(No Model.)

C. H. & J. P. EMERY.

GRAIN CAR DOOR FASTENER.

No. 415,668. Patented Nov. 19, 1889.

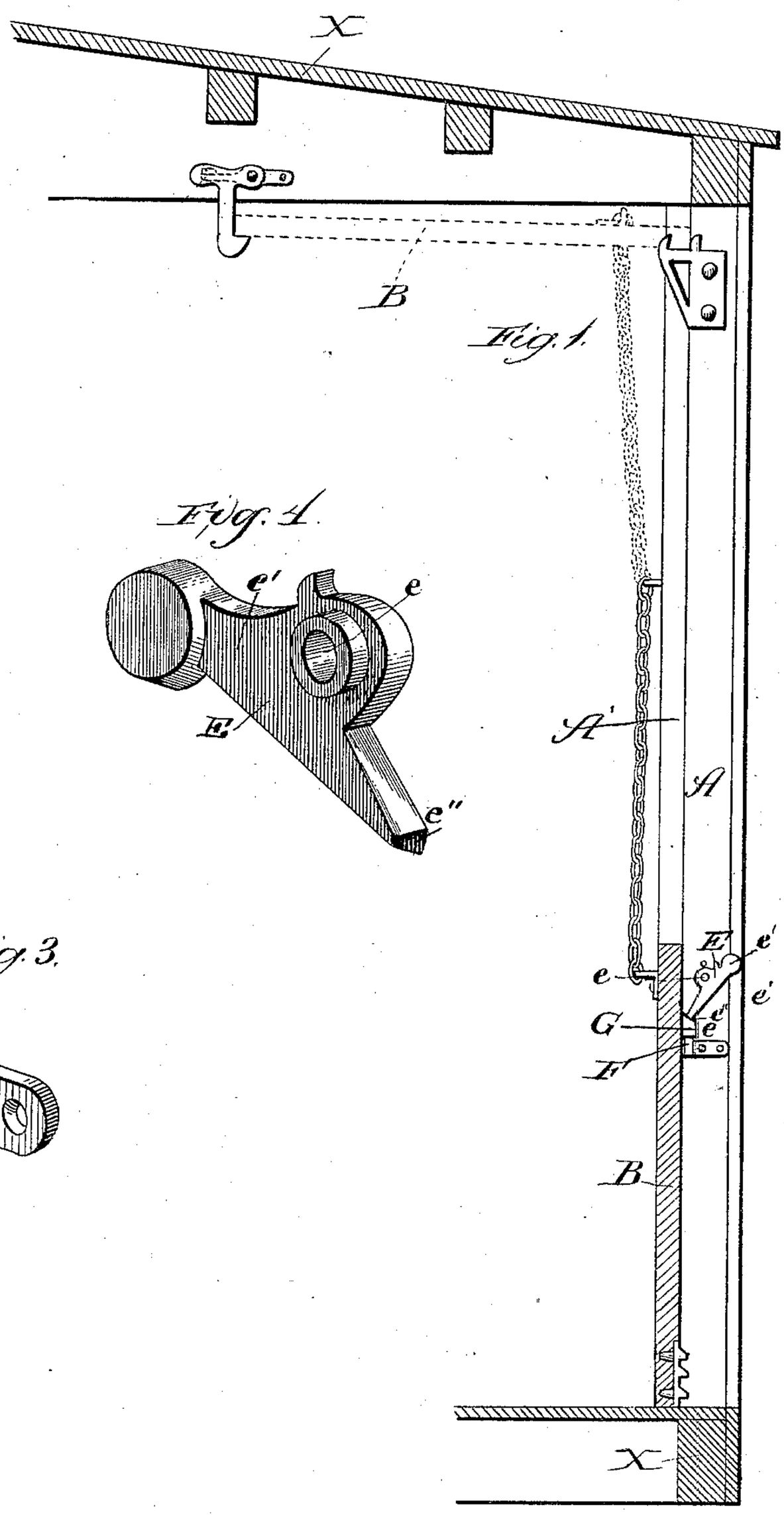

Fig. 1.

Fig. 2.

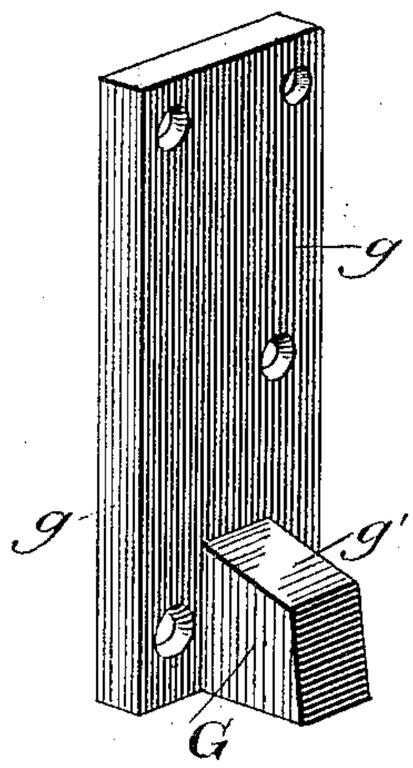

Fig. 3.

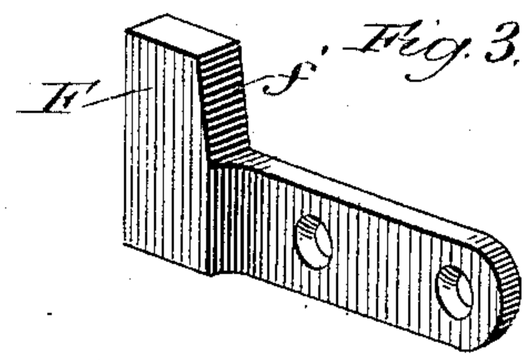

Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES H. EMERY AND JAMES P. EMERY, OF HYDE PARK, ASSIGNORS OF ONE-THIRD TO DWIGHT B. CARMICHAEL, OF LAKE, ILLINOIS.

GRAIN-CAR-DOOR FASTENER.

SPECIFICATION forming part of Letters Patent No. 415,668, dated November 19, 1889.

Application filed February 19, 1889. Serial No. 300,424. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. EMERY and JAMES P. EMERY, citizens of the United States, residing at Hyde Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grain-Car-Door Fasteners, of which the following is a full and complete description.

The purpose of our invention is to secure a grain-car-door fastener which will hold firmly in closed position a grain-car door in such manner that the said door cannot and will not jar out of proper place when the car is in motion, whether said car be loaded or empty, and we seek also to obtain a grain-car-door fastener which will automatically lock or fasten when the door is dropped or slid into a closed position.

We have illustrated our invention by the drawings accompanying this specification and forming a part hereof, in which—

Figure 1 is a sectional view showing one side of a car and a portion of the floor and roof thereof, with a grain-car door, as shown by the full lines, in a closed position and there locked by our new grain-car-door fastener.

Our grain-car-door fastener is formed almost entirely of three pieces, and these pieces are illustrated in perspective in Figs. 2, 3, and 4 of the drawings.

Like letters refer to like parts throughout the several views.

X is the frame of the car.

A is a car-door post or jamb.

A′ is a rabbet in door-jamb A, in which a grain-car door, as B, may freely slide vertically.

E F G are the respective parts forming our grain-car-door fastener.

It is evident on inspection thereof and by the herein-contained description that our improved fastener is intended for and may be used upon any sliding door moving vertically in guides; but as the use we have so far made of our device has consisted in locking therewith and securing in a closed position thereby grain-car doors, whereby grain may be loaded and transported in bulk in cars, we have entitled and shall hereinafter refer to our invention as a "grain-car-door fastener," not, however, thereby limiting its use to grain-car doors or in connection therewith.

E is a gravity-lever, pivoted at *e* on jamb A and turning freely on said pivot.

F is a lug or projection, termed by us a "finger," having a suitable base thereon and secured firmly to jamb A.

G is a hollow projection, termed by us a "thimble," integral with its base *g*, whereby it is secured rigidly to vertically-sliding door B.

Gravity-lever E has one end thereof *e′* weighted, and the other end thereof *e″* is adapted to come in contact, or nearly so, with the surface *g′* of thimble G. Weighted end *e′* tends to hold lever E in the position illustrated in Fig. 1 over thimble G when the door B is closed, and said door cannot therefore be raised from such closed position. While the door is raised such weighted end *e′* of the lever tends to hold said lever in such position that as the door is closed the end *e″* thereof is turned to one side by the descending door, and when the door is completely shut the end *e″* will automatically turn back into the position over thimble G illustrated in Fig. 1. Sufficient bevel is or may be given to side or surface *f′* of finger F, with a like bevel on the inner surface of thimble G coming in contact therewith, so that as the door B is slid downward into a closed position it is drawn forward into close contact at its upper end with door-jamb A by thimble G coming over finger F, as described.

The jarring of the car incident to the movement thereof cannot loosen the door either by the door rising or drawing back from close contact with the jamb because of gravity-lever E being in the position in Fig. 1 over thimble G, and the door is thus held rigidly in position. When it is desired to raise said door B, gravity-lever E is turned upon pivot *e* until handle *e′* thereof presses against the door or against plate *g*. The free end *e″* of lever E will then be off from thimble G and the door may be raised. As the door is thus slid upward, thimble G will come in contact with weighted end *e′* of lever E, and the lever will drop or turn into the position hereinbefore described, whereby when said door is again slid

downward into place said lever E will assume the position, or nearly so, illustrated in Fig. 1, and the door will thereby be automatically locked and securely fastened.

Having thus described our invention and its method of operation, what we claim, and desire to secure by Letters Patent of the United States, is—

1. A device for securing vertically-sliding doors in a closed position, comprising a finger or lug secured to the door-jamb, a thimble secured to the door and adapted to cover the finger on the door-jamb, and a lever adapted to come in contact at one end thereof with the upper face or surface of the thimble, or nearly so, whereby the thimble is held in position on the finger and the door thereby locked, substantially as described.

2. A device for securing vertically-sliding doors in a closed position, comprising a finger or lug having a beveled face thereon secured to the door-jamb, a thimble having a like beveled inner face secured to the door and adapted to cover the finger on the door-jamb, and a lever adapted to come in contact, or nearly so, at one end thereof with the upper surface of the thimble, whereby the thimble is held in position on the finger and the door thereby locked, substantially as described.

CHARLES H. EMERY.
JAMES P. EMERY.

In presence of—
DWIGHT B. CARMICHAEL,
FLORA L. BROWN.