

No. 672,341.

Patented Apr. 16, 1901.

J. R. TAYLOR.
GRAIN DOOR FOR CARS.
(Application filed Nov. 6, 1900.)

(No Model.)

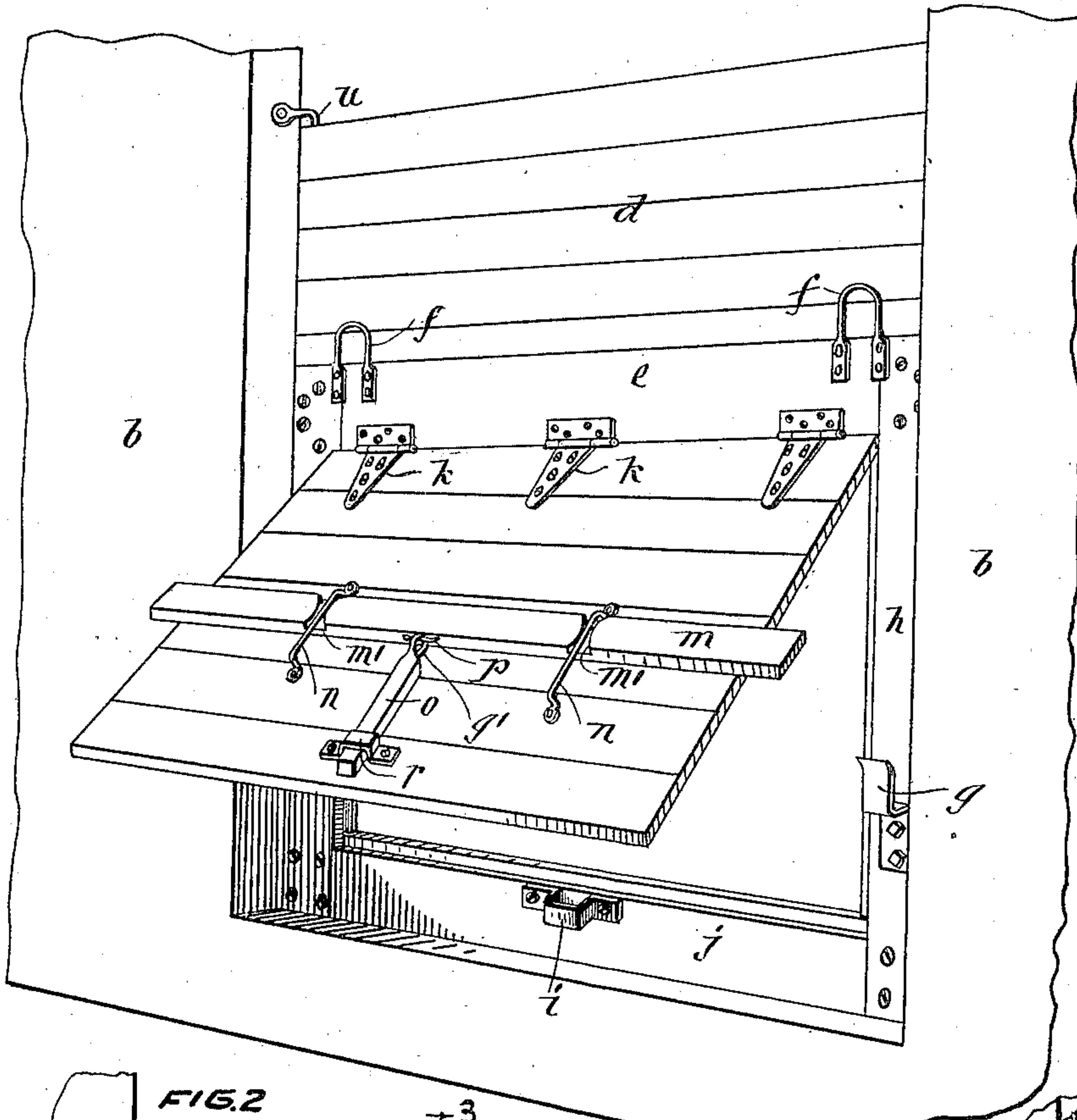


FIG. 1.

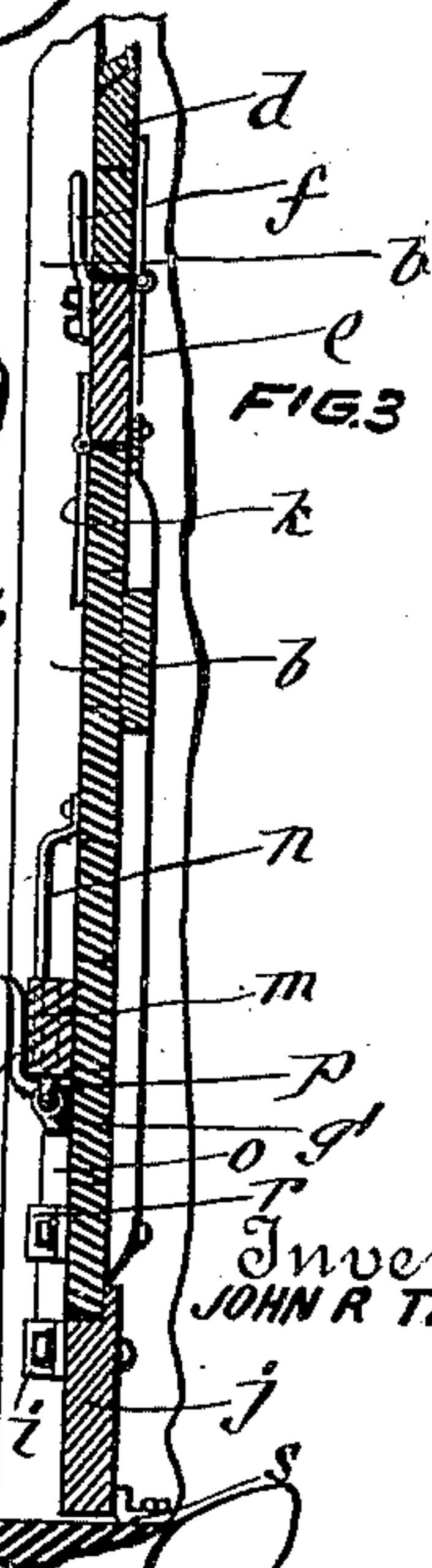
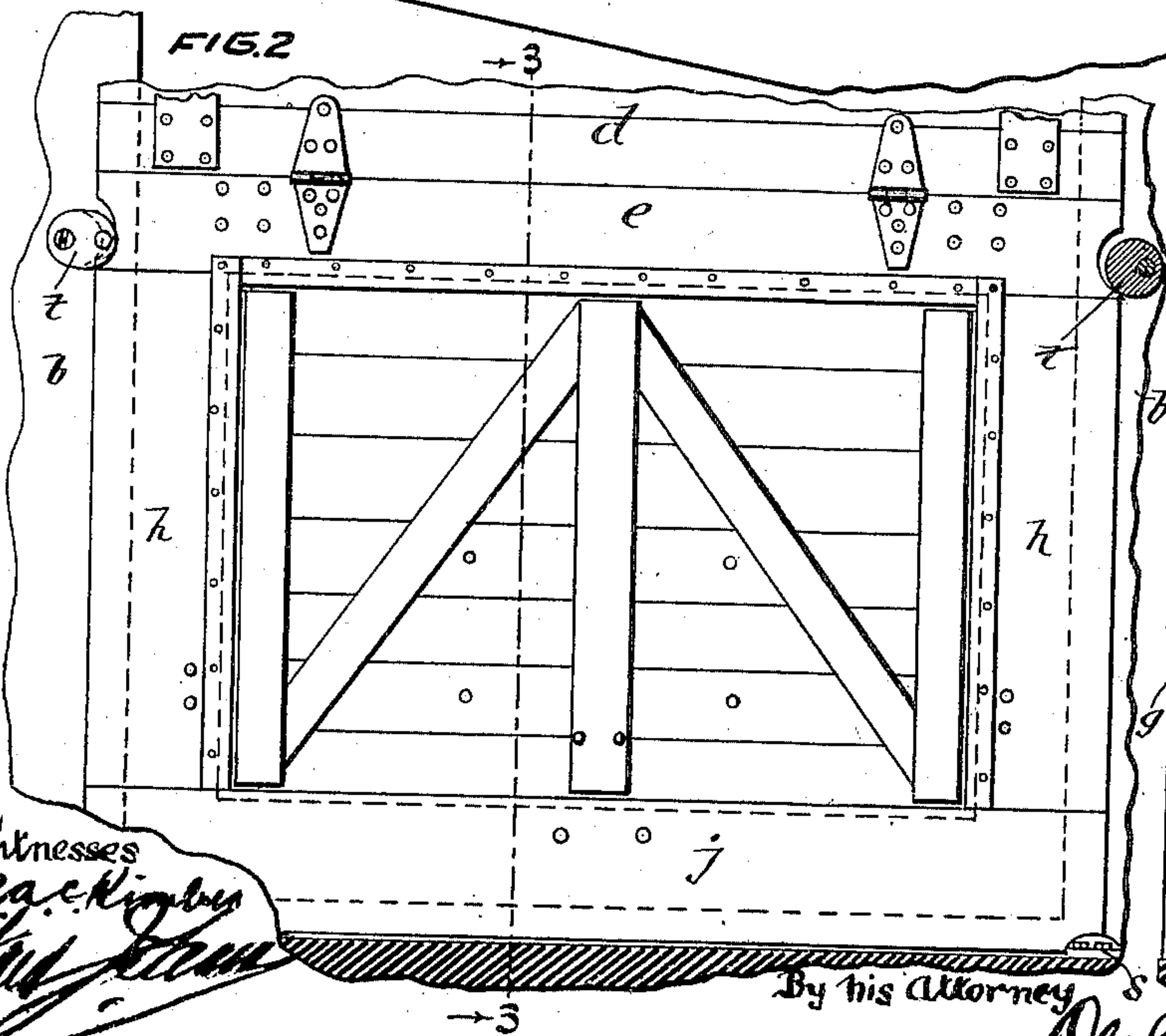


FIG. 3.

Witnesses
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JOHN ROBSON TAYLOR, OF COTEAU LANDING, CANADA.

GRAIN-DOOR FOR CARS.

SPECIFICATION forming part of Letters Patent No. 672,341, dated April 16, 1901.

Application filed November 6, 1900. Serial No. 35,691. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROBSON TAYLOR, of the town of Coteau Landing, county of Soulanges, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Grain-Doors for Cars; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention has for its object to provide a door that can be first partially opened to relieve it of a part of its strain and when so relieved easily fully opened. To this end I provide a door consisting of an open frame and a part in the form of a flap for closing the opening in said door and hinged at its top, said flap being locked in place by a cross-bar, and, if desired, a vertical bolt hung from said cross-bar. For full comprehension, however, of my invention reference must be had to the accompanying drawings, forming a part of this specification, in which similar reference characters indicate the same parts, and wherein—

Figure 1 is a perspective view of my improved grain-door with its flap open. Fig. 2 is a view of the inside of the door; and Fig. 3 is a vertical sectional view thereof, taken on line 3 3.

b is a portion of the side of an ordinary box-car.

The open frame of my improved door has the usual extension *d*, connected by hinges to the top rail *e*, which also has a pair of rigid hangers *f* secured thereto. A pair of cleats *g* are bolted on the outside of the stiles *h*, near the lower ends thereof, and a strap or staple *i* is secured at the middle of the bottom rail *j*. The flap is connected by hinges *k* at its top edge to the top rail *e* and carries a cross-bar *m*, the ends whereof project beyond the side edges of the flap and take into said cleats when the flap is barred. This cross-bar is notched, as at *m'*, to accommodate a pair of elongated staples *n*, which serve the double purpose of guiding said cross-bar as it is lifted out of the cleats and retaining it against longitudinal displacement. A bolt *o* is connected to the middle of the under side of the cross-bar by a staple *p* and eye *g'* and is guided in a strap *r* upon the flap, while its lower end takes into the strap or staple *i* when the flap is barred.

The complete grain-door—that is to say, the open frame, flap, and top extension *d*—is secured in place by being set at its lower end between the door-frame and a pair of corner-plates *s*, while a pair of eccentrics *t* retain the upper portion of the main portion of the door against displacement, and a pair of hooks *u* take over the upper edge of the top extension.

When my grain-door is not in use, it can be hung inside of the car by means of the hangers *f*.

To unload grain from a car provided with my improved grain-door, the cross-bar, and with it the bolt, is raised, when the weight of the grain will force open the flap, and all the grain in the vicinity thereof will run out, thereby freeing the door of its load and allowing it to be readily raised.

What I claim is as follows:

1. In combination, a grain-car door comprising a main frame portion and a flap, with means for holding the main frame portion in place; a horizontal cross-bar carried by said flap and having both ends projecting beyond the sides thereof and freely movable as a whole throughout its length vertically, and means carried by the main portion of the door for engaging and supporting said ends of the cross-bar when in its lowermost position, substantially as described and for the purpose set forth.

2. In combination, a grain-car door comprising a main portion in the form of an open frame; means for holding the main frame portion in place; a flap for closing said open frame; a pair of elongated staples on the flap and a horizontal cross-bar held in place upon the flap by said staples and freely movable as a whole throughout its length vertically; and a pair of cleats mounted upon said main frame portion one on each side of said flap, substantially as described and for the purpose set forth.

3. In combination, a grain-car door comprising a main portion in the form of an open frame, with means for holding the door in place; a flap for closing said open frame; a pair of elongated staples on the flap and a horizontal cross-bar held in place upon the flap by said staples and freely movable as a whole vertically; a pair of cleats mounted

upon said main portion one on each side of said flap, a vertical bolt connected to and movable with said cross-bar, and a strap upon the main door portion to receive the lower
 5 end of said bolt, substantially as described and for the purpose set forth.

4. In combination the frame of a grain-car-door opening, a grain-door comprising a main frame portion and a flap, with a pair of ec-
 10 centrics carried by the car-body one on each side of the door-opening for holding the main frame portion in place; a horizontal cross-bar carried by said flap and having both ends projecting beyond the sides thereof and freely
 15 movable as a whole throughout its length vertically, and cleats carried by the main portion of the door for engaging and supporting said ends of the cross-bar when in its lowermost position, substantially as described and
 20 for the purpose set forth.

5. In combination, the frame of a grain-car-door opening, a grain-door comprising a main frame portion and a flap; with a pair of ec-
 centrics carried by the car-body, one on each side of the door-opening, and a pair of corner- 25 plates, for holding the main frame portion in place; a horizontal cross-bar carried by said flap and having both ends projecting beyond the sides thereof and freely movable as a whole throughout its length vertically, and 30 cleats carried by the main portion of the door for engaging said ends of the cross-bar when in its lowermost position, substantially as described and for the purpose set forth.

In testimony whereof I have affixed my sig- 35 nature in presence of two witnesses.

JOHN ROBSON TAYLOR.

Witnesses:

FRED. J. SEARS,

ARTHUR H. EVANS.