No. 656,338. Patented Aug. 21, 1900.

A. E. BEALL.

END GATE.

(Application filed Apr. 3, 1900.)

(No Model.)

Fig. 1.

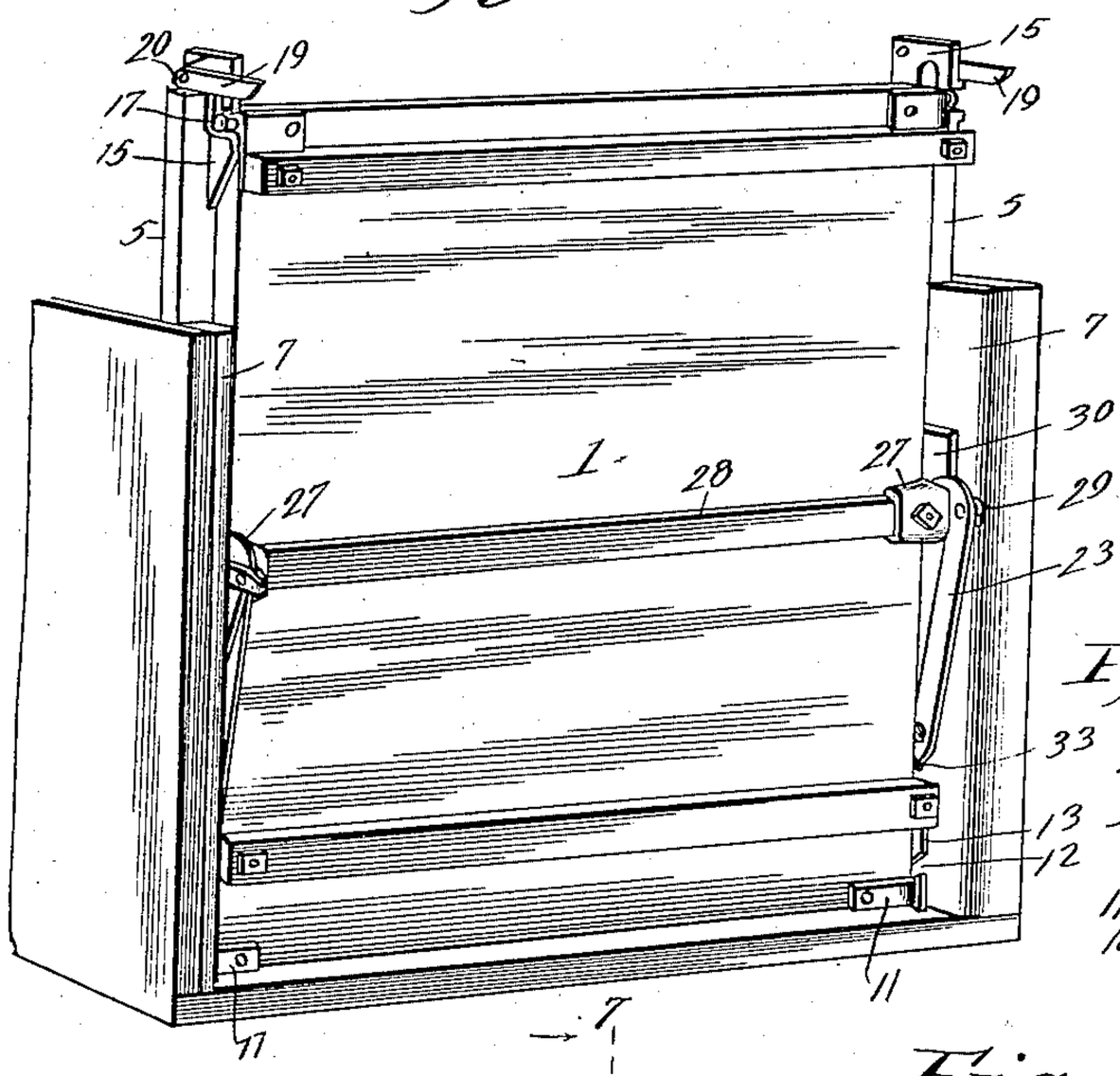


Fig. 3.

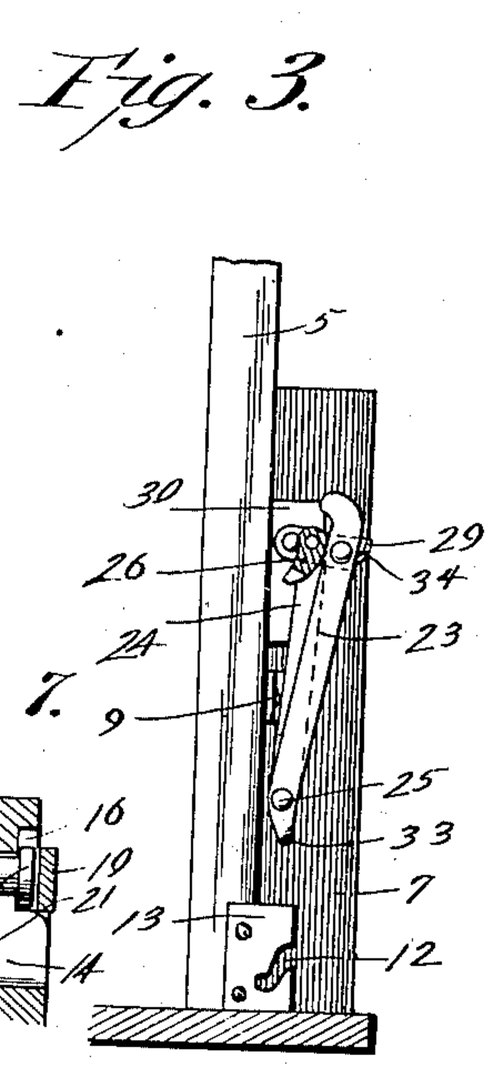


Fig. 7.

Fig. 2.

Fig. 4.

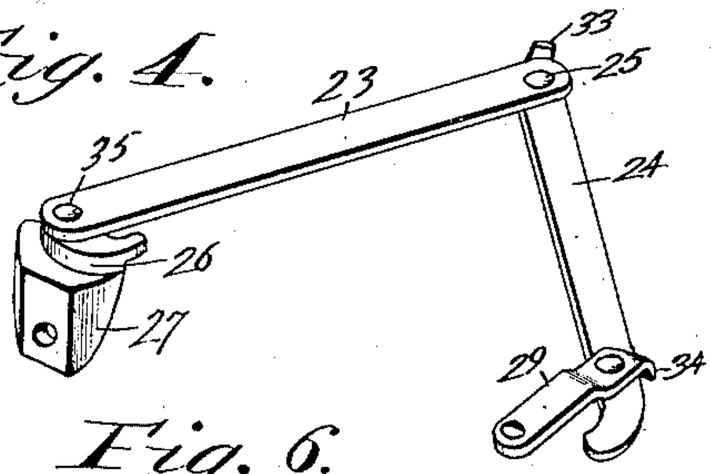
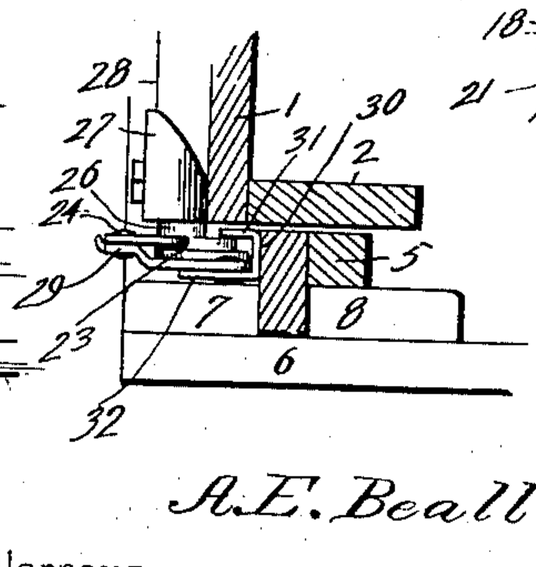
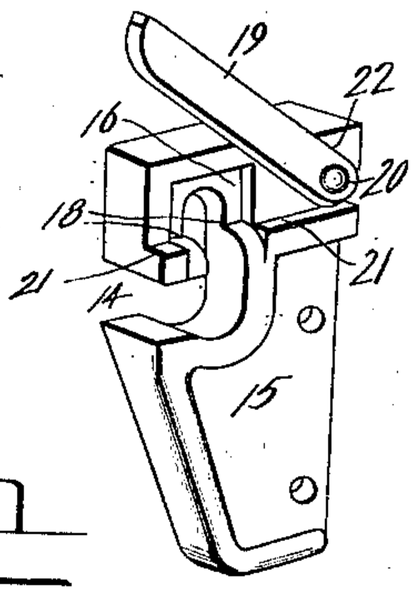


Fig. 6.

Fig. 5.





Witnesses
C. H. Walker.
J. F. J. Riley

By his Attorneys,
A. E. Beall Inventor
Church & Co.

UNITED STATES PATENT OFFICE.

ALBERT E. BEALL, OF CLINTON, IOWA, ASSIGNOR TO J. K. MILNER & CO., OF SAME PLACE.

END-GATE.

SPECIFICATION forming part of Letters Patent No. 656,338, dated August 21, 1900.

Application filed April 3, 1900. Serial No. 11,369. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. BEALL, a citizen of the United States, residing at Clinton, in the county of Clinton and State of Iowa, have invented a new and useful End-Gate, of which the following is a specification.

The invention relates to improvements in end-gates.

The objects of the present invention are to improve the construction of that class of end-gates which are adapted to be arranged to form a shoveling-board and to permit its bottom to swing outward for dumping the contents of a vehicle and to provide a simple, inexpensive, and efficient device for locking the upper pivots of the end-gate when it is desired to arrange the latter for dumping.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of an end-gate constructed in accordance with this invention. Fig. 2 is an elevation, one side of the wagon-body being partly broken away and the end-gate being arranged for dumping. Fig. 3 is a vertical sectional view, the links being arranged for locking the end-gate in its closed position. Fig. 4 is a detail perspective view of the links. Fig. 5 is a horizontal sectional view. Fig. 6 is a detail perspective view of the device for locking the upper pivots of the end-gate to permit the latter to swing outward for dumping. Fig. 7 is an enlarged sectional view on the line 7 7 of Fig. 2.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates an end-gate provided at opposite sides with wings 2 and having upper and lower pivots 3 and 4, adapted to engage detachably upper and lower bearings of vertical supports 5. The vertical supports 5, which are preferably constructed of wood, are L-shaped in horizontal section and are supported at the inner faces of the sides 6 of the wagon-body by cleats 7 and 8, one of the bars or sections of the support 5 being arranged between the cleats 7 and 8 and being secured to the cleat 7 by an L-shaped plate 9 and suitable fastening devices extending through the plate and through the support 5 and the adjacent side of the wagon-body. The bolt 10, which passes through the side of the wagon-body and the cleats 7 thereof, is adapted to be readily removed to permit the support to be detached. The lower pivot 4, which is preferably formed integral with an L-shaped plate 11, is arranged in an inclined slot 12 of a plate 13, which forms the lower bearing of the support and which is secured to the same, as clearly shown in Fig. 3 of the accompanying drawings. The lower pivots of the end-gate are arranged in the lower bearings when the end-gate is in a vertical position, as shown in Fig. 1, and they permit the end-gate to swing downward to a slightly-inclined position to form a shoveling-board. The upper pivot 3 is adapted to be arranged within an approximately L-shaped slot 14 of a plate 15, which forms the upper bearing of the support 5, and one arm of the slot is arranged horizontally and extends inward from the rear edge of the plate, and the other arm is disposed vertically and is adapted to have the pivot confined within it, as hereinafter explained. The plate is preferably flanged, as clearly shown in Fig. 6, to strengthen it and to increase the width of the surface at the bottom of the slot 14, and the upper portion 16 of the plate is provided with a recess located at the upper portion of the slot and adapted to receive the head 17 of the upper pivot, as clearly illustrated in Fig. 7. The head of the pivot 3 is engaged with the recessed portion of the plate 15 by moving it upward and inwardly, the recess forming supporting-shoulders 18, upon which the head of the pivot 3 rests. The shoulders 18 are slightly inclined to facilitate engaging the pivot with and disengaging it from the recessed portion of the plate, and the head of the pivot is retained in the recess 16 by a latch 19, pivoted at its rear end 20 and adapted to swing upward and downward, its movement being limited by horizontal shoulders 21 and an inclined upper shoulder 22. The horizontal shoulders 21 are arranged in ad-

vance and in rear of the lower inclined shoulders 18, upon which the head of the pivot rests. When the latch is in a horizontal position, as illustrated in Fig. 2 of the drawings, the upper pivots of the end-gate are confined within the vertical branches of the L-shaped slots of the upper bearing-plates 15. As soon as the pivoted latches are raised the end-gate will drop by gravity into the lower portions of the L-shaped bearing-slots 14. The end-gate is adapted to swing freely inward and outward when it is supported by its upper pivots.

The end-gate is supported in an inclined position to form a shoveling-board by means of inner and outer links 23 and 24, pivoted together at their inner ends by a rivet 25 or other suitable fastening device and connected at their other ends with the wagon-body and with the end-gate. The outer end of the outer link is pivoted to a cam 26, having a cap 27, which is secured to the intermediate cleat 28 of the end-gate. The inner link is pivoted at its inner end to a connecting-piece 29, which is pivotally mounted on a bracket 30. The bracket 30 is provided with inner and outer flanges 31 and 32, as clearly illustrated in Fig. 5 of the accompanying drawings, and when the end-gate is in a vertical position the cam of the end-gate is engaged with the bracket, being arranged at the inner face of the inner flange 32. The inner link is provided adjacent to the pivot 25 with a lug 33, and the connecting-piece 29, which is offset to clear the cam, is provided with a lug 34, which is adapted to engage the inner link when the end-gate is arranged in an inclined position to form a shoveling-board. The inner and outer links are adapted to be arranged together, as shown in Fig. 3, to form a locking device, the connecting-piece being swung downward beyond the pivot 35 of the outer end of the outer link and the inner link being engaged with the cam. The links also form a lever and are adapted to be swung upward from the position illustrated in Fig. 3 to lift the end-gate and carry the pivots 3 into the upper portions of the L-shaped slots of the upper bearing-plates, and the supports are capable of sufficient lateral play to permit the relative inward movement of the pivots 3 to engage the heads with the recesses of the bearing-plates 15.

It will be seen that the locking device for engaging the upper pivot of the end-gate is exceedingly simple and inexpensive in construction, that it is capable of securely holding the pivot and of permitting the end-gate to swing outward, and that the pivoted latch is adapted to be readily raised to permit the end-gate to drop to the bottom of the wagon-body.

What is claimed is—

1. In a device of the class described, the combination with a wagon-body provided with slots extending inward and upward and having supporting-shoulders between their ends, an end-gate having pivots arranged in the said slots and adapted to engage the said shoulders when the end-gate is raised, and means for locking the pivots in engagement with the said shoulders, substantially as described.

2. In a device of the class described, the combination with a wagon-body, and an end-gate provided with a headed pivot, of a bearing-plate having an approximately L-shaped slot to receive the pivot and provided at the inner portion of the slot with a recess for the reception of the head of the pivot, said recess forming shoulders for supporting the said head, and a latch mounted on the bearing-plate and engaging the head of the pivot, substantially as described.

3. In a device of the class described, the combination with a wagon-body and an end-gate having a headed pivot, of a bearing-plate provided with an approximately L-shaped slot to receive the pivot and recessed at the upper portion of the slot to receive the head of the pivot, said recess forming lower inclined and horizontal shoulders and an upper inclined shoulder, and a pivoted latch mounted on the recessed portion of the plate and having its movement limited by the lower horizontal shoulders and the upper inclined shoulders, substantially as described.

4. In a device of the class described, the combination of a wagon-body, a support, an end-gate provided with upper and lower pivots, a lower bearing mounted on the support and receiving the lower pivot of the end-gate, an upper bearing receiving the upper pivot, a latch for detachably locking the upper pivot in the upper bearing, and the inner and outer links connected with the end-gate and with the support and adapted to lock the end-gate in a vertical position to support the same in an inclined position, and to form a lever for lifting the end-gate to engage the upper pivot with the upper bearing, substantially as described.

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

ALBERT E. BEALL.

Witnesses:
JOSEPH K. MILNER,
CHARLES F. SKELLENYS.