

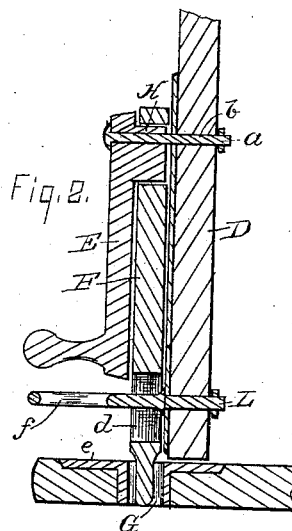
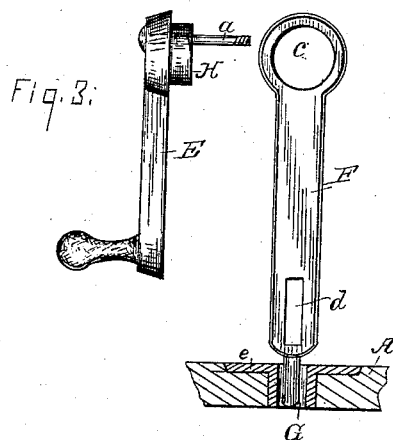
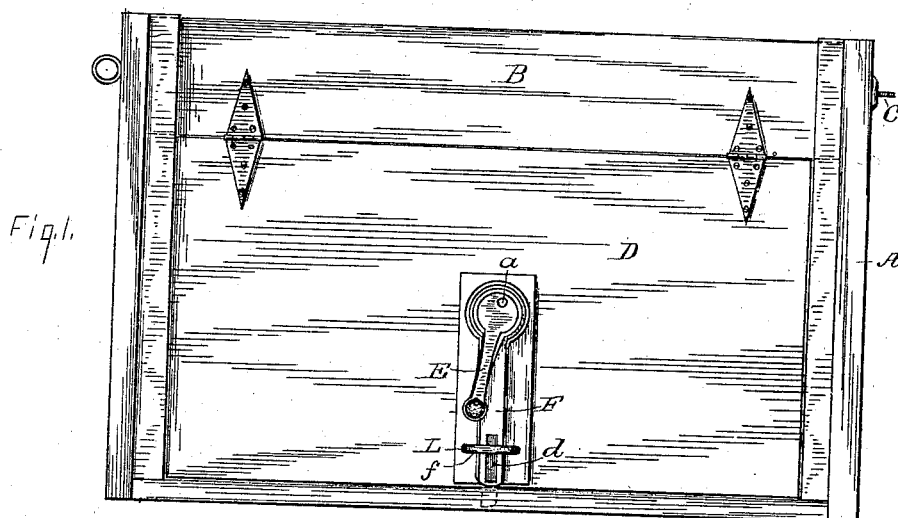
(No Model.)

A. A. WILLIAMS.

WAGON END GATE.

No. 305,125.

Patented Sept. 16, 1884.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALBERT A. WILLIAMS, OF STERLING, ILLINOIS.

WAGON END-GATE.

SPECIFICATION forming part of Letters Patent No. 305,125, dated September 16, 1884.

Application filed July 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. WILLIAMS, a citizen of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Wagon End-Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention pertains to wagon end-gates, and refers more especially to certain novel mechanism used in connection with such end-gate to open or securely close the latter without removing the entire end-gate or withdrawing the transverse brace-rod. The mode now very generally adopted for transporting grain to market is to haul the same loose in the wagon-box. At the grain-elevators means are employed for dropping the rear end of the wagon and permitting the grain to run out at the rear of the wagon-box into a hopper which communicates with the lower end of the elevator. This system has led to the devising of several methods of opening the rear end or end-gate of the wagon-box, so as to permit the egress of the grain without the inconvenience of removing the end-gate entirely from the wagon-box. These devices, while in the main successful, have been objectionable on the ground of either being too expensive or complicated and liable to break or become inoperative, and in some instances they are unsatisfactory from the fact that they become loose, and rattle from use and the inevitable and continual jolting of the wagon. In my invention I provide a simple, strong, and effectual mode of accomplishing the aforesaid results, while the devices employed add practically nothing to the weight, and can be made to work with absolute certainty.

In the drawings, Figure 1 is a rear elevation of a wagon-box provided with my invention. Fig. 2 is a longitudinal sectional view of the devices employed for holding the end-gate shut and for opening the same. Fig. 3 is

a detailed view of the lock-bolt and its actuating devices.

A is the ordinary wagon-box provided in its rear end with the narrow end-gate B, which latter is held in cleats in the usual way by means of the transverse tightening screw-rod C. To the lower edge of the end-gate B is suitably hinged, so as to open outward, the swinging end-gate D, which is of such width as to fill the space between the lower edge of the end-gate B and the upper side of the bottom of the box A. The inner cleats, which hold the gate B, have a greater lateral thickness—i. e., extend farther into the box A—than the outer cleats, and the gate D passes closely within such outer cleats and rests against such inner ones. On the outside and center of the gate D is pivoted the crank-lever E by means of a bolt, *a*, which passes through a hole, *b*, in and is riveted on the inside of the gate D.

F is a lock-bolt provided with a large annular opening, *c*, at its upper end, and a vertical slot, *d*, near its lower end. The lower end of the bolt F is fitted to enter a hole, G, formed entirely through the bottom of the box A directly beneath the bolt *a* when the gate D is closed. The lock-bolt F is placed between the crank-lever E and the outside of the gate D, with the bolt *a* passed through the opening *c* in the bolt F, the bolt *a* being in such relation to the hole G that such bolt abuts against the upperside of the opening *c* when the lower end of the bolt F is engaged in the hole G.

On the inner face of the crank-lever E is formed, integral with such lever, the cam H, which latter is oblong, and has its greatest diameter in line with such crank-lever, and is eccentrically placed within, and traverses the opening *c* in the lock-bolt F.

The operation is as follows: When the crank-lever E is turned outward and upward, the cam H engages the wall of the opening *c* at the point of such cam farthest from the bolt *a*, and thereby forces the bolt F out of the hole G, and permits the gate D to be swung outward. When the gate D is closed, a contrary movement of the crank-lever E forces the lower end of the bolt F into the hole G, and secures the gate D. The weight of the crank-lever E

hanging downward when the bolt F is in the hole G insures against such bolt casually withdrawing from the hole G. The hole G is formed entirely through the bottom of the box A, so that there can be no accumulation of dirt therein to impede the entrance of the lower end of the bolt F. I surround the hole G with a sunken metallic washer, *e*, to preclude wear of the walls of such holes and to strengthen such walls. The bolt F is held against the gate D by the horizontal bolt L, which passes through the slot *d* and gate D from the outside, and is furnished with a thread and nut on the inside of such gate. The bolt L has side flanges, which extend over the lateral walls of the slot *d*, and thereby hold the bolt F snugly against the gate D, while the slot *d* permits the reciprocal movement of the bolt F. The outer end of the bolt L is formed into a ring-head, *f*, in which the finger or thumb can be inserted to draw the lower end of the gate D outward.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The combination of the box A, gate D, crank-lever E, provided with the cam H, lock-bolt F, provided with the opening *c* and slot *d*, and the bolt L, substantially as shown, and for the purpose specified.

2. In combination with a wagon-box and hinged end-gate therein, a lock-bolt, F, provided with an opening, *c*, and adapted to engage a hole, G, in such box, and a crank-lever, E, provided with a cam, H, and adapted to traverse such opening *c*, and actuate such bolt F, substantially as shown, and for the purpose mentioned.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT A. WILLIAMS.

Witnesses:

WALTER N. HASKELL,
WILLIAM MANAHAN.