

No. 706,626.

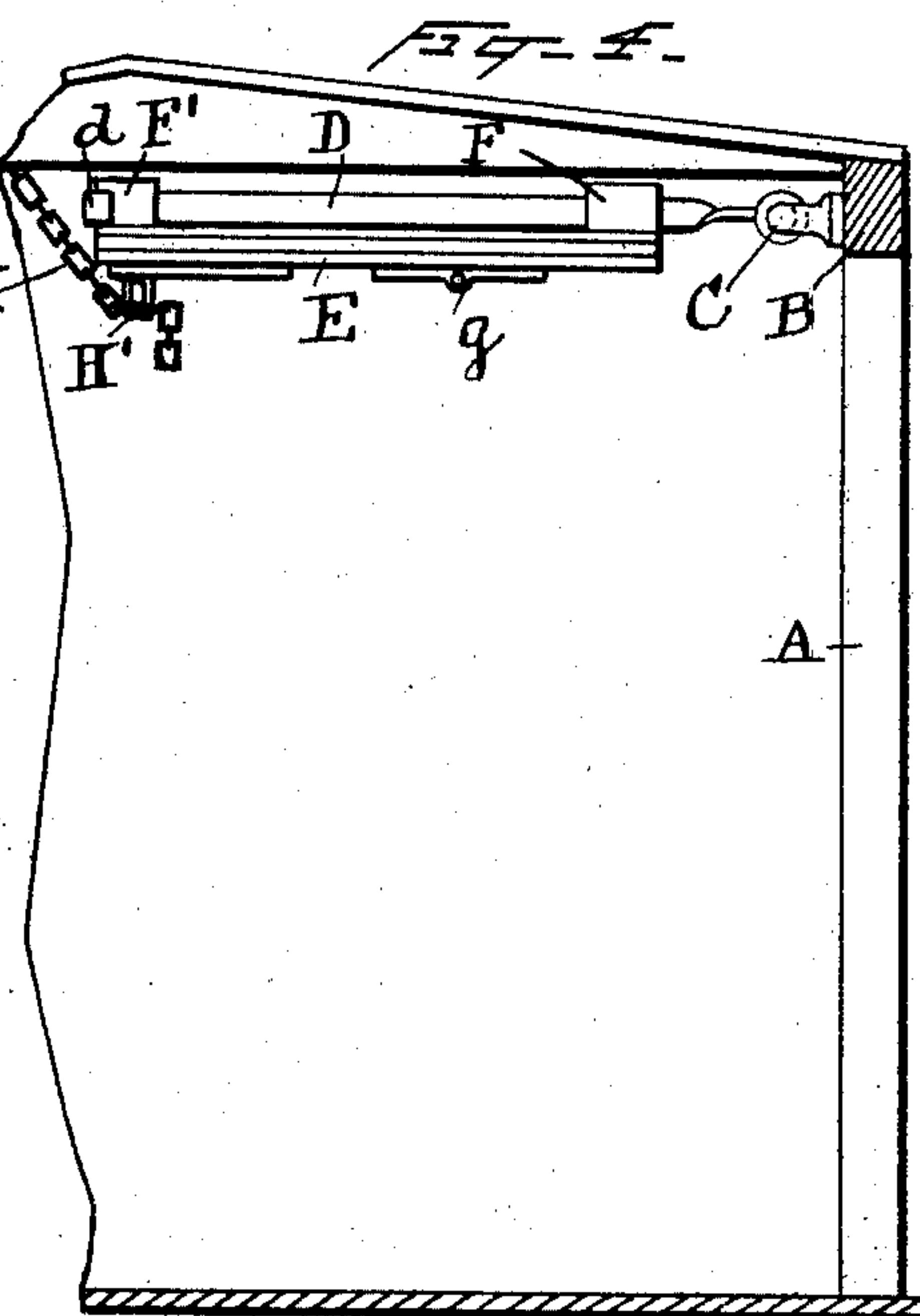
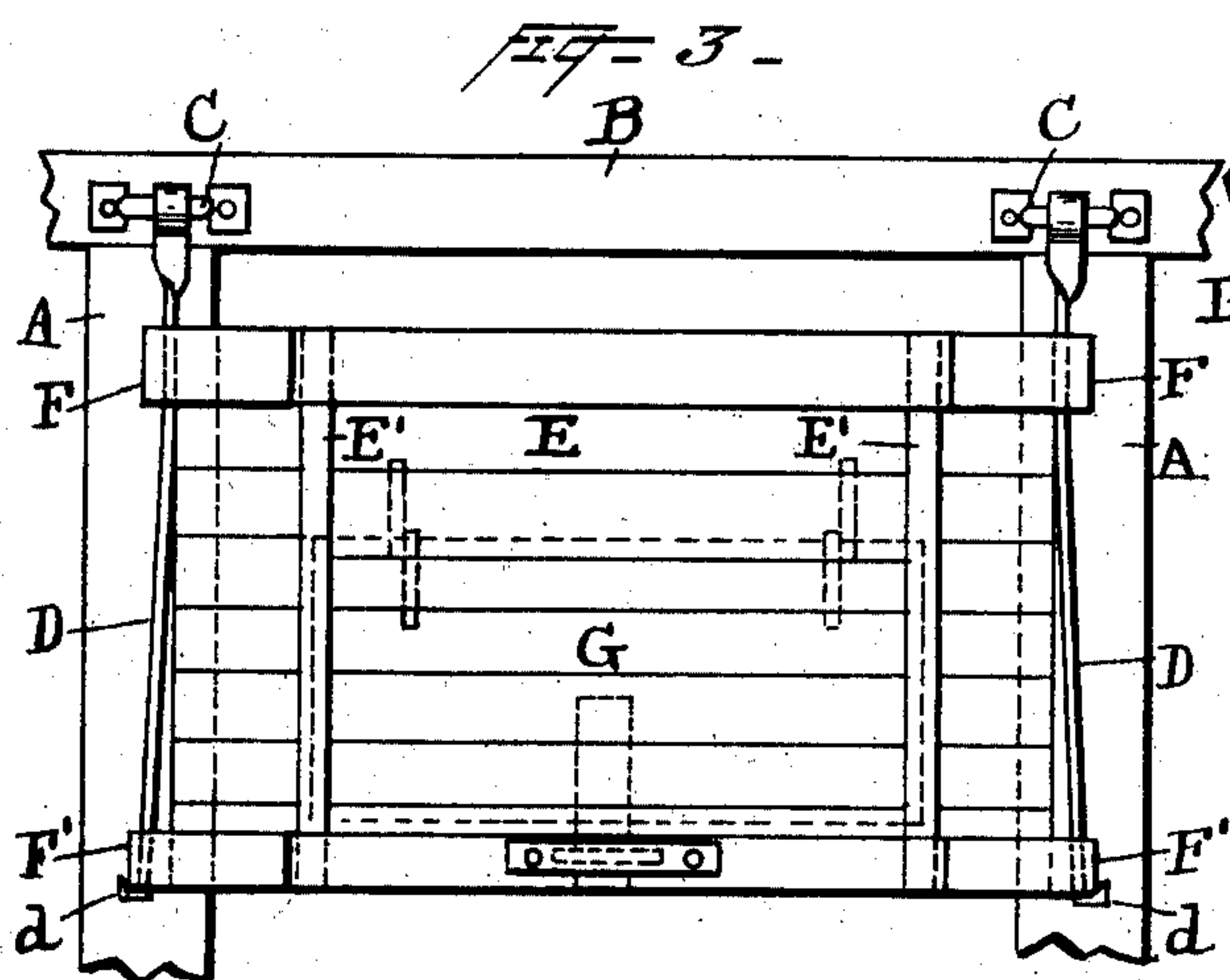
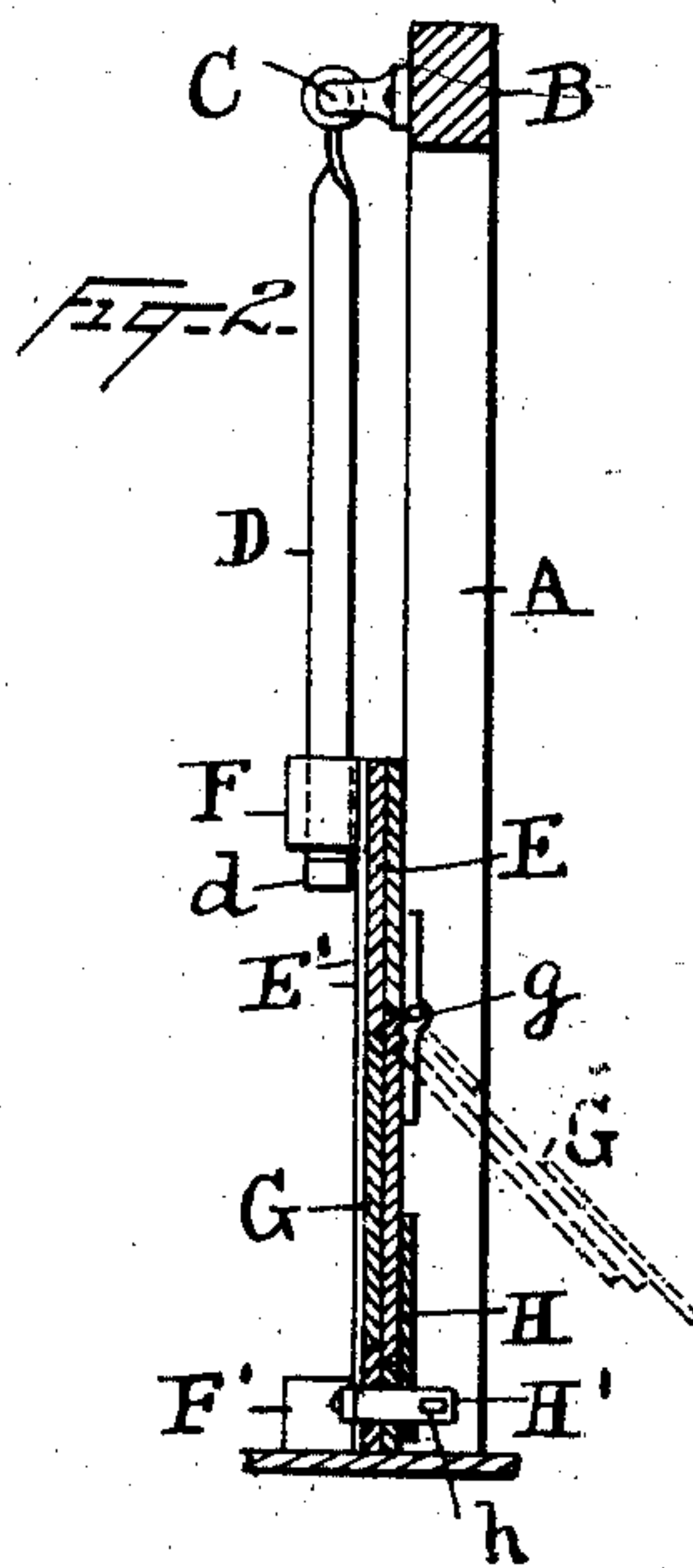
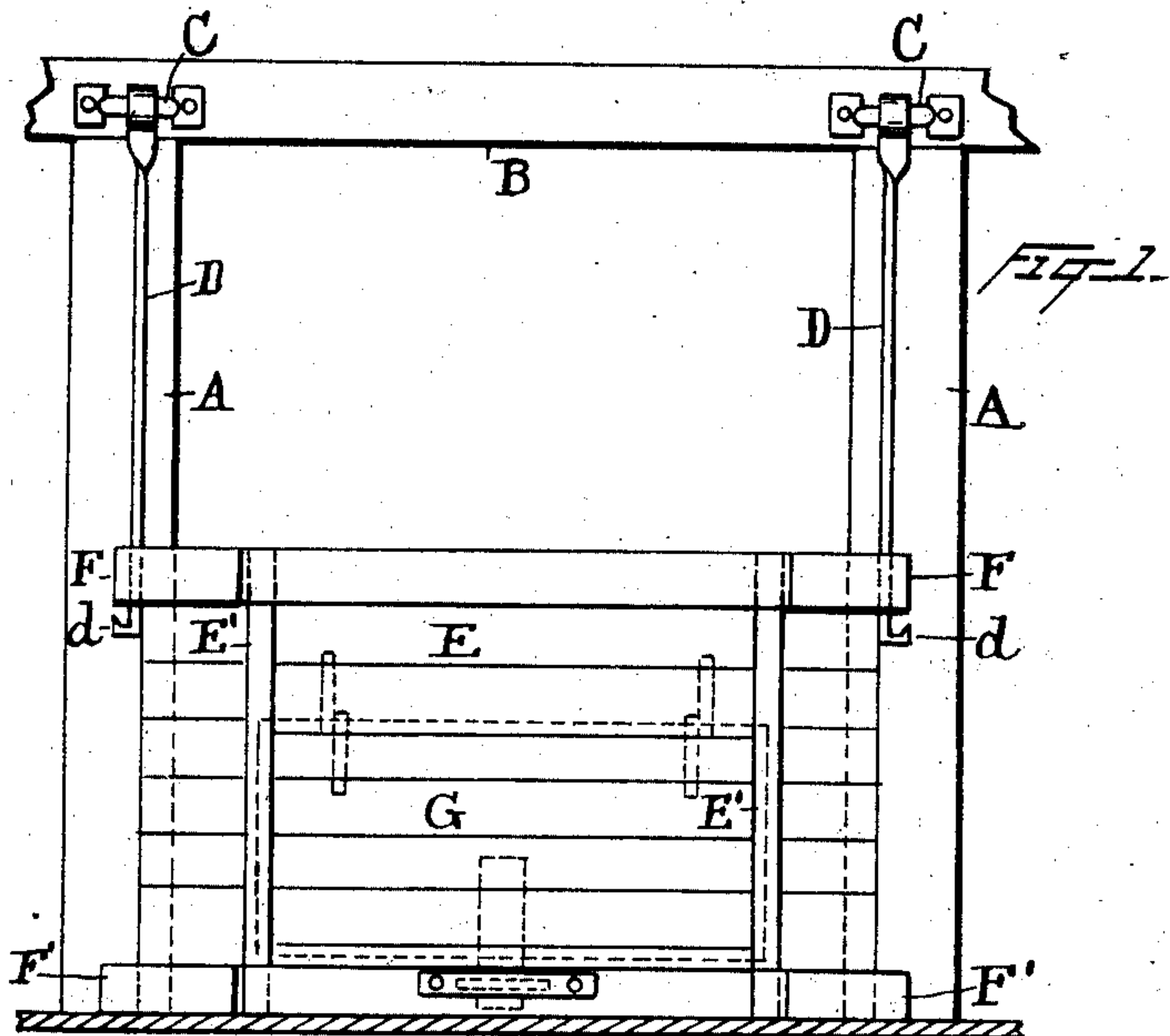
Patented Aug. 12, 1902.

J. W. WOOD.

GRAIN DOOR FOR RAILROAD BOX CARS.

(Application filed June 27, 1901.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN W. WOOD, OF TERRE HAUTE, INDIANA.

GRAIN-DOOR FOR RAILROAD BOX-CARS.

SPECIFICATION forming part of Letters Patent No. 706,626, dated August 12, 1902.

Application filed June 27, 1901. Serial No. 66,311. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. WOOD, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented a new and useful Grain-Door for Use in Railroad Box-Cars, of which the following is a specification.

My invention relates to improvements in grain-doors which slide up and down on hangers attached to the top beam of car; and the objects of my improvements are, first, to provide a means for lessening the pressure on the large grain-door in unloading and to afford a more rapid and economical means of unloading; second, to afford a safer and better way of fastening the grain-door back out of the way when not in use and to prevent the loss of the grain-door by having it permanently attached to the car, it being unnecessary to detach the grain-door in unloading.

A further object of the invention is to simplify the construction and provide a strong efficient door whose operation can be easily understood by trainmen and which will not be liable to injury in opening it. Provision is also made for swinging the door up to the roof of the car when the car is to be used for other goods than grain.

My improved door is made to cover the lower half of the car-door opening and has at each edge two eyes, the upper one smaller than the lower. Two straight hangers are pivoted to the upper portion of the car-door frame and pass through the upper eyes. The ends of the hangers are hooked, but capable of passing through and engaging with the lower eyes when the door is raised. In this suspended position the door and hangers can be swung up against the car-roof and fastened by a hook or chain. The main door is provided with an opening closed by a small auxiliary door hinged at its upper edge and opening outwardly. It is secured by a hasp or other suitable fastening device.

In the accompanying drawings, Figure 1 is an elevation of my improved grain-door viewed from inside the car in its operative position. Fig. 2 is a vertical section showing the small door open in dotted lines. Fig. 3 shows the door lifted and engaged with the hangers. Fig. 4 is a cross-sectional view of

a portion of the car, showing the door raised and fastened to the car-roof.

The car is of the usual box construction, having a side door opening framed by the posts A and plate B. Fastened to the inside of the plate above the posts are U-shaped hinge-irons C, on each of which is hinged a hanger D, preferably made of strap-iron, with a hook *d* at its lower end.

The grain-door E is built of plank laid in two layers each transverse to the other and strengthened by upright battens E'. At each upper corner is a projecting metallic eye F of such a size as to slide easily on the hanger, but too small to pass over the hook *d* at its lower end. At each lower corner of the door is a similar but larger eye F', large enough to allow the hook *d* to pass through it. In the lower part of the door is an opening with a rabbeted edge, in which fits a small auxiliary door G, made up of two transverse layers of plank and having a correspondingly-rabbeted edge. The door G is hinged to the outside of the main door at its upper edge by hinges *g*, and its lower edge can be secured to the main door by suitable fastening devices, such as a hasp H, engaging with a perforated stud H' and secured by a pin *h*.

The operation of my device is as follows: When the pin *h* is knocked out, the weight of the grain will force the small door open, as shown in Fig. 2. As soon as the pressure on the main door has been relieved it can be lifted until the hooks *d* pass through and engage the eyes F', thus holding the door suspended. If desired, the hangers may have a slight springing action to keep them engaged. When the door is to be put out of the way, so that the car may be loaded with goods other than grain, the door and hangers can be swung up on the hinges until parallel with the car-roof, where they can be fastened by a short chain I, engaging with the stud H', or by any other suitable fastening device.

This door is simple in construction and can be easily and cheaply applied to existing cars. Its operation is evident at a glance, and thus there is no danger that the door will be injured by unskilled trainmen in endeavoring to open it, as frequently happens with more complicated or unusual constructions.

I claim—

1. In a grain-car door, the combination with two hangers having hooks at their lower ends and pivoted at their upper ends at each side of the door-frame, of a door provided near each side edge with upper and lower eyes, the former in constant engagement with the adjacent hanger and the latter adapted to pass over said hanger when the door is raised, and be engaged by the hooked end of said hanger.

2. A grain-car door, comprising two hangers having hooks at their lower ends and pivoted at their upper ends to the frame of the car, a main door provided at its inner side near each edge with a small upper eye engaging said hanger above the hook and a large lower

eye adapted to pass over said hook when the door is raised, a small door hinged to said main door and closing an opening therein, cooperating fastening devices on said small door and on the lower part of the main door, and a fastening device in the car-roof for suspending the door when raised on the hangers and turned up against the roof.

In testimony whereof I have signed my name to this specification in the presence of subscribing witnesses.

JOHN W. WOOD.

Witnesses:

GEORGE O. DIX,
LESLIE SAGE.