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J. J. HENNESSEY & P. N. MOORE.

GRAIN CAR.

APPLICATION FILED AUG. 10, 1904.

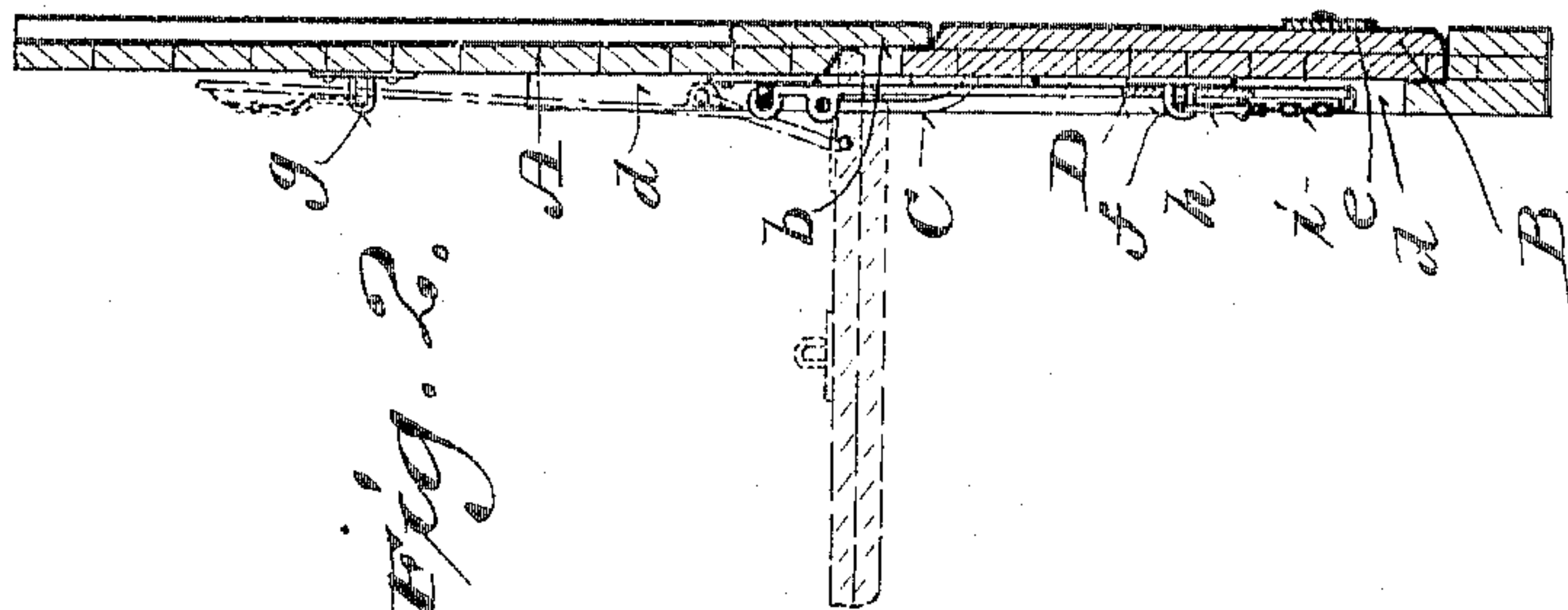


Fig. 2.

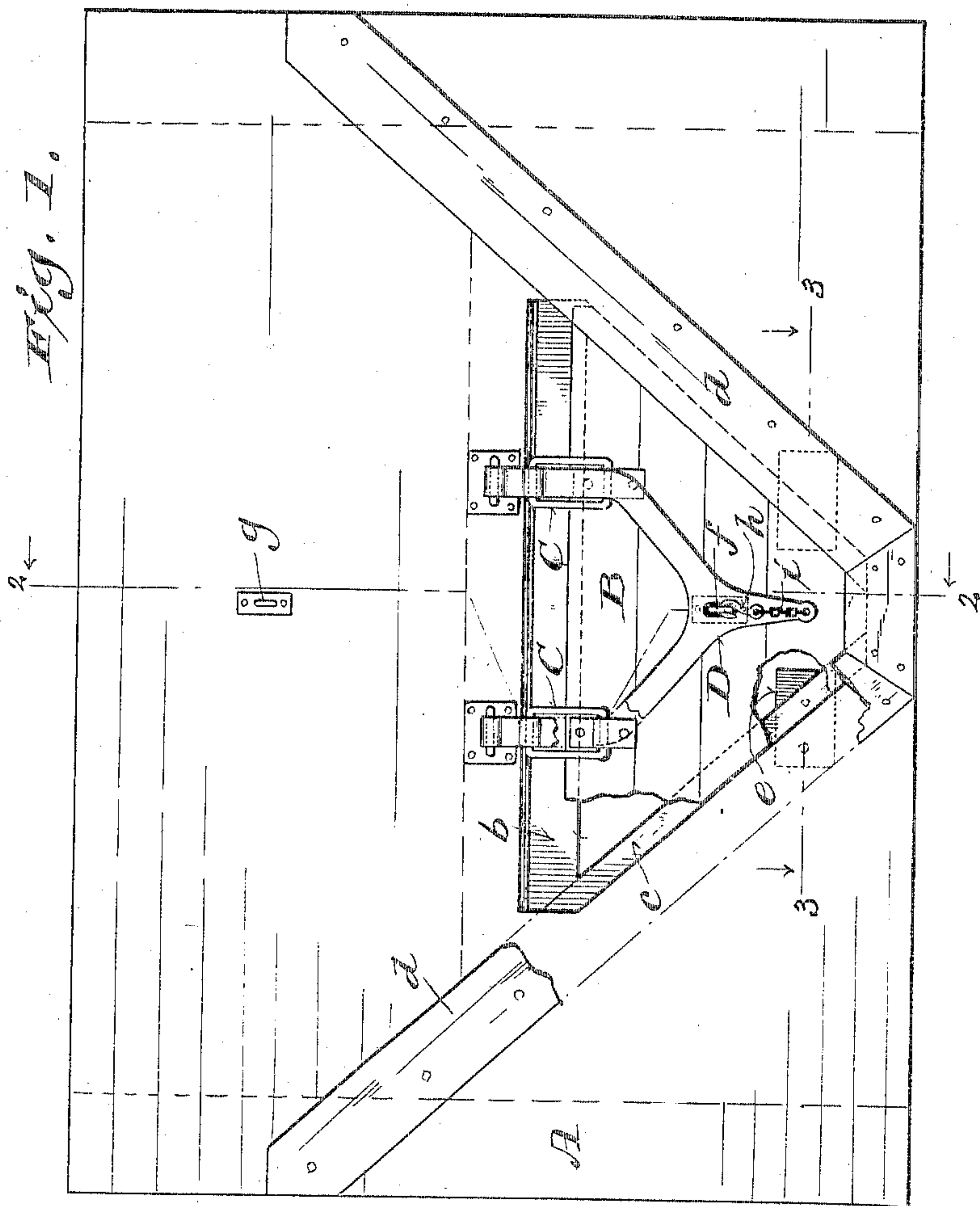


Fig. 1.

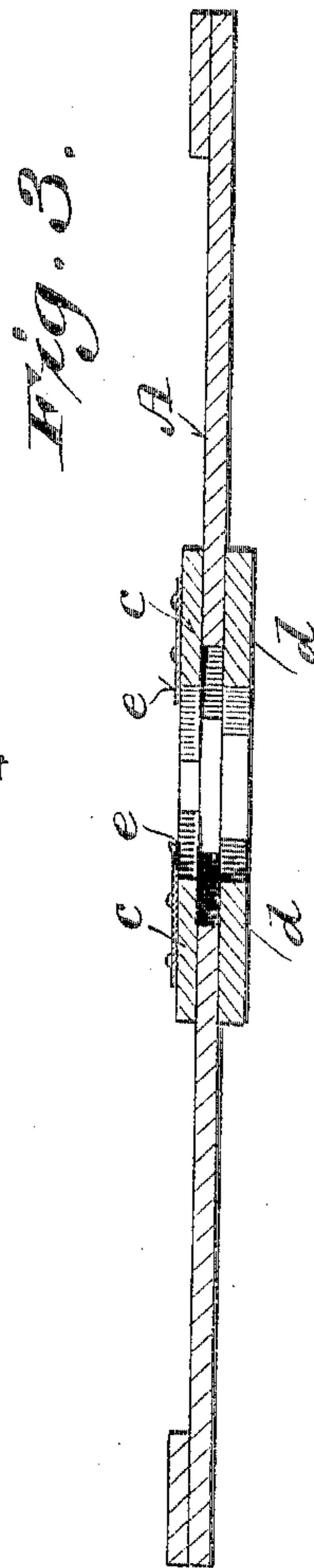


Fig. 3.

Witnesses
Geo. W. Young.
N. E. Oliphant

By

John J. Hennessey
Peter N. Moore

H. C. Underwood

Inventors

Attorneys

UNITED STATES PATENT OFFICE.

JOHN J. HENNESSEY AND PETER N. MOORE, OF MILWAUKEE, WISCONSIN.

GRAIN-CAR.

SPECIFICATION forming part of Letters Patent No. 793,930, dated July 4, 1905.

Application filed August 10, 1904. Serial No. 220,171.

To all whom it may concern:

Be it known that we, JOHN J. HENNESSEY and PETER N. MOORE, citizens of the United States, and residents of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Grain-Cars; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention has for its object to facilitate the unloading of grain-cars, the gate being omitted in Figure 3; and it consists of what is hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Fig. 1 of the drawings represents a side elevation of a grain-car door provided with a lower central triangular opening controlled by a vertically-sliding gate of similar form, a portion of this gate and an outside stop on the door being partly broken away. Figs. 2 and 3 of said drawings represent sectional views, respectively, indicated by lines 2 2 and 3 3 in Fig. 1.

Referring by letter to the drawings, A indicates a vertically-sliding grain-car door provided with a lower central opening, the form of which approximates that of an isosceles triangle. Inside stops *b c c* on the door project inward beyond the edges of the triangular opening and outside stops *d d* are arranged on said door to also project inward beyond the inclined edges of said opening, these outside stops and the inside stops *c* being parallel in pairs.

A gate B for the aperture bounded by the inside stops *b c c* on the car-door has form approximating that of an isosceles triangle, and there is vertical play of the gate between the stops *c d* on said door, its movement being along the upper inside stop *b*, which it laps when in vertical position. The space above the gate B when the same is in working position is sufficient to permit of said gate being lifted to clear the outside stops *d* on the car-door, and this clearance being had the aforesaid gate may be removed, or in case of pressure back of same it will fall away or swing outward if suitably hung in connection with

said door. The gate is herein shown as being outwardly of several sections vertically on a backing crosswise of same. The gate B is herein shown connected by links C with the branches of a forked lever D, and the lever branches are in hinge connection with the car-door. The lever and links are vertical when the gate is in place between the stops *c d* on the car-door to close the adjacent aperture, and to prevent inward swing of the lifted gate ears *e* are provided on the inside stops *c* and arranged to lap said gate. The lever D is shown provided with a slot that is engaged by one or the other of staples *f g*, that are respectively provided on said gate and car-door, and a hook *h* or other suitable device is connected by a chain *i* to said lever to be inserted in one or the other of the staples as a means for holding the aforesaid lever in engagement with the same. While it is preferable to employ a forked lever having its branches in link connection with the gate B and in hinge connection with the car-door, it is practical to employ a straight lever in like connection with said gate and door. It is also practical to provide any wall or the bottom of a grain-car with an aperture and gate for the same similar to what has been shown and described as preferably pertaining to a door of such a car.

When an ordinary grain-car is loaded, it is difficult to lift a door of same because of the outward pressure of grain thereon; but by providing the door or a car-wall with an aperture and gate for the same similar to what is herein set forth an outlet for said grain may be readily had because of the limited area of said gate exposed to grain-pressure, and sufficient grain having been removed said door may be easily lifted.

When the lifting-lever is caught on the staple *f*, the gate is locked in position to close the adjacent aperture, and said lever being caught on the staple *g* said gate is held swung up in open position against the inside stop *b*, as shown by dotted lines in Fig. 2, the hook *h* or other fastening device being inserted in the proper staple to hold the aforesaid lever in its engagement with the same.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A grain-car having a portion thereof provided with a triangular aperture, outside stops arranged to project inward from the inclined edges of the aperture, a triangular gate for said aperture normally back of said stops, and a slide-and-swing connection for said gate which permits it first to slide clear of said stops and then swing outward.

2. A grain-car having a portion thereof provided with a triangular aperture, outside stops arranged to project inward beyond inclined edges of the aperture, a suitably-arranged lever, and a triangular gate for said aperture in link connection with the lever to have sliding motion from working position to clear said stops.

3. A grain-car having a portion thereof provided with a triangular aperture, inside and outside stops arranged to project inward beyond inclined edges of the aperture, a suitably-arranged lever, and a triangular gate for said aperture in link connection with the lever to have sliding motion from working position to clear the outside stops.

4. A grain-car having a portion thereof provided with a triangular aperture, outside stops arranged to project inward beyond inclined edges of the aperture, an inside stop projecting inward beyond a straight edge of said aperture, a suitably-arranged lever, and a triangular gate for the aforesaid aperture in link connection with the lever to have sliding motion from working position to clear the outside stops and subsequent swing against said inside stop.

5. A grain-car door provided with a lower triangular aperture, outside stops arranged to project inward from the inclined edges of the aperture, a triangular gate for said aper-

ture normally back of said stops, and a slide-and-swing connection for said gate which permits it first to slide clear of said stops and then swing outward.

6. A grain-car door provided with a lower triangular aperture, outside stops arranged to project inward beyond inclined edges of the aperture, a lever in connection with the door, a triangular gate for said aperture, and links connecting the lever and gate, upward movement of said gate from working position serving to bring it clear of said stops.

7. A grain-car door provided with a lower triangular aperture, inside and outside stops arranged to project inward beyond inclined edges of the aperture, a lever in connection with the door, a triangular gate for said aperture, and links connecting the lever and gate, sliding upward movement of said gate from working position serving to bring it clear of said outside stops.

8. A grain-car door provided with a lower triangular aperture, outside stops arranged to project inward beyond the inclined edges of the aperture, an inside stop projecting inward beyond a straight upper edge of said aperture, a lever in connection with the door, a triangular gate for the aforesaid aperture, and links connecting the lever and gate, said gate having sliding upward movement from working position to clear said outside stops preliminary to swing against said inside stop.

In testimony that we claim the foregoing we have hereunto set our hands, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

JOHN J. HENNESSEY.
PETER N. MOORE.

Witnesses:

MARY J. McLAUGHLIN,
RICHARD J. HENNESSEY.