

(No Model.)

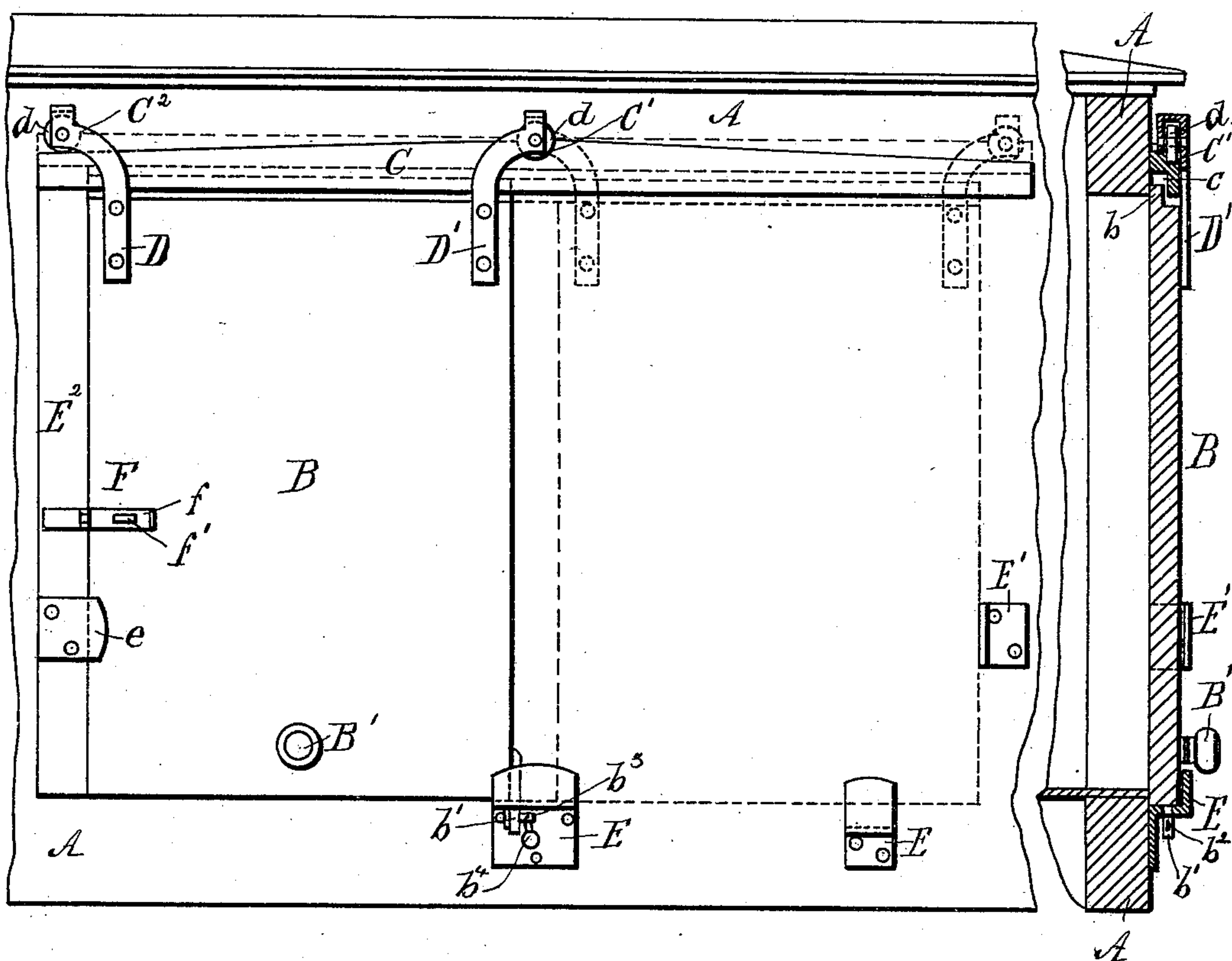
E. L. PHIPPS.  
CAR DOOR.

No. 420,465.

Patented Feb. 4, 1890.

Fig-1-

Fig-2-



WITNESSES  
*F. Clough*  
*C. J. Shipley*

INVENTOR  
*Edward L. Phipps*  
*By Mills H. Leggett & Co*  
Attorneys.

# UNITED STATES PATENT OFFICE.

EDWARD L. PHIPPS, OF MILFORD, MICHIGAN, ASSIGNOR OF ONE-HALF TO  
SOLON H. WILHELM AND ALMON D. WEBB, BOTH OF SAME PLACE.

## CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 420,465, dated February 4, 1890.

Application filed September 21, 1889. Serial No. 324,610. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD L. PHIPPS, a citizen of the United States, residing at Milford, county of Oakland, State of Michigan, have invented a certain new and useful Improvement in Car-Doors; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to that class of sliding car-doors which are adapted to be automatically held in place whether in a closed or fully-open position, so that the ordinary jar of the car will not move the door along on its hangers and thus misplace it.

The invention consists in novel features of construction and combinations of parts set forth in the claims at the end of this specification.

In the drawings, Figure 1 is a side elevation showing a portion of the side of a car with my door thereon. Fig. 2 is a cross-section through the door and adjacent frame.

In carrying out my invention, A represents the side or frame of the car; B, the door.

C is a suitable track above the door, inclined upward from each end to the middle, and provided at this middle or higher portion with a notch or depression C'.

D D' are the hangers from which the door is hung, and journaled in the upper ends of the hangers are the rollers *d*, adapted to travel on the track. I do not care to limit myself to the shape of the rollers and track; but where the track is flat and the face of the rollers correspond I provide the upper edge of the door with a projection *b*, which, entering the groove or depression *c* in the track, prevents the rollers from running off the track when the door is being moved or when it is at rest.

E are suitable cleats adapted to prevent the lower end of the door from flying out from the frame when it is in an open position.

E' is a suitable stop adapted to limit the distance to which the door can be opened.

E<sup>2</sup> is a strip against which the edge of the door rests when it is closed.

*e* is a suitable cleat, adapted also to hold the door firmly against the frame when it is closed.

The operation of the door is as follows: When the door is closed, the hanger D' rests in the notch or depression C', and the pin *b'* passing through an orifice in the cleat E the door is held firmly in position. To move the door, the operator grasps a suitable handle B' and raises the upper right-hand corner of the door. This raises the hanger out of the notch or depression, and the door may be moved along until it is fully open. This will bring the hanger D adjacent to the notch or depression, and this hanger, entering the notch, prevents the door from closing until the hanger is lifted out of the notch. It will thus be seen that the door is held in an open or closed position by an extremely simple means, and is at the same time easily operated. When but one notch is used, as in the above construction, the track above the doorway must be inclined in order to make the door stand level when the hanger rides into the notch.

The door may be locked when in a closed position in any suitable manner—as, for instance, at F. A suitable hasp *f*, hinged to the car-frame, engages over a suitable staple *f'* on the door; or, if desired, one of the cleats E may be provided with a hole to permit the passage therethrough of a pin *b'*, the lower end of which is provided with an orifice *b*<sup>2</sup>, and a pin *b*<sup>3</sup> passed through this orifice to lock the door. The usual seal *b*<sup>4</sup> may then be passed through the pin.

In order that the door when being opened will pass entirely beyond the edge of the doorway before the hanger rides into the notch C', I curve the hangers outward, so that their ends will be beyond the edges of the door. Thus when the hanger D rides into the notch the edge of the door is well beyond the edge of the doorway, as shown by the dotted lines in Fig. 1.

What I claim is—

1. The combination, with the frame, the door, and the track above the door provided with a notch or depression near its middle, of the hangers D D', for supporting the door, each of said hangers curved outward, so that



the bearing-point of each on the track shall be beyond the edge of the door, substantially as described.

2. The combination, with the car-frame and  
5 the door supported by suitable hangers D D', each of which is curved outward from the door, of a track located above the door on which the hangers slide, said track inclined upward from each end to the middle, and a  
10 notch or depression located in said track at said middle portion, said notch adapted to receive the ends of said hangers, substantially as described.

3. The combination, with the car-frame, the

door supported by suitable hangers D D', 15 the track located above the door, upon which the hangers are adapted to slide, and the notch C', in which the hangers may rest, of the cleat E and the pin b', adapted to enter  
20 said cleat and hold the door in its closed position when the hanger rides into the notch C', substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

EDWARD L. PHIPPS.

Witnesses:

W. H. CHAMBERLIN,  
L. A. DOELTZ.