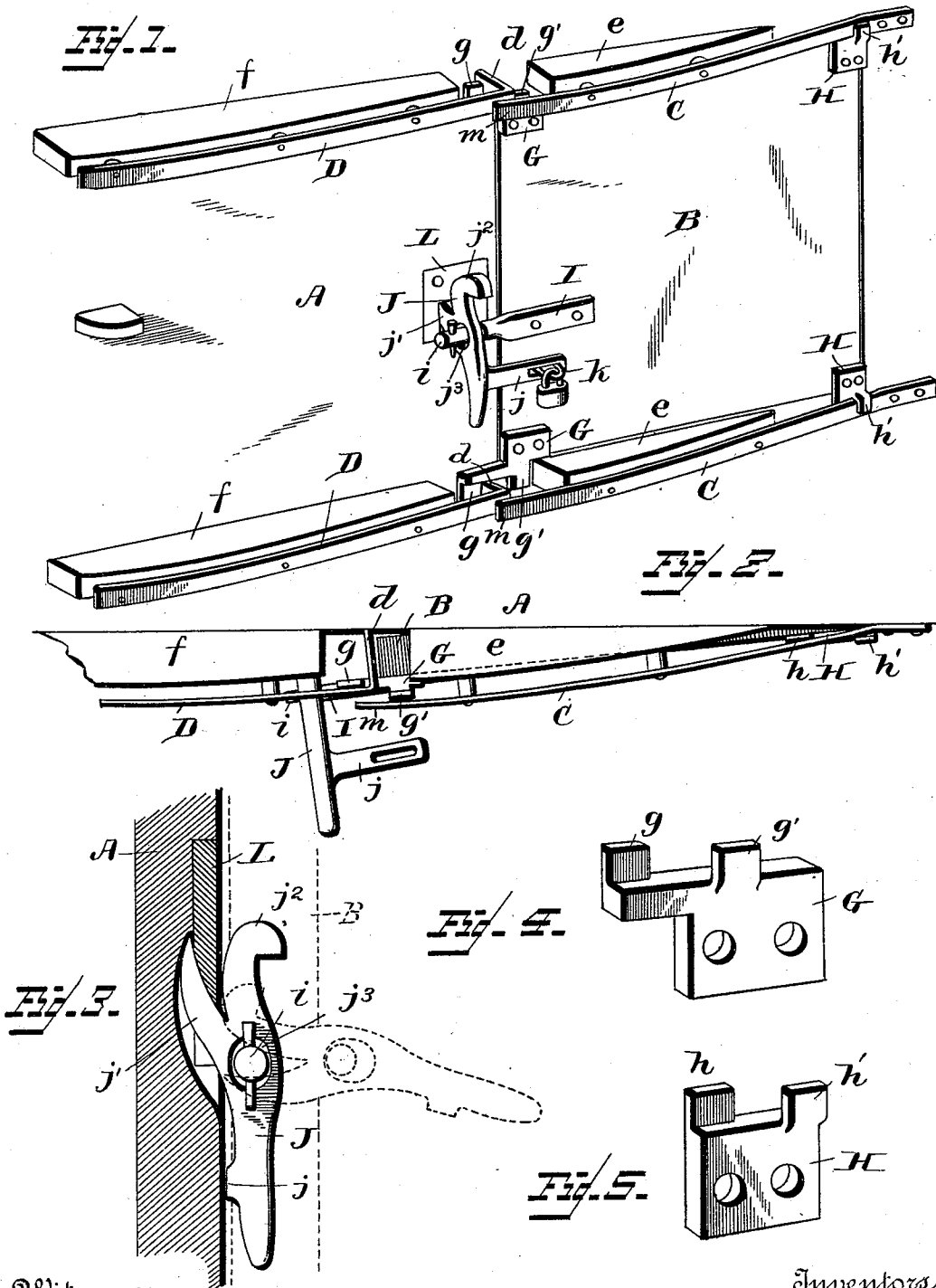


(No Model.)

H. E. HOKE & H. E. HOKE, Jr.  
CAR DOOR.

No. 522,061.

Patented June 26, 1894.



Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY ELIAS HOKE AND HARRY E. HOKE, JR., OF CHAMBERSBURG,  
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## CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 522,061, dated June 26, 1894.

Application filed May 25, 1893. Serial No. 475,494. (No model.)

*To all whom it may concern:*

Be it known that we, HENRY ELIAS HOKE and HARRY E. HOKE, Jr., citizens of the United States, residing at Chambersburg, in the county of Franklin, State of Pennsylvania, have invented certain new and useful Improvements in Car-Doors; and we do hereby 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 appertains to make and use the same.

This invention relates to car doors which are adapted when closed to come flush with the side of the car.

The object of the invention is to provide simple and efficient means for hanging the door and admitting of the same having a lateral movement to free the inner side from the door jamb when it is desired to open the door.

A further object of the invention is the construction of a lever by means of which the door can be positively opened and closed and which, when the door is closed, will serve as a means to securely fasten the said door.

The improvement consists of the novel features and the peculiar construction and combination of the parts which will be hereinafter more fully described and claimed and which are shown in the annexed drawings, in which—

Figure 1 is a perspective view of the invention. Fig. 2 is a top plan view showing the relative disposition of the parts when the door is moved laterally so as to free the inner side from the jamb. Fig. 3 is a detail view of the locking lever showing its position relative to the stop plate on the side of the car by full lines when the door is closed, and by dotted lines when the door is moved out to free the inner side from the door jamb. Fig. 4 is a detail view of the casting at the forward or locking end of the door. Fig. 5 is a view of the casting at the inner or rear end of the door.

The car A is provided in its side with the usual opening which is closed by the sliding door B. The upper and lower rails on which the door B slides, are similarly constructed and are composed of two parts or rails D and

C which are suitably secured to the side beams of the car so as to permit of the free sliding movement of the door. The rail C is secured at one end to the side of the car and gradually curves outward and away from the car to cause the door B when opening the same to move outward and away from the door opening so as to clear the door jamb. A block or other filling piece *e* is interposed between the outer end *m* of the rail C and the side of the car to brace the said rail C. The rail D forms practically a continuation of the rail C and is attached to a block or stay piece *f* secured to the side of the car. The inner end *d* of the rail D overlaps the outer end *m* of the rail C and is bent inward toward the car at about right angles and extends in the space provided between the two blocks or stay pieces *e* and *f*.

The door B is provided at its top and bottom ends with castings G and H which are located respectively at the front and rear edges of the said door. These castings are similarly constructed, being provided with lugs which extend from opposite sides of the said castings to embrace the sides of the rail. The lugs *h h'* on the castings H are located at diagonally opposite corners, and the lugs *g g'* on the castings G are arranged, the lug *g* on an arm projecting from the casting and the lug *g'* about midway between the ends of the said casting. The bent end *d* of the rail D is located between the opposing ends of the blocks or stay pieces *e* and *f*, sufficient room being left for the lugs *g* and *g'* to move in this space when moving the door laterally to disengage it from the opening in the side of the car. The opposing ends of the lugs *g g'* embrace the sides of the bent ends *d* and guide the door in its lateral movements to and from the said opening. The lugs of the several castings G and H embrace the opposite sides of the respective rails D and C and guide the door in its movements in opening and closing.

The iron I secured to the door B has its outer end reduced to form a journal *i* to receive the locking lever J which is mounted thereon. This locking lever J is provided at one end with an arm *j* which is slotted to fit

over a staple *k* on the door, which staple is adapted to receive a suitable lock by means of which the door is fastened and sealed in the usual manner. The opposite end of the locking lever *J* is cleft to provide two arms *j'* *j*<sup>2</sup>. The arm *j'* is curved and is adapted to engage with a notched plate *L* on the side of the car to form a lock. The arm *j*<sup>2</sup> is provided with an enlarged end which is adapted to obtain a purchase on the plate *L* upon which it obtains a fulcrum when it is desired to move the door laterally to disengage it from the opening in the side of the car. The opening *j*<sup>3</sup> in the locking lever *J* which receives the journal *i* is elongated and made slightly larger than the said journal to admit of the locking lever being moved or adjusted to firmly engage the arm *j'* with the plate *L* and insure the slotted arm *j* receiving the staple *k*.

When the door is closed it comes flush with the side of the car and the arm *j'* engages with the plate *L* and the arm *j* is engaged with the staple *k* and held thereto by suitable locking mechanism.

To open the door the locking lever is released and the lower end is moved outward and upward, the end of the arm *j*<sup>2</sup> obtaining a purchase against the plate *L* provides a fulcrum for the said lever by means of which the door is moved outward as shown most clearly by the dotted lines in Fig. 3.

The operation of the invention is as follows:—The door being closed and it being desired to open the same the locking lever *J* is actuated in the manner hereinbefore set forth to disengage the door from the opening after which the pull or push in the direction in the length of the car will cause the door to slide on its hanging and disclose the said opening as will be readily understood. The reverse of this operation closes the door. When the door is opposite the opening the inner end of the curved arm *j'* engages with the stop plate *L* and on pressing down upon the outer end

of the lever *J* the door will be pressed into the opening as will be readily comprehended.

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

1. In a car having an opening in its side, the combination of a sliding door adapted to move laterally to close the said opening and come flush with the side of the car, and from the car to clear the door jamb when it is required to expose the said opening, an upper and a lower rail, each composed of parts *C* and *D* lying in different vertical planes, the part *D* having its end *d* bent at right angles, and the part *C* having its inner end projected beyond the bent end *d*, and irons on the door to guide and support it in its movements, one set of irons being relatively disposed to travel upon the extensions of the parts *C* beyond the said bent ends *d* when the door is opened so as to expose the full width of the said opening.

2. In a car having an opening in its side, the combination of a flush door for the said opening, upper and lower rails, each rail composed of sections or parts lying in different vertical planes, and having their inner ends overlapping and spaced apart, one of the parts having its end bent at right angles, and irons on the corners of the said door provided with lugs to embrace the sides of the rails and located at diagonally opposite points, to permit of the free movements of the door when moving the same laterally to and from the said opening in the side of the car, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY ELIAS HOKE.  
HARRY E. HOKE, JR.

Witnesses:

J. M. MCDOWELL,  
D. K. WUNDERLICH.