

(No Model.)

2 Sheets—Sheet 1.

E. L. PHIPPS.
CAR DOOR.

No. 433,256.

Patented July 29, 1890.

FIG-1-

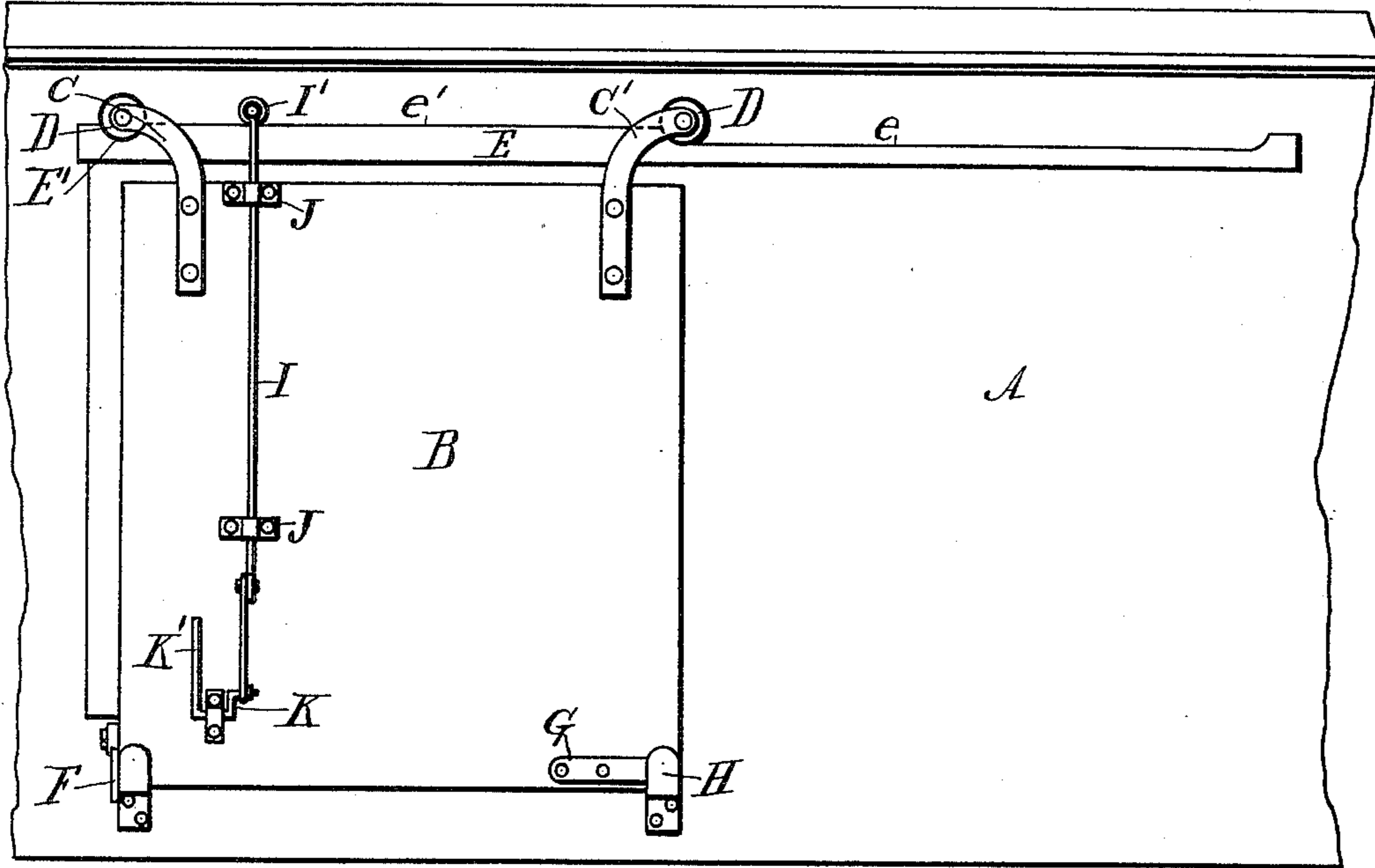
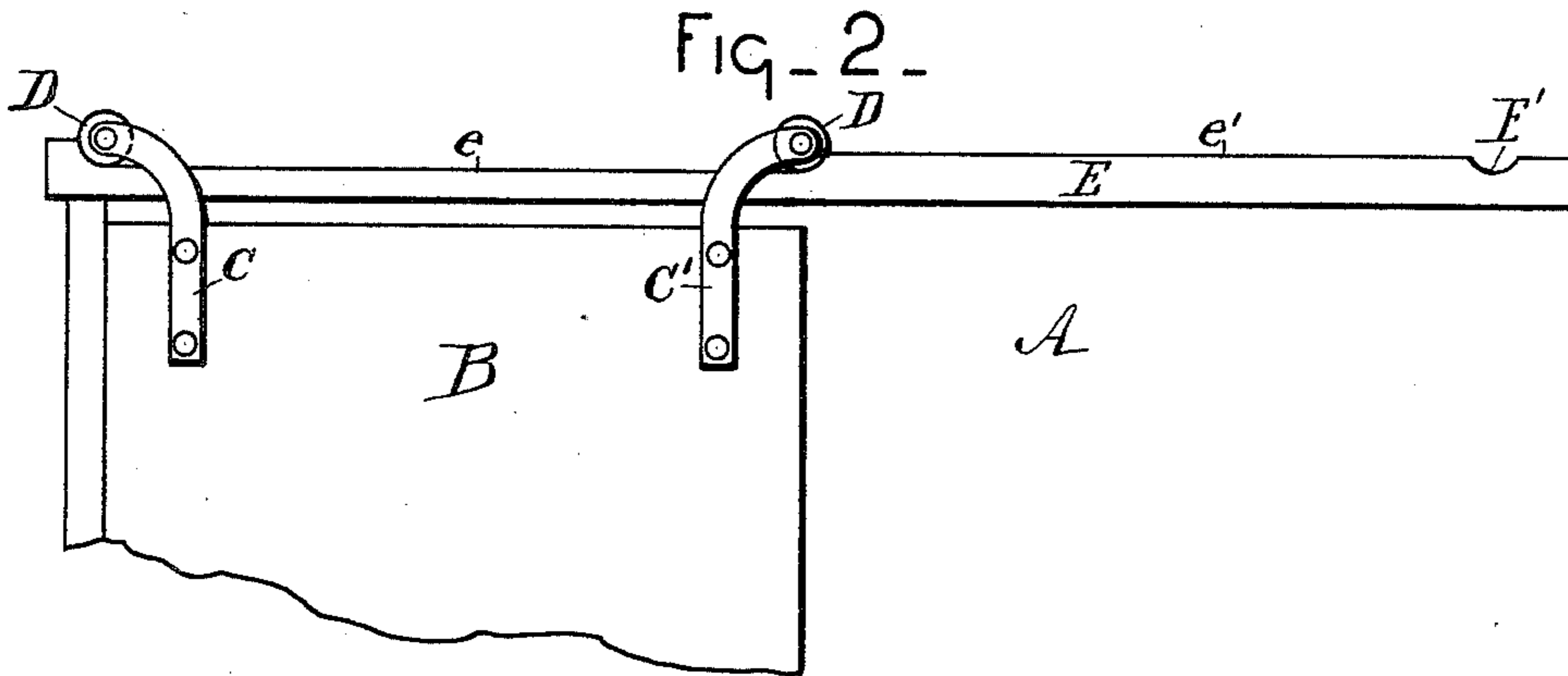


FIG-2-



WITNESSES

C. J. Shipley
F. Clough

INVENTOR

Edward L. Phipps
By Nello H. Leggett & Co.
Attorneys.

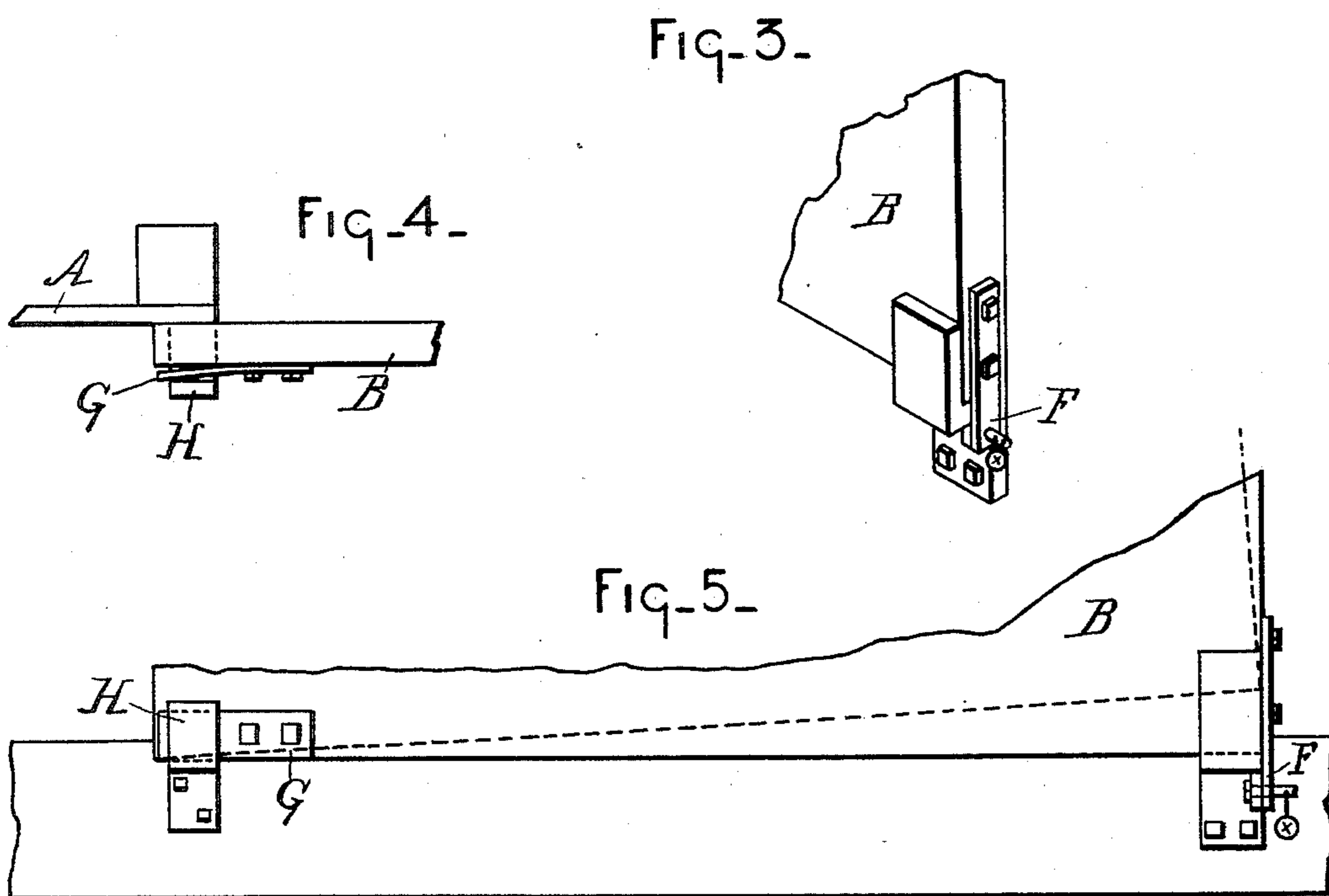
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C. J. Shipley

INVENTOR

Edward L. Phipps.
By Wm. W. Leggett & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD L. PHIPPS, OF MILFORD, MICHIGAN.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 433,256, dated July 29, 1890.

Application filed November 11, 1889. Serial No. 329,912. (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 is designed to produce a car-door which shall be simple in construction and easy of operation, and one in which the liability to get out of order is reduced to a minimum; and it consists of a combination of devices and appliances hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a portion of a car, illustrating my device. Fig. 2 is a variation. Figs. 3 and 5 are separate views illustrating how the pin F holds the lower front corner of the door in its closed position and how it may be sealed with the ordinary seal. Fig. 4 is a separate view of the spring-holder at the rear end of the door.

In carrying out my invention A represents the side of a car, and B the door.

C C' are the hangers attached to the upper edge of the door and having on their ends the rollers D, adapted to travel on the track E. The form of this track is wherein my invention more properly lies. A portion of its upper edge, as at *e*, is at a lower level than the portion *e'*. This portion *e* is so arranged that when the door is being opened or closed the roller in the hanger C' will travel on this portion *e* of the track, while the roller in the hanger C will travel on the higher level *e'*. Thus when the door is thrown open this hanger C will drop down onto the portion *e* of the track, and the door will thus be held in an open position, notwithstanding the jar to which the car is subjected.

E' is a suitable notch or depression in the end of the track, into which the hanger C rides when the door is closed, thus preventing the door from being opened, except when it is lifted out of the notch by the operator. It will thus be seen that whether in an open

or closed position the door is held in such position by means of the hanger C, it being held open by the hanger riding down onto the portion *e* of the track, and it being held closed by the hanger riding in the notch E'. For this reason the operator handles the door and operates it from one corner only, since the hanger C' travels always on a level track. Of course, if desired, the arrangement might be reversed, and the lower portion of the track be over the doorway, as shown in Fig. 2, while the hanger C would ride on the upper portion and would drop into a notch on the opposite end of the track. It will of course be seen that the arrangement shown in Fig. 2 is the equivalent in all respects of that shown in Fig. 1.

F is a suitable pin on the lower corner of the door, which assists in holding the door until the hanger C is raised out of the notch E', when this movement disengages the pin.

G is a suitable leaf-spring engaged to the lower corner of the door and adapted to bear on the cleat H, and thus hold the door tightly against the frame when it is in a closed position.

I is a rod having on its upper end a small roller I'. This rod is movably held to the door by the straps or brackets J. At its lower end the bar is pivoted to a crank-arm K, having the handle K'. This latter apparatus which I have described constitutes a lifting device whereby, if necessary, the operator may lift the door up out of the notch in opening or closing it. It will be observed that the hangers are curved outward from the doors, so that the resting-point of the rollers is outside or beyond the edge of the door. By thus shaping the hangers the door may be made to properly close the doorway, and yet when the door is thrown open it will be caused to pass beyond the edge of the doorway, and thus leave the full opening of the doorway.

What I claim is—

1. The combination, with a suitable door-frame and the door supported thereon by suitable hangers arranged on the same or substantially the same level, of a track located above the doorway on which said hangers can travel, one portion of said track being at a higher level than the other portion, and a notch in said higher portion extending to or substantially to the level of the lower portion,

into which one of the hangers may ride, substantially as described.

2. The combination, with a door-frame and door supported by the hangers C C' on substantially the same level, of the track located above the doorway on which said hangers travel, said track having the portion e', on which the hanger C' can travel, and the portion e, on which the hanger C may travel, said portion e' being provided with a notch or depression extending down to or substantially to the level of the portion e, into which the hanger C may ride when the door is closed, substantially as and for the purposes described.

3. The combination, with the track constructed, as shown, with the portions e and e', a notch or depression E', and the door supported by the hangers C C' and adapted to travel on the said track, of a suitable pin F, engaged to the lower corner of the door below

the hanger C, whereby the door may be held closed, and the spring on the other lower corner for holding the door tightly against the frame when closed, substantially as described.

4. The combination, with a door supported by hangers and the track located above the doorway, of a vertical rod provided at its upper end with a roller arranged to travel on said track, said rod engaged to the door loosely by fastenings which will permit the door to slide up along the rod, and a lever pivoted to the door and connected with the lower end of said rod, so that by actuating said lever the door will be lifted along the rod, substantially as described.

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

EDWARD L. PHIPPS.

Witnesses:

WELLS W. LEGGETT,
F. CLOUGH.