(No Model.)

# F. B. BROWNELL.

## CAR DOOR.

No. 294,194. Patented Feb. 26, 1884.

*Fig. 1.*

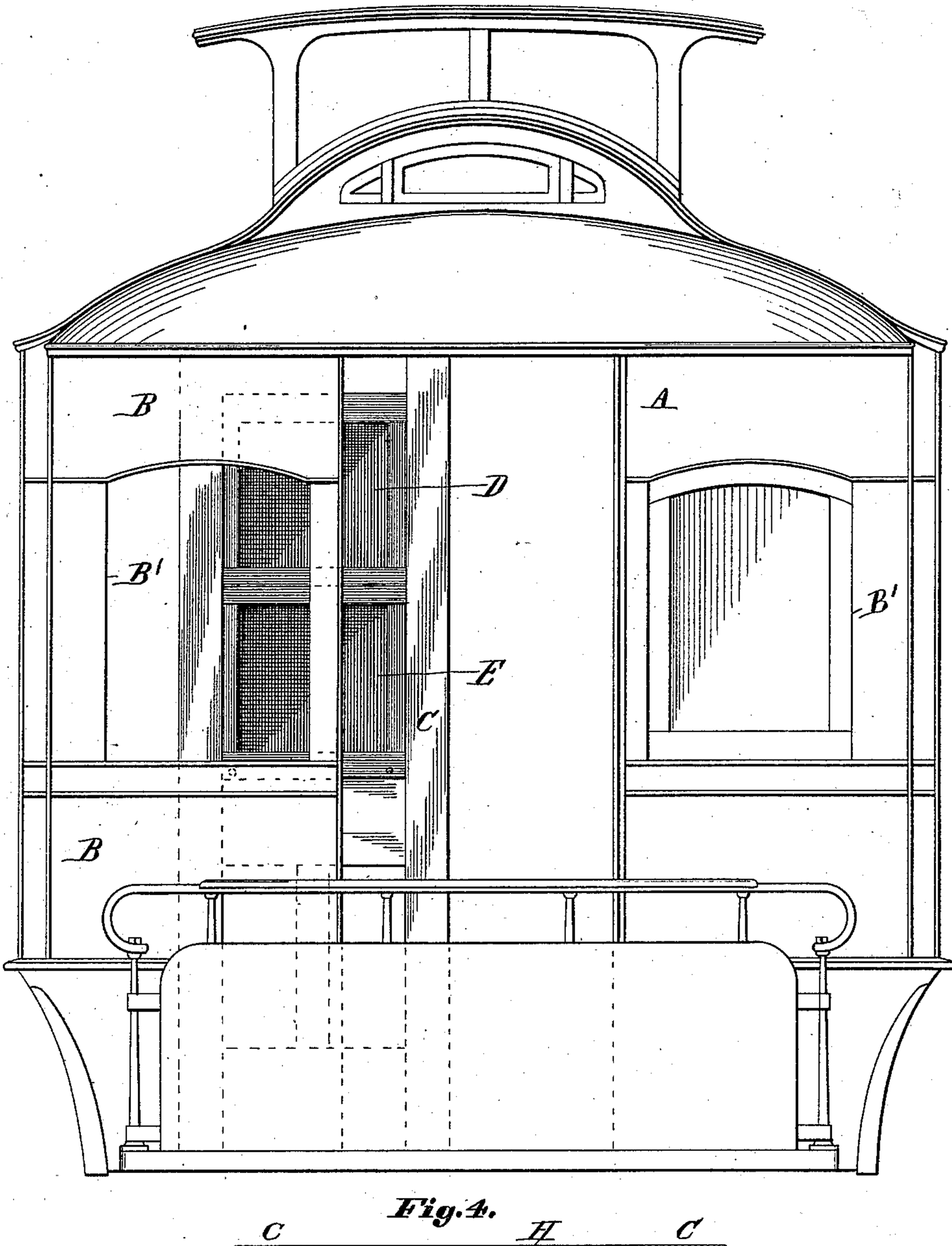



*Fig. 2.*

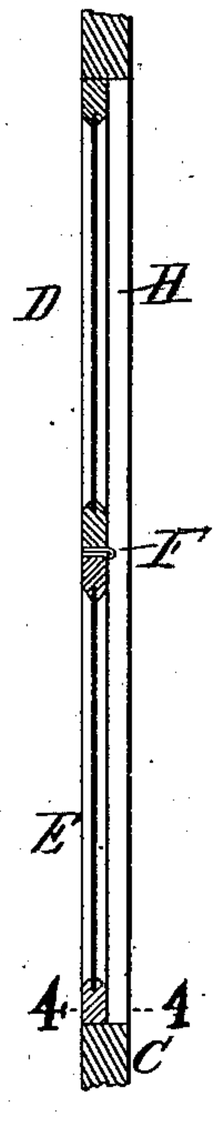



*Fig. 3.*

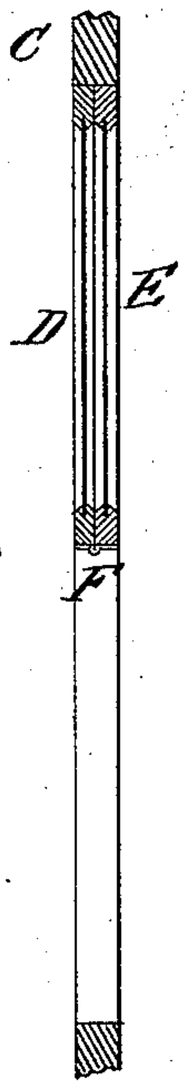
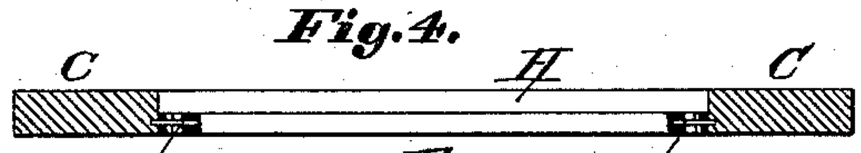



*Fig. 4.*

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# UNITED STATES PATENT OFFICE.

FREDERICK B. BROWNELL, OF ST. LOUIS, MISSOURI.

## CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 294,194, dated February 26, 1884.

Application filed June 19, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK B. BROWNELL, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Windows for Sliding Doors of Cars, of which the following is a specification.

My improvement consists in forming the window of a sliding car-door of two sashes hinged together, so that one sash can be opened and folded against the other sash, the window-opening being of sufficient depth to receive the two sashes when folded together, so as not to interfere with the opening or closing of the door, as hereinafter described.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is an end view of a street-car with my improvement applied thereto. Fig. 2 is a vertical section through the upper part of a sliding door, showing the window closed, the moving sash being in its lowest position. Fig. 3 is a similar section, showing the window open, the moving sash being in its upper position. Fig. 4 is a transverse section of the window on the line 4 4, Fig. 2.

A is the end wall of a car having a casing, B, into which the door slides in the opening.

The sliding doors of street-cars have usually been made with a fixed pane of glass in the window-opening, and for cold weather this construction is unobjectionable, because sufficient ventilation can be had. In hot weather the case is different, as it is demanded that the air shall have free passage through the car. To meet this demand about ten years ago I constructed cars with sliding doors having a sash descending into a casing or pocket, being the ordinary and well-known construction applied to the windows in the sides and ends of street-cars and omnibuses, and in the doors of carriages, &c. This construction had the disadvantage of making the door objectionably thick and heavy, and necessitating the making of the end wall or casing thick to receive the door. To meet the requirement for an opening window in the door and to overcome these objections the present invention was introduced.

C is the sliding door, made of the ordinary thickness found in such doors where the window is closed. The window is provided with an upper fixed sash, D, and a lower movable sash, E, connected to the upper sash by suitable hinges, F, which permit one sash to be folded on the other.

G (see Fig. 4) are bolts or catches, by which the free edge of the movable sash is secured to the window-frame either in open or closed position. The opening in the door which forms the window is of sufficient depth to receive both the sashes when folded one on the other, to permit the door to slide freely into and out of its casing when the window is open, a recess, H, being left on one side of the sashes (see Fig. 2) when the window is closed.

It will be seen that with my improvement the door-recess in the end wall of the car is made no larger and the door is no thicker than the ordinary sliding door with fixed window, and that passage is allowed for the air whether the door is open or closed. Of course the window-openings B′ in the end wall should be supplied with opening sashes, or wire or other screens.

As a modification, the upper sash may be made movable and the lower sash fixed.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A sliding car-door having a window-opening provided with a fixed sash and a movable sash to fold against the fixed sash, the window-opening being of sufficient depth to receive both sashes when folded together and permit the door to pass in and out of its casing.

2. A sliding car-door having a hinged sash folding, when opened, against a fixed sash and into a recess in the door on one side of the fixed sash.

3. The combination, with the window-opening of a sliding car-door, of the two sashes D and E, hinged one to the other, and adapted, when folded together, to be flush on both sides of the door, as set forth.

FREDERICK B. BROWNELL.

Witnesses:

F. W. IMSIEPEN,

SAML. KNIGHT.