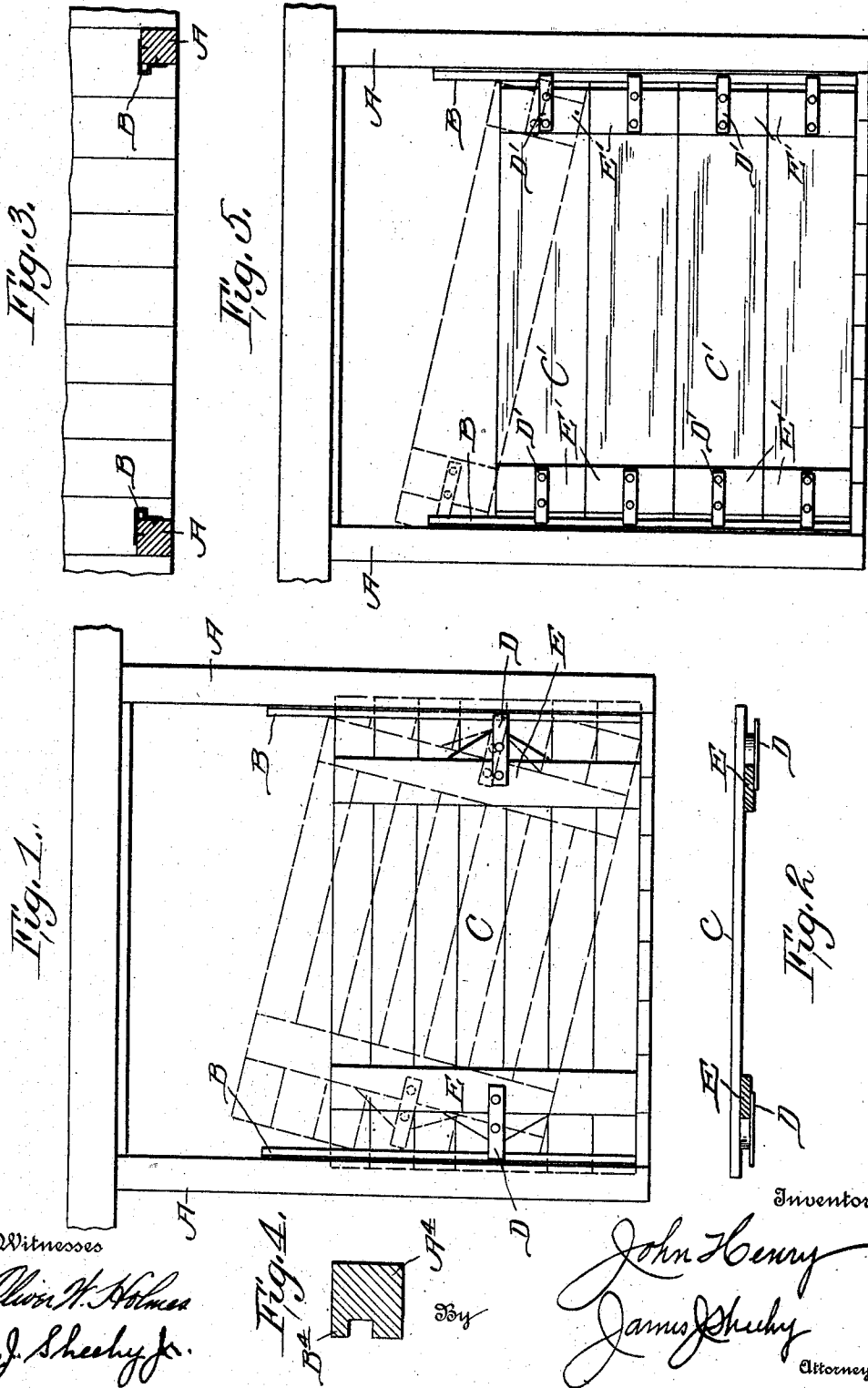


J. HENRY.
GRAIN DOOR FOR CARS.
APPLICATION FILED SEPT. 27, 1909.

981,084.

Patented Jan. 10, 1911.



Witnesses
Oliver H. Holmes
J. J. Sheehy Jr.

Fig. 4.
B⁴ H⁴ 34

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UNITED STATES PATENT OFFICE.

JOHN HENRY, OF GRAND FORKS, NORTH DAKOTA.

GRAIN-DOOR FOR CARS.

981,084.

Specification of Letters Patent.

Patented Jan. 10, 1911.

Application filed September 27, 1909. Serial No. 519,869.

To all whom it may concern:

Be it known that I, JOHN HENRY, citizen of the United States, residing at Grand Forks, in the county of Grand Forks and State of North Dakota, have invented new and useful Improvements in Grain-Doors for Cars, of which the following is a specification.

My invention pertains to removable grain doors for cars; and it contemplates the provision of a door that is retained in service position by means not liable to be affected by the contents of the car, and is adapted to be taken out or removed by merely raising one of its ends.

The invention will be best understood by reference to the following description when taken in connection with the accompanying illustration of specific embodiments thereof, while its scope will be more particularly pointed out in the appended claim.

In the drawings: Figure 1 is a view showing in dotted lines the manner of taking out the door by raising one end thereof. Fig. 2 is a section taken through the horizontal center of the door *per se*. Fig. 3 is a horizontal section taken through the door casing. Fig. 4 is a horizontal section illustrating a modified way of providing the posts of the door casing with flanges for the engagement of the securing means on the door. Fig. 5 is a view showing a number of superposed doors constructed in accordance with my invention and adapted to be removed in the manner stated, one after another.

Referring by letter to the said drawings, and more particularly to Figs. 1 to 3 thereof: A A are the posts of the door casing, on which are fixed corner irons having flanges B projecting into the opening between the door posts. I would have it understood, however, that the said flanges may be provided in any other manner consonant with the purpose of my invention, as, for instance, by grooving the posts in the manner shown in Fig. 4 to form flanges, this mode of providing a flange B⁴ on each post A⁴ being especially expedient when the posts are made of steel, and being advantageous inasmuch as the flanges do not project into the doorway.

C is the door, and D D are the fasteners carried by the door and having their outer portions separated by intervening spaces from the face of the door, and therefore, adapted to engage the outer sides of the

flanges and secure the door in its service position. The said fasteners D are preferably fixed to and extend endwise beyond fixed projections E on the face of the door, at points near the ends of the door and at or adjacent the horizontal center thereof, and, when the door is in working position, the outer edges of the said fixed projections E are separated by intervening spaces from the opposed edges of the flanges B on the posts A.

By virtue of the construction described, it will be observed that the door is adapted to be taken out of the doorway by merely canting the door as one piece vertically so that the fasteners D thereon are enabled to clear the flanges B when the door is moved in the direction of its thickness. The door may as readily be replaced in the doorway and fastened to the casing by simply reversing said operation. It will also be observed that in service the face of the door bears against the inner sides of the door posts, and completely isolates the flanges on the posts and the fasteners on the door from the contents of the car, with the result that such contents is effectually prevented from interfering with the raising of the door or the movement of the fasteners relative to the flanges.

In Fig. 5, I illustrate a number of small doors C' adapted to be superposed to close a door-way, and each adapted to be taken out of the door-way by raising one of its ends. The said doors C' are respectively provided with projections E' and fasteners D', and are therefore adapted to cooperate with the flanges B on the posts A in Fig. 5, in the same manner that the door C of Fig. 1 cooperates with the flanges B on the posts A in said figure.

While I have shown and described certain forms of my invention, it is to be understood that I am not limited to the details or the form or relative arrangement of parts disclosed, but that limited modifications may be made therein, without departing from the spirit thereof.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

The combination of a car body having door posts and also having flanges on the inner portions of said posts and extending toward each other, a door arranged partly within the body and flat against the inner

sides of the posts and also arranged partly between the opposed edges of the flanges and separated from said edges by intervening spaces sufficiently large to permit of the door being canted, and fasteners attached to the door part that rests between the opposed edges of the flanges and having end portions extending outward beyond the edges of said door part and lapped against

the outer sides of the flanges on the door posts.

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

JOHN HENRY.

Witnesses:

R. A. DAVISON,
T. CARTER GRIFFITH.