(No Model.)

J. H. WICKES.

GRAIN CAR DOOR.

No. 254,752. Patented Mar. 7, 1882.

Fig. 1

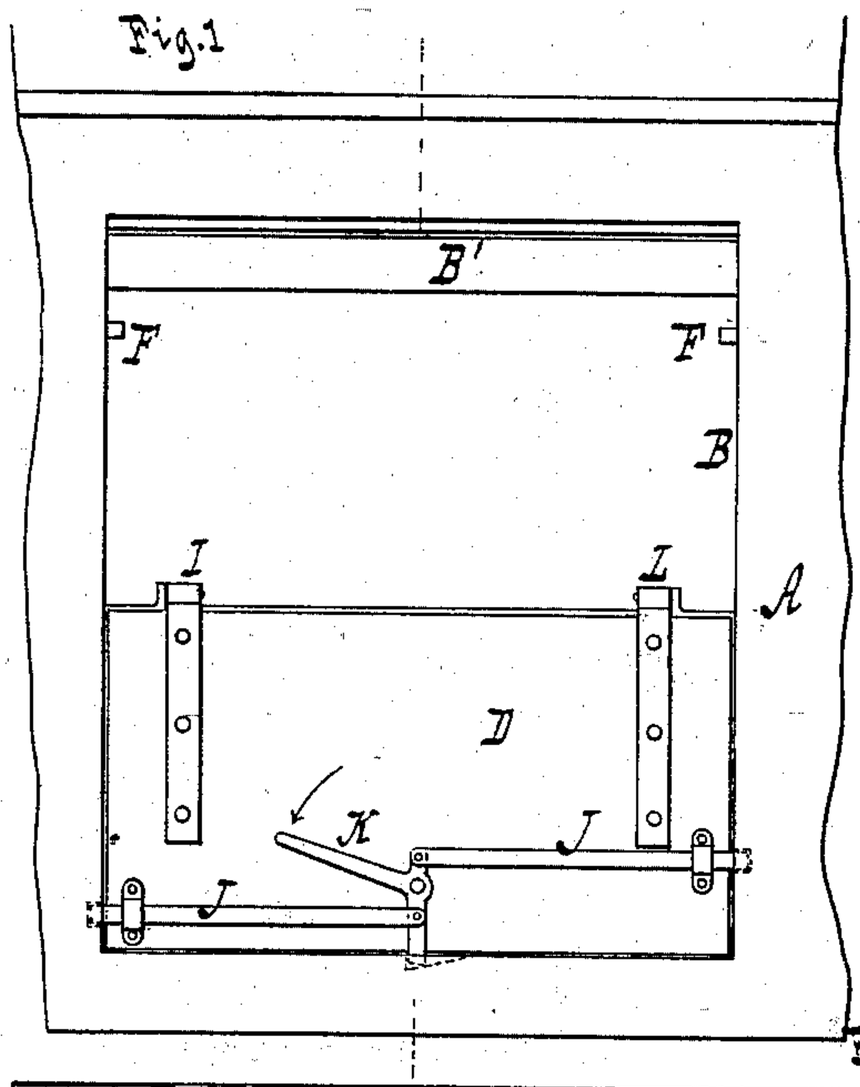

Fig. 2.

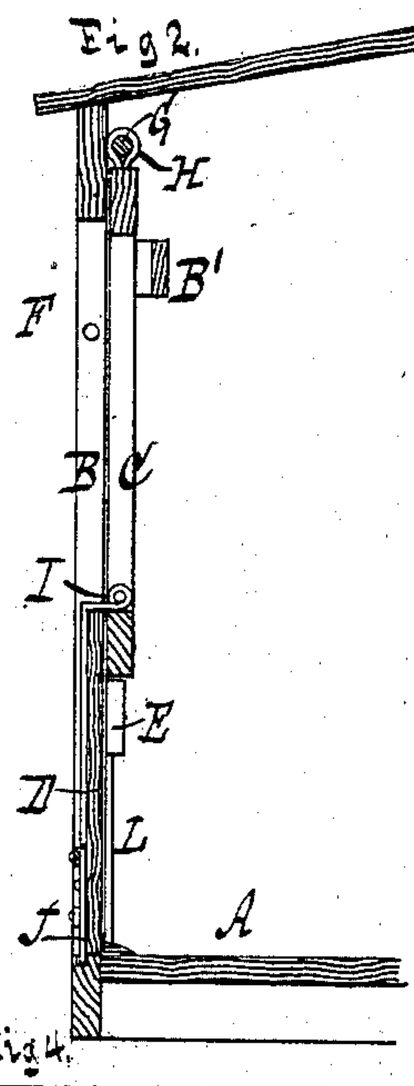

Fig. 3.

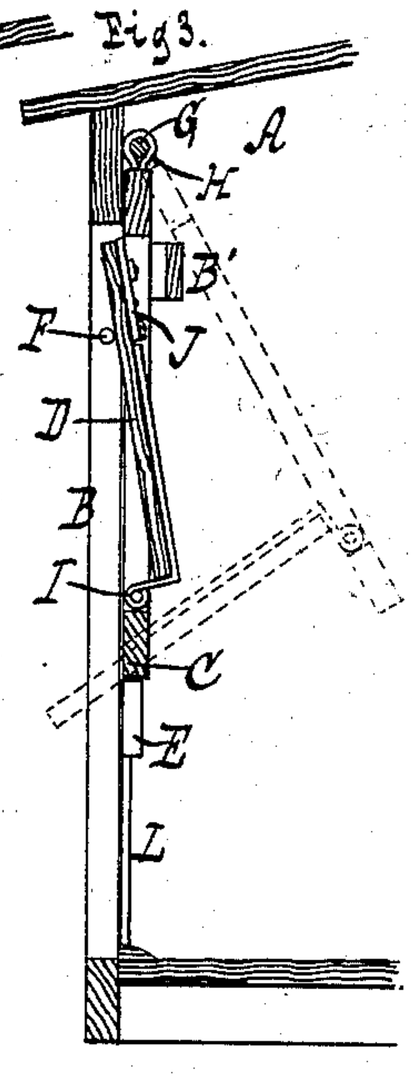

Fig. 4.

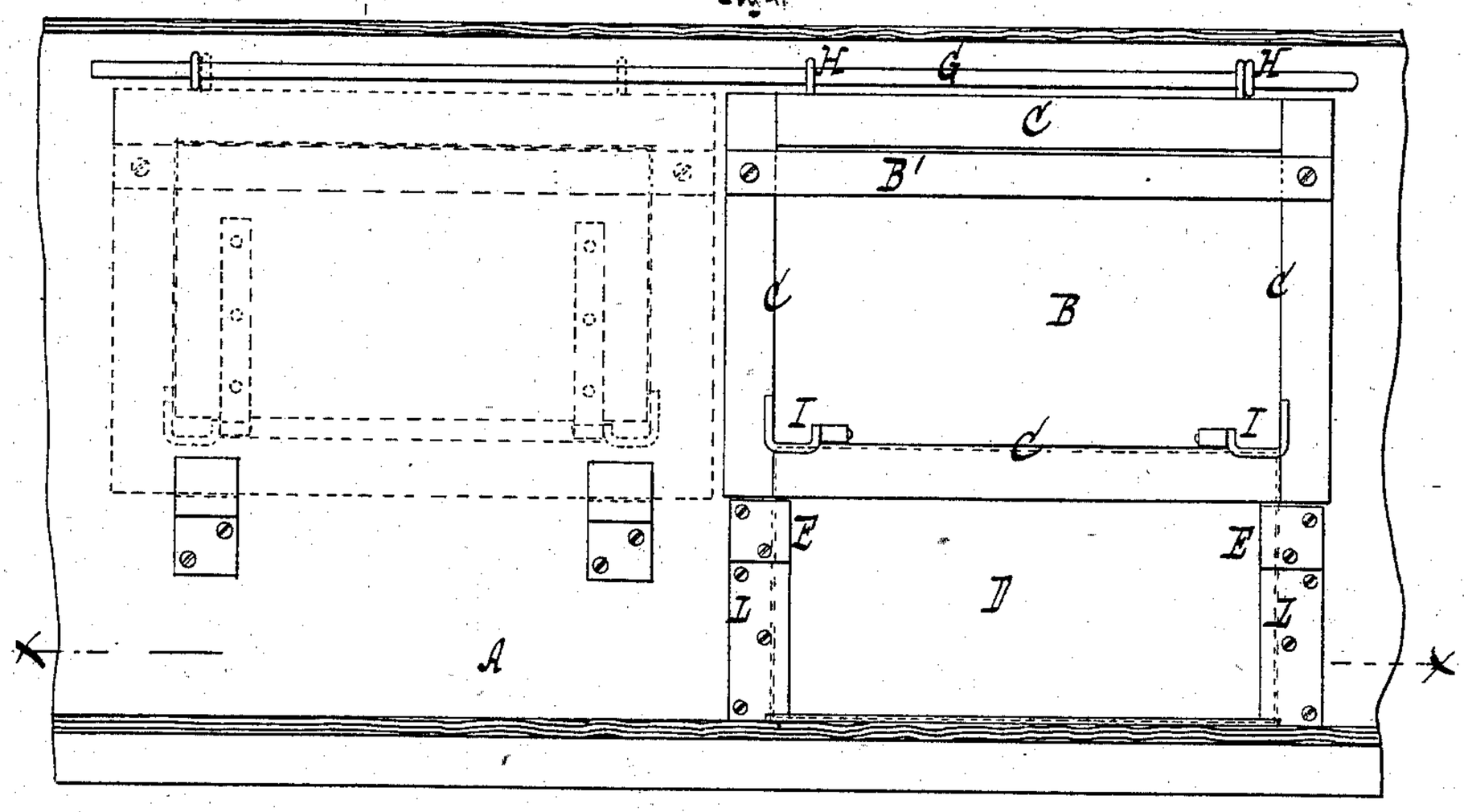

Fig. 5.

Witnesses
~~Otto~~ Hufeland
William Miller

Inventor
James H. Wickes
by Van Santvoord & Lauff
his att'ys

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JAMES H. WICKES, OF NEW YORK, N. Y.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 254,752, dated March 7, 1882.

Application filed August 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. WICKES, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Grain-Car Doors, of which the following is a specification.

This invention relates to that class of doors described in Letters Patent of the United States granted to me May 4, 1880, No. 227,338; and it consists in the combination of a frame on the interior and upper portion of the door-opening, adapted to slide horizontally away from such opening, and a door hinged to the lower side of the frame to swing outward and upward therein from a lower or closed position, said door-frame being also adapted to swing inward away from the door-opening, the latter being provided with shoulders at its opposite ends, which serve to partially swing the door outward and upward when the frame is swung inward, and which also act as a guide or support to the door in lowering or closing it, the door-opening having also stops at its opposite ends for retaining the door in an upper position under certain conditions, as hereinafter fully set forth.

This invention is illustrated in the accompanying drawings, in which Figure 1 is an exterior side view, showing the door closed. Fig. 2 is a vertical cross-section. Fig. 3 is a like section, showing the door open. Fig. 4 is an interior side view. Fig. 5 is a horizontal section on the line *x x*, Fig. 4.

Similar letters indicate corresponding parts.

The letter A designates a portion of the body of the car; B, the door-opening; C, the door-frame; D, the door; E, the shoulders, and F the stops. The frame C is in the interior of the car, and is hung to a horizontal bar, G, by means of eyes H on the upper side thereof, whereby it is adapted to slide in the direction of such bar away from the door-opening B, as indicated by dotted lines in Fig. 4, the bar being of sufficient length to allow the frame to entirely clear the door-opening. By this arrangement of the frame C, moreover, it is adapted to swing inward away from the door-opening, as indicated by dotted lines in Fig. 3. The frame C terminates a suitable distance above the floor of the car, and its inner vertical edges coincide approximately with the vertical or end edges of the door-opening B.

The door D is hinged to the lower side of the frame C, and its hinges I are so arranged as to allow the door to swing outward and upward into the frame, and in order to avoid strain on the hinges the frame is provided with a cross-piece, B′, or other device of an equivalent character, which will serve to check the door when it is swung into the frame. When the door D is swung to a lower position, thus depending from the frame C, it serves to close the space between the lower side of the frame and the floor of the car, and it is adapted to be fastened in that position by means of bolts J, applied to the door for operation by a lever, K. The shoulders E are at the opposite ends of the door-opening B, on the inside of the car and below the frame C, forming part of the cleats L, (best seen in Fig. 4,) which serve to brace the door in a lower or closed position. If the frame C is swung inward, the door D rides up on the shoulders E, and is thus partially swung outward and upward, as indicated in Fig. 3, so that it can be easily taken hold of for bringing it within the frame C, while if the door is lowered in the said position of the frame it may be allowed to rest on the shoulders, and is thus guided to a lower position. When the door D has been swung into the frame C the whole can be moved away from the door-opening B, to clear the latter, by sliding the frame in an appropriate direction. The stops F, also, are at the opposite ends of the door-opening B—namely, on its vertical edges, and near the top of such opening—consisting of pins or roller-studs; and when the frame C, with the door within it, is at a point opposite the door-opening, these stops serve to prevent the door from falling outward, as indicated in Fig. 3, thus retaining it in an upper position. The door D is brought inside or behind the shoulders E by swinging the frame C inward and keeping it in that position while the door is being lifted.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore set forth, of the door-frame on the interior and upper portion of the door-opening, adapted to slide horizontally and swing in-

wardly away from such opening, the door hinged to the lower side of the frame to swing outward and upward therein from a lower or closed position, and the stops at the opposite ends of the door-opening, for the purpose specified.

2. The combination, substantially as hereinbefore set forth, of the door-frame on the interior and upper portion of the door-opening, adapted to slide horizontally and swing inwardly away from such opening, the door hinged to the lower side of the frame to swing outward and upward therein from a lower or closed position, and the shoulders and stops at the opposite ends of the door-opening, for the purpose specified.

In testimony whereof I have hereunto set my hand and seal in presence of two subscribing witnesses.

JAMES H. WICKES. [L. S.]

Witnesses:
J. VAN SANTVOORD,
CHAS. WAHLERS.