottom edge of the door-opening *a* and the other similarly with relation to the top edge thereof, and both extending far enough beyond the rear edge of said opening to permit of the sliding or standing of the door thereon when opened, said rails standing away from the car-body sufficiently to enable the door to clear the latter or avoid its obstruction as opened.

B is the door, which is of such width and height as to admit it into the opening *a*, flush with the outer side of the car-body, while the inner, top, and bottom edges of said opening are provided with cleats or jambs *a'* *a'*, which limit the inward closing movement of the door, and against which it rests and is held when locked. Applied to the outer side of the door *a*², at or near its forward and rear edge and at the lower end, are hollow castings or sockets C' C', having preferably perforated lugs or ears, through which are passed the fastening screws or bolts. These

sockets or castings are flared outward and downward toward their lower ends, thus enlarging their chambers at the lower ends. These sockets or castings have connection with the door shoes or bearings C C, which ride or travel upon the lower rail A. The shoes or bearings C C are each a casting or solid piece of step-like shape, the upright or riser portion *b* of the step, which is elongated, entering the socket C', and is thereby adapted to permit the door to be moved inward at its lower edge, as is necessary to cause it to enter the opening *a* of the car-body in closing the door. The horizontal portion of the shoe or bearing is provided in its lower surface with a groove or passage, *b'*, which receives the rail.

Centrally pivoted to the car-door B is a lever, D, the ends D' of which are thickened or extended outward, so as to permit them to bear against the rails as the lever is carried or moved to a perpendicular position when the door is in its opening in the car-body, as will more fully appear farther on. The lever D is restricted in its movement by a staple or keeper, *e*, applied to the door.

E is a hasp, which is hung at one end to the outer side of the car-door B by means of a staple in the usual way, and which is provided at its center, about, with an outwardly-bent or bridge portion, *d*, which spans or receives the lever D in the direction of its length. The free or opposite end of the hasp E has, as is common, a slot to permit of the reception or passage through it of a second staple, *e*, projecting from the car-door. A pin or bolt, F, or other suitable means, which, for convenience and security, may be connected to the car-door by means of and dangle from a chain, has a portion or segment of its head removed, flattening it, as at *f*, and its body or shank flattened, as at *f'*, in alignment with said flattened portion of its head, while in planes about parallel with said removed or flattened portions it is again flattened and widened upon opposite sides toward the lower end or point, as at *f*². From this construction it will be seen that in order to insert the pin or bolt through the staple *e*, (the hasp E being in place thereon,) it is required to dispose it so that its greater width or lower portion will stand edgewise to the hasp. After insertion it is turned so as to

bring its greater width or lower portion parallel with the hasp and then shoved or driven home into said staple, which will bring the flattened portion *f* of the head against the
 5 hasp, which has the effect to hold the hasp close up to the door and the pin or bolt itself securely in place against accidental displacement.

In operating my invention, the door being
 10 open or standing upon the rails at one side of the door-opening, it (the door) is moved forward to a point about opposite the opening, the same riding by means of its shoes or bearings upon the rails. The door is then moved
 15 inward into its opening, which is permitted, as above described, by reason of the peculiar construction of the bearings or shoes, as also that of their sockets and the loose connection between the shoes or bearings and the sock-
 20 ets. The lever *D* is now swung or moved from its previously-disposed position (an oblique one) into a perpendicular position, its thickened ends *D'* passing and fitting in between the upper and lower edges of the car-
 25 body and the rails *A A*, the movement of the lever *D* into its securing position being limited by a stop, *g*, which may be an eyebolt screwed into the door. The hasp *E* is carried across the lever *D*, with its bridge portion *d*
 30 spanning the latter, while its slotted free end is slipped upon the staple *e*, and the pin or bolt *F* passed and secured in the projecting portion of said staple, as above described, thus effecting the closing and securing of the
 35 door in a very simple and expeditious manner, and against the entrance of sparks or the weather, as aforesaid.

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

1. The combination, with the casting or socket, of the shoe or bearing, its horizontal portion having in the lower surface a groove or passage, its upper portion formed into a
 45 vertical arm entering the socket and having a loose connection therewith, whereby it is adapted to transverse play within said socket, substantially as shown and described.

2. The combination, with the casting or
 50 socket having one of the faces of its chamber flared or inclined outward and downward toward its lower edge, of the shoe or bearing of step-like shape having in the lower surface of its horizontal portion a groove or passage, its
 55 upper or vertical portion entering the chamber, said portion adapted to transverse movement in said chamber, whereby it will rest

against the vertical portion of said chamber when the door is open and against the inclined wall when the door is closed, substantially as and for the purpose described. 60

3. The combination, with the door fitting into the door-opening and flush with the outer side of the car-body and the rails applied to said car-body, of the shoes or bear-
 65 ings each of a step-like shape and having in the lower surface of its horizontal portion a groove or passage, their upper ends formed with upwardly-projecting arms, and the sockets or castings applied to said door and
 70 having interior chambers which receive the projecting arms of the bearings, forming a loose connection therewith, whereby said arms have a transverse movement in said cham-
 75 bers or sockets, substantially as and for the purpose specified.

4. The combination, with the door fitting into the door-opening and flush with the outer side of the car-body and the rails applied to said car-body, of the lever centrally pivoted
 80 to the door and having its ends fitting between the car-body and rails, the hasp connected to the door and having its central portion spanning said lever, while its slotted free end receives a staple projecting from the
 85 door, the pin or bolt for insertion into said staple, sockets connected to the door, and the shoes, their lower faces riding upon the rails, their upper ends projected and loosely fitted into the sockets, whereby said sockets are
 90 adapted to transverse movement on said shoes, substantially as hereinbefore described.

5. The combination, with the door fitting into the door-opening and flush with the outer side of the car-body and the rails ap-
 95 plied to the car-body, of the lever centrally pivoted to the door and having its ends fitting between the car-body and rails, the hasp connected to the door and spanning the lever, the lever stop and keeper applied to the
 100 door, the staple projecting from the door through the slot in the hasp, the pin or bolt for insertion into said staple, sockets connected to the door, and the shoes, the lower faces thereof riding upon the rails, their up-
 105 per ends projected and loosely fitted into the sockets, whereby said sockets are adapted to transverse movement on said shoes, substantially as and for the purposes described.

EDWARD B. SEARLES.

Witnesses:

THOS. KELL BRADFORD,
 LEE PURCELL.