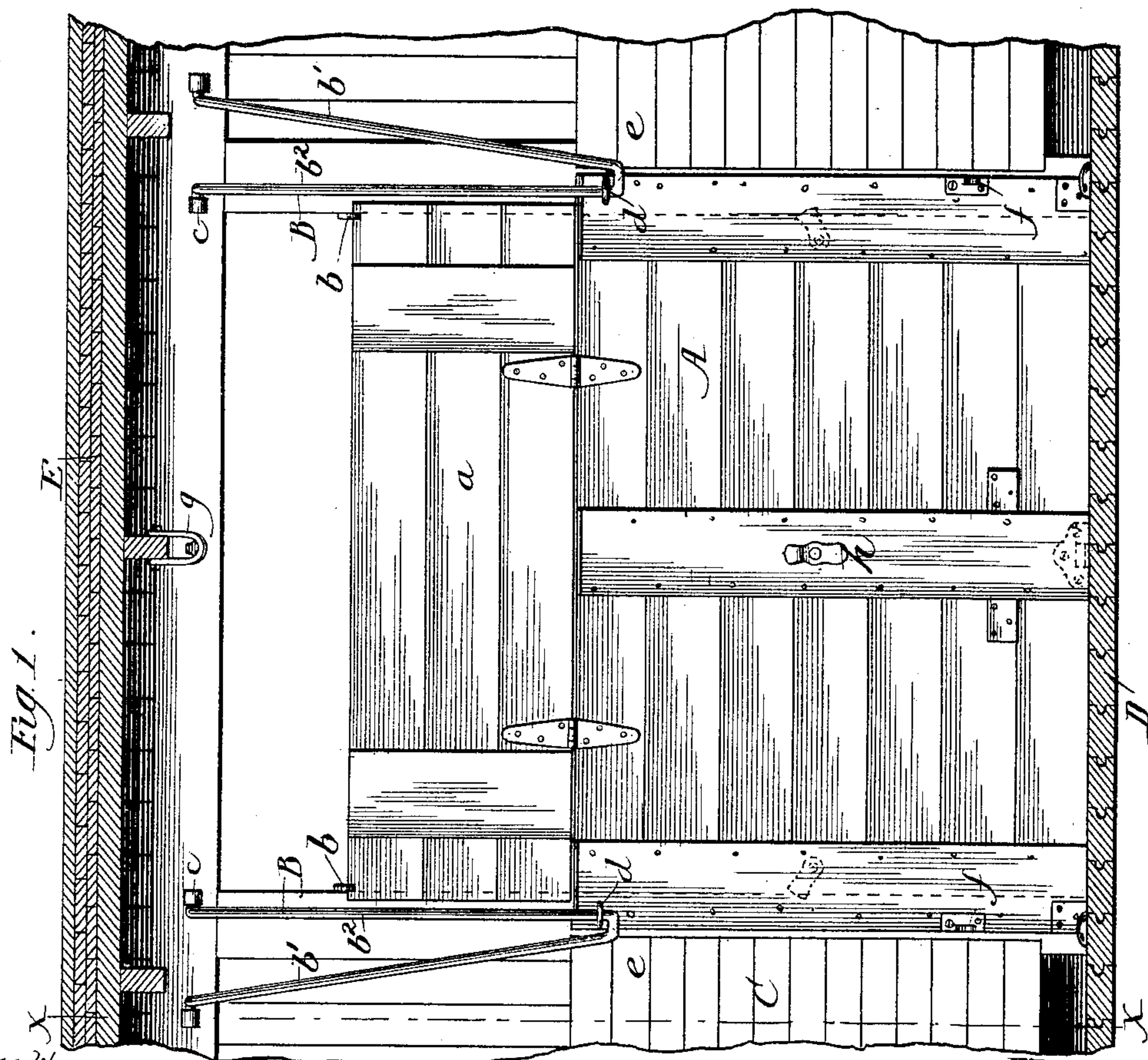
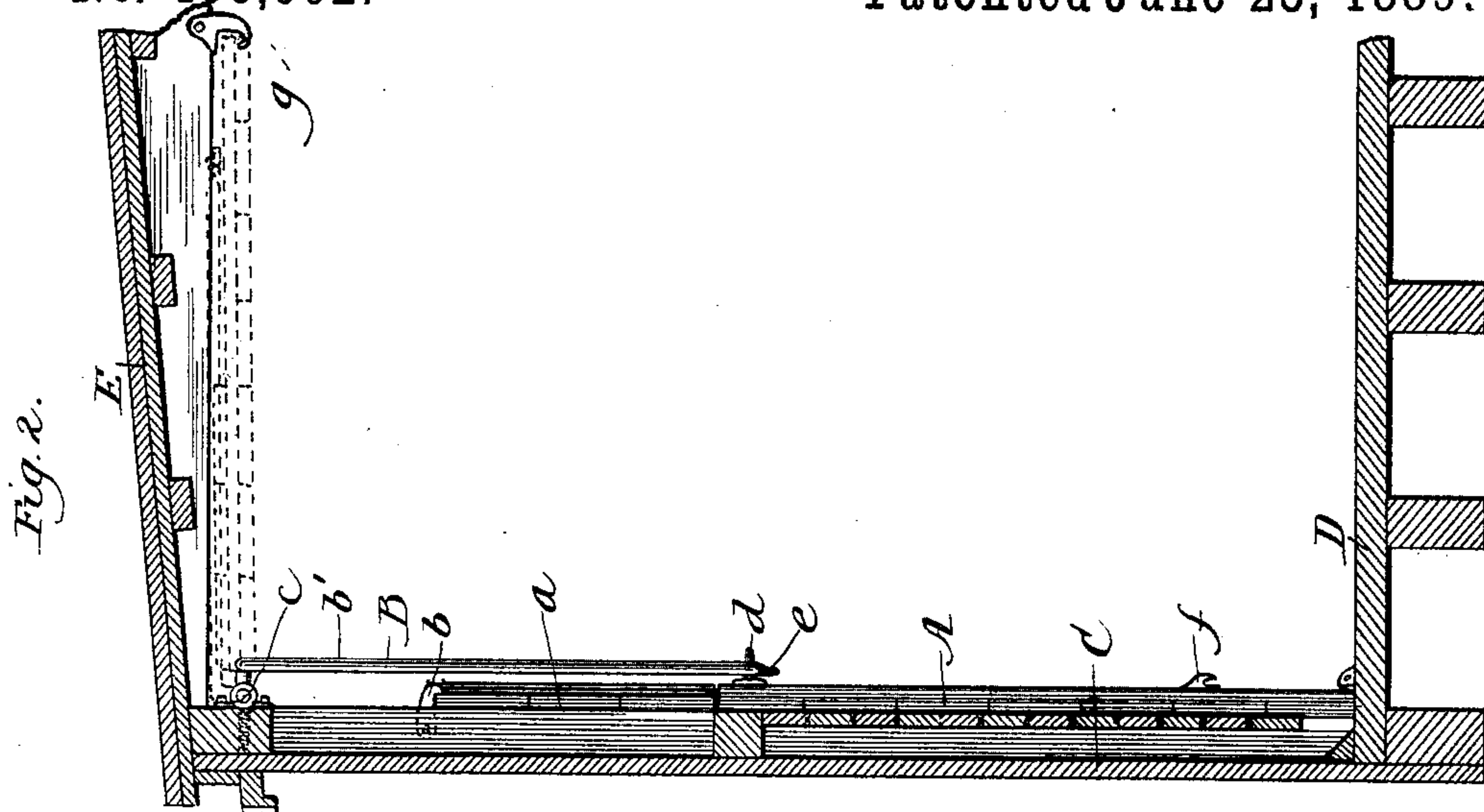


(No Model.)

W. A. McGUIRE.
GRAIN CAR DOOR.

No. 406,002.

Patented June 25, 1889.



Witnesses:

Albert H. Adams,
Harry T. Jones,

Inventor

William A. McGuire

UNITED STATES PATENT OFFICE.

WILLIAM A. MCGUIRE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MCGUIRE MANUFACTURING COMPANY, OF SAME PLACE.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 406,002, dated June 25, 1889.

Application filed November 7, 1888. Serial No. 290,228. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MCGUIRE, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Grain-Car Doors, of which the following is a specification, reference being had to the accompanying drawings, in which—

10 Figure 1 is a longitudinal section of a portion of a car-body, showing my improvements attached. Fig. 2 is a section at line $x x$ of Fig. 1, showing also in dotted lines the position of the door and rods when out of use.

15 This invention relates to that class of grain-car doors which are adapted to be raised and held against the inside of the roof of the car to allow the car to be used for the reception and transportation of lumber and other rough freight, and has for its objects to construct a rod of peculiar construction adapted to be applied to each side of such a grain-car door, whereby, when so applied, the rods will furnish a firm support for the door either in or out of use, and the rods will be protected from being broken or bent when the door is swung up, by reason of their position between the roof of the car and the door; to provide a grain-car door secured by such rods with a hinged extension or additional section to enable the height of the door to be varied to suit the amount and character of the grain in the car, which hinged extension or additional section can be swung up with the main door against the roof of the car, and to improve generally the construction and operation of this class of grain-car doors, which objects I accomplish as illustrated in the drawings, and hereinafter fully described.

40 That which I claim as new will be pointed out in the claims.

In the drawings, A represents an ordinary grain-car door having hinged to its upper edge a flap a . This flap may be of any width desired. It is so hinged that it will fold against the inside of the door A, to which it may be secured by one or more buttons, hooks, or otherwise. As shown, a button h is used for this purpose. When the flap is raised and in the same plane as the door A,

it can be secured by hooks b , secured to the side of the car-body.

B is a metal rod, bent, as shown, at or near the point of attachment to the door and having its ends bent to adapt them to be secured in eyes or sockets c , secured to the side of the car near the upper corners of the door-opening. Each double rod B passes through an eye d , in one side of the door near its upper edge, the bend e in each rod B coming at or just below the eye d . Each rod B, at its bending-point e , engages with a hook f on the door when the door is raised vertically, and as it is important to have such hooks f project as little as possible the rod B is flattened at the point e , which engages with the hook, and thereby a smaller hook can be used than would be the case if the rod B were left round at such point e .

It will be seen that the two sides $b' b^2$ of each double rod B are not parallel, but that the outer portion b' is inclined. Such inclined part b' furnishes a strong bracing-support for the door. Each hook f is placed on the door A at such a distance from its upper edge that each rod B will engage it when the door has nearly reached the limit of its vertical upward movement.

C represents the side of a car.

D is the floor.

E is the roof.

When the car is loaded with grain, the door A is in the position shown in Fig. 1. If it is deemed desirable to have a door of greater height than is afforded by A, the flap a is turned up in line with the door and locked in place by means of the dogs or catches b , which engage the upper edge of the flap. If the door A is of sufficient height without the addition of the flap a , such flap can be folded against the inside of the door A and locked, as already described.

When it is desired to have the door out of the way or use the car for transporting lumber, the door A is raised vertically until the hooks f are engaged by the rods B at the bends e . The door, with the rods B lying against its face, is then swung upward against the roof of the car, where it will be caught and held by a suitable hook g , pivoted to one of

the cross-beams near the center of the car. When the door and rods are thus swung up, it will be seen that the entire space inside of the car is left unobstructed, so that all of the space may be utilized for lumber.

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

1. The door A, provided with the hooks *f* and having the flaps *a* hinged to its upper edge, in combination with the bent rods B B, connected to the door A, each rod B consisting of an inclined portion *b'*, and a vertical portion *b²*, both of said portions *b'* *b²* being pivotally connected at their upper ends to the frame-work of a car, whereby, when the door A is swung up and caught against the roof of the car, the rods B B will aid in holding the door and the flap in such position, substantially as specified.

2. A grain-car door A, in combination with two bent rods B B, which are connected to the door A, each rod consisting of an inclined portion *b'* and a vertical portion *b²*, and eyes or sockets *c c*, into which the ends of the rods B B are placed, substantially as and for the purpose specified.

3. A grain-car door A, in combination with two bent rods B B, connected to the door A,

each rod consisting of an inclined bracing portion *b'*, a vertical portion *b²*, and a flattened portion *e*, and eyes or sockets *c c*, connected to the frame-work of the car and into which the ends of the rods B B are placed, substantially as and for the purpose specified.

4. A grain-car door A, in combination with two bent rods B B, connected to the door A, each rod consisting of an inclined bracing portion *b'*, a vertical portion *b²*, and a flattened portion *e*, eyes or sockets *c c*, secured to the frame-work of the car and into which the ends of the rods B B are placed, and hooks *f f* on the door A, with which hooks the flattened portions *e e* of the rods B B engage when the door is raised, substantially as specified.

5. A rod for grain-car doors, bent, as shown, to have an inclined bracing portion *b'* and a vertical portion *b²* and a flattened portion *e*, and having its ends adapted to be hinged to the frame-work of a car, substantially as and for the purpose specified.

WILLIAM A. MCGUIRE.

Witnesses:

ALBERT H. ADAMS,
L. L. BOND.