

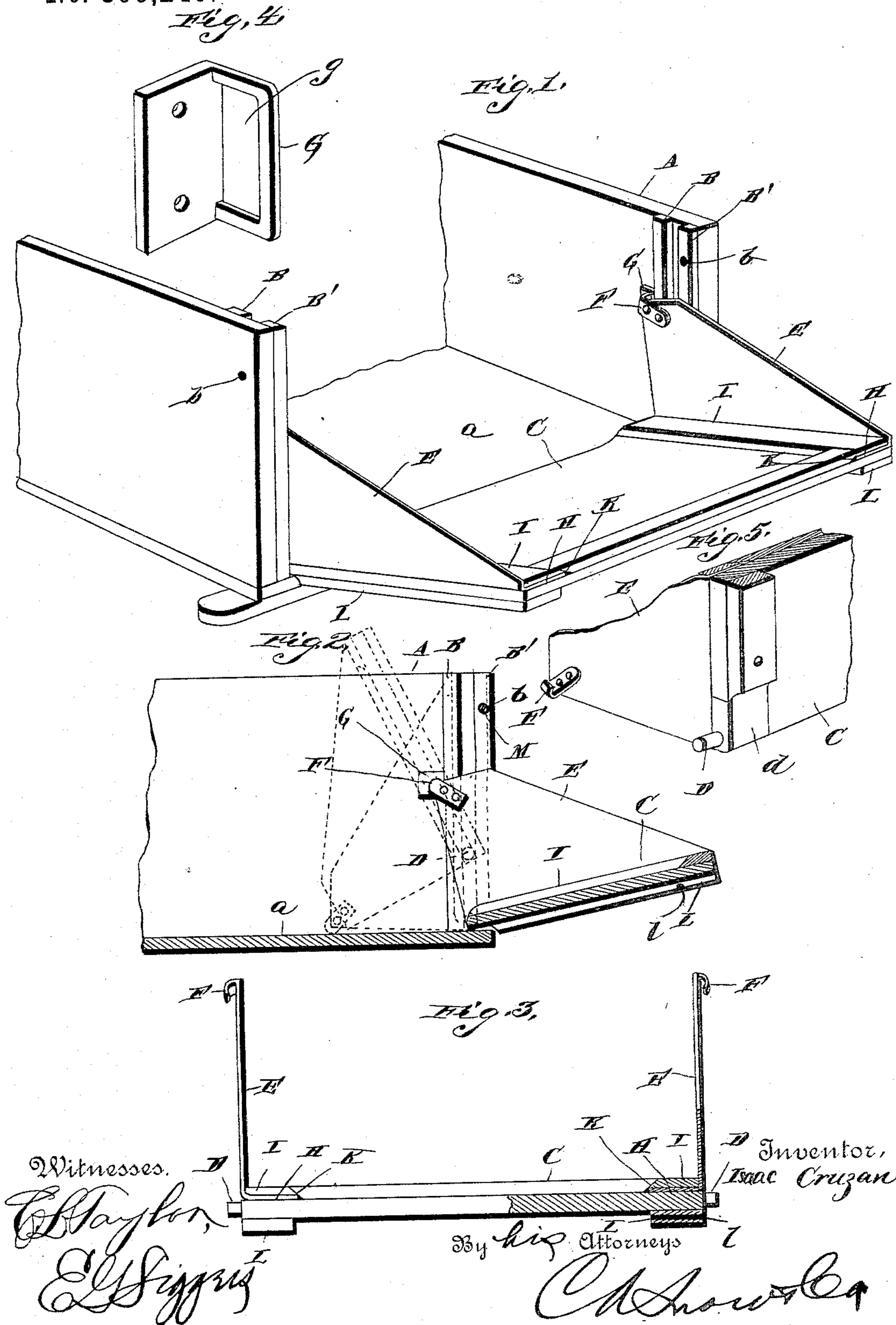
(No Model.)

I. CRUZAN.

END GATE.

No. 399,246.

Patented Mar. 12, 1889.





# UNITED STATES PATENT OFFICE.

ISAAC CRUZAN, OF WAGGONER, ILLINOIS.

## END-GATE.

SPECIFICATION forming part of Letters Patent No. 399,246, dated March 12, 1889.

Application filed October 6, 1888. Serial No. 287,423. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC CRUZAN, a citizen of the United States, residing at Waggoner, in the county of Montgomery and State of Illinois, have invented a new and useful Improvement in End-Gates, of which the following is a specification.

The object of this invention is to provide a simple, cheap, durable, easily-operated, and convenient end-gate for wagons; and it consists in a certain novel construction and combination of devices, fully described hereinafter in connection with the accompanying drawings, and specifically pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a portion of a wagon-body, showing the improved end-gate arranged in position thereon. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a top edge view, partly in section, of the end-gate. Fig. 4 is a similar view of one of the keepers or catches. Fig. 5 is a detail view of one of the trunnions.

Referring to the drawings by letter, A designates a portion of a wagon-body, which is provided at its rear end on its inner sides with the vertical guide-strips B B', the said strips being arranged in pairs with short intervals between them.

C represents the end-gate, which is provided at its ends adjacent to the lower edge with the laterally-extending trunnions D D, which operate between the adjacent sides of the guide-strips B B', and thereby pivot the end-gate to the wagon-body. The trunnions are arranged in position by inserting them between the upper ends of the strips, and therefore may be readily and quickly removed. The trunnions are provided with parallel ears d d, as clearly shown in Fig. 5, which are disposed on opposite sides of the end-gate, and are secured thereto by through-bolts.

E E represent wings which are secured to the side edges of the end-gate and extend forward parallel with the sides of the wagon-body. The lower edges of the wings are perpendicular to the inner side of the end-gate, whereby, when the latter is in its raised or closed position, the lower edges of the wings bear on the floor a of the wagon-body, and thereby brace it against inward pressure.

The upper edges of the wings are inclined downward toward their front ends, and at their lower angles the wings are provided with the flat laterally-extending hooks F F, which are adapted to engage keepers or catches G G on the sides of the wagon-body when the end-gate is in its open or lowered position. These catches or keepers are arranged in contact with the front sides of the strips B B in the angles formed between the same and the sides of the wagon-body, and they are angular in shape and are provided with vertical slots g g, to receive the hooks F.

The wings are further provided at their rear edges with the inwardly-turned integral flanges H H, which lie on the front side of the end-gate near its ends, and I represents cleats which bear on the said flanges and are held tightly pressed against the same by through-bolts or rivets. The inner edges of these cleats are beveled, and K represents a horizontal cleat arranged along the upper front edge of the end-gate and provided with oppositely beveled ends which overlap the inner beveled edges of the cleats I, and thereby firmly bind the upper ends of the latter in place. This manner of locking the upper ends of the cleats I I in place is of advantage, for the reason that the greatest strain comes upon their upper ends, and therefore, if not secured in this or an equivalent manner, they are liable to be torn off.

L L are cleats secured to the rear side of the end-gate at its ends.

It will be readily seen from the foregoing description, taken in connection with the drawings, that when the end-gate is in its closed or raised position it is vertically arranged between the cleats B B', and the lower edges of the wings bear on the floor of the wagon-body and prevent the end-gate from inclining inward. To prevent the same from inclining outward I provide a sliding bar, M, which engages registering apertures b and l in the sides of the wagon and in the cleats L L, respectively, and passes in rear of the end-gate. When the end-gate is inclined rearward, as shown in full lines in Figs. 1 and 2, the hooks on the wings engage the catches or keepers and hold the end-gate in position to enable the contents of the wagon to be scooped or shoveled out. The strips K



on the upper edge of the end-gate prevent the grain or other contents of the wagon from slipping therefrom, and also serves as a guard to prevent the feet of the person unloading the wagon from slipping. When it is desired to dump small grain from the wagon, the bar M is withdrawn and the gate is raised slightly and inclined forward on the angles of the wings, as shown in dotted lines in Fig. 2, which thus support it in the desired position. The grain thus flows out through the opening at the bottom of the end-gate with any desired rapidity, and the flow may be stopped at any time by pressure upon the upper edge of the end-gate.

It is obvious that in order to enable the end-gate to be thus inclined forward or inward it is necessary that the lower edge of the wings should rest normally on the floor of the wagon-body, or that equivalent means should be provided.

I am aware that end-gates provided with triangular wings bearing against opposite sides of the wagon-body have been used heretofore, and therefore I do not desire to claim this broadly.

The lower edges of the improved wings, which bear on the floor of the wagon-body, are at right angles to the rear edges thereof, which are secured to the end-gate, so that when the lower edges of the wings bear on the floor of the body the end-gate is vertical.

Having thus described the invention, I claim—

35 1. The combination, with a wagon-body having guide-strips upon its inner sides, of the end-gate having trunnions D fitting between the said guide-strips and provided with ears *d d*, which pass on opposite sides of the end-

gate, the wings E E on the ends of the said gate, provided at their front ends with hooks, and the catches or keepers G G, secured to the sides of the wagon-body and provided with slots adapted to be engaged by the said hooks, substantially as specified.

2. The wagon-body having the guide-strips B', combined with the end-gate provided at its ends with wings E, substantially triangular in form, with their bases or lower edges perpendicular to the plane of the end-gate, the latter being provided further at its ends with trunnions D, which fit and slide between the strips B', whereby the end-gate may be inclined forward on the front angles of the wings and elevated to separate it at its lower edge from the bottom of the wagon-body, the hooks F at the front ends of the wings, and the keepers G, engaged by the hooks F when the end-gate is tilted outward, as set forth.

3. The combination, with a wagon-body, of the end-gate pivoted between the sides thereof, the wings at the ends of the said gate provided with inturned flanges lying on the inner side thereof, the cleats I, bearing against the said flanges and provided with beveled inner edges, and the horizontal cleat extending between the upper ends of the cleats I I, and provided with beveled ends which overlap the beveled edges thereof, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ISAAC CRUZAN.

Witnesses:

R. HUZY,

CHAS. H. TIPTON.