E. BAILEY.

END GATE FOR WAGONS.

APPLICATION FILED MAY 14, 1910.

1,068,296.

Patented July 22, 1913

2 SHEETS—SHEET 1.

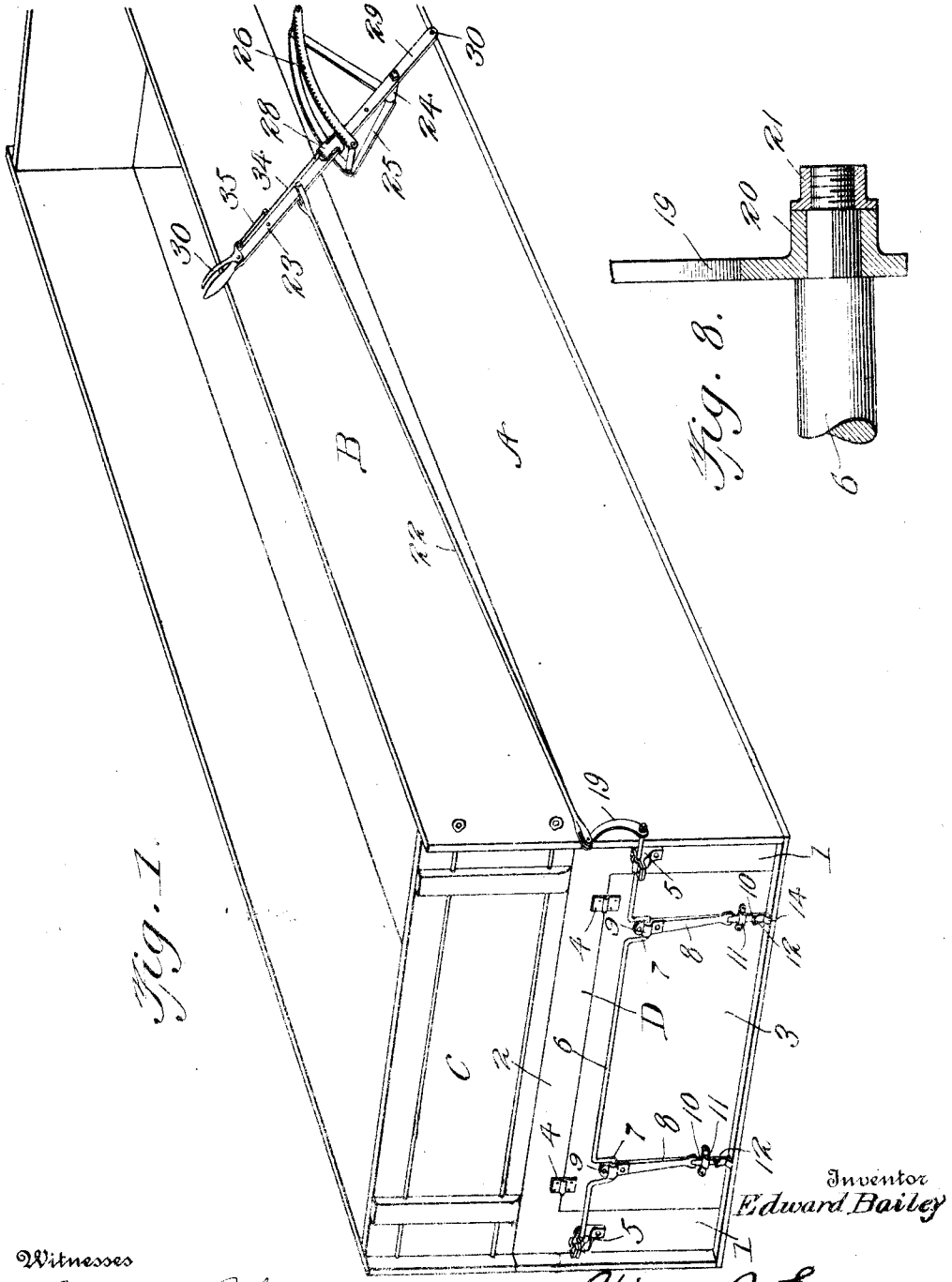


Fig. 1.

Fig. 8.

Witnesses

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APPLICATION FILED MAY 10, 1910.

1,068,296.

Patented July 22, 1913.

2 SHEETS—SHEET 2.

Fig. 2

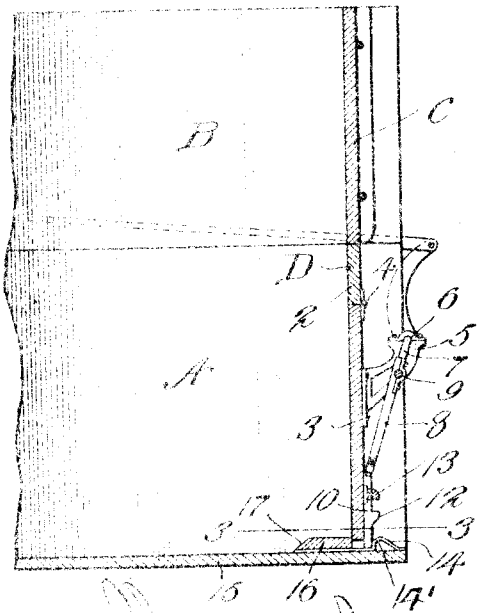


Fig. 3.

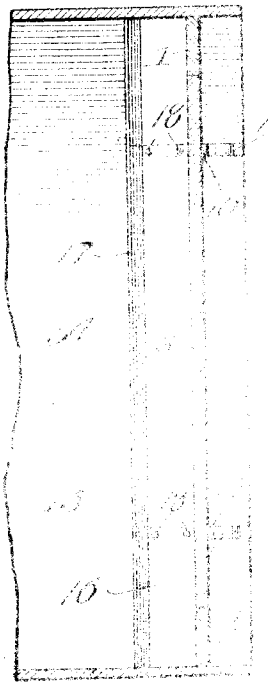


Fig. 5.

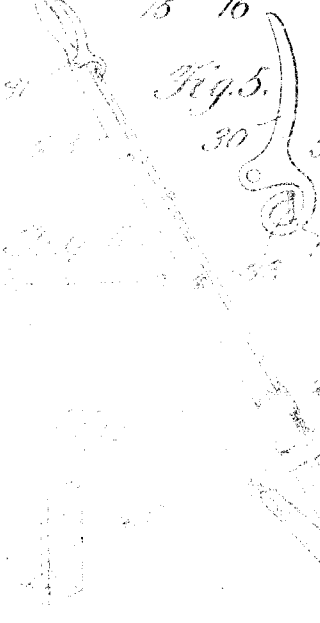


Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD BAILEY, OF LUDDEN, NORTH DAKOTA.

END-GATE FOR WAGONS.

1,068,296. Specification of Letters Patent. Patented July 22, 1913.

Application filed May 14, 1910. Serial No. 561,330.

To all whom it may concern:

Be it known that I, EDWARD BAILEY, a citizen of the United States of America, residing at Ludden, in the county of Dickey and State of North Dakota, have invented new and useful Improvements in End-Gates for Wagons, of which the following is a specification.

This invention relates to end gates for wagons, and it has particular reference to an improved dumping end gate which may be readily manipulated in order to discharge the load when the wagon body is tilted.

A further object of the invention is to provide a dumping end gate which may be conveniently applied to ordinary farm wagons for the transportation and handling of grain and the like.

A further object of the invention is to provide a dumping end gate of simple and improved construction which, when unlocked, shall be positively swung in an outward direction to admit of the load being discharged.

A further object of the invention is to provide a simple and improved dumping end gate comprising a frame which may be conveniently adjusted at the tail end of the wagon body and in which the dumping end gate is hingedly supported.

Still further objects of the invention are to simplify and improve the general construction and operation of a device of the character outlined above.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings,—Figure 1 is a perspective view showing a wagon bed equipped with the improved end gate. Fig. 2 is a longitudinal vertical view through the tail end of the wagon body equipped with the end gate. Fig. 3 is a horizontal sectional view taken on the line 3—3 in Fig. 2. Fig. 4 is a detail, view in side elevation of the gate actuating lever and the quadrant cooperating therewith. Fig. 5 is a detail view in side elevation of the handle member of said lever. Fig. 6 is a detail view of the connecting links used in combination therewith. Fig. 7 is a perspective detail view of the slide used in connection with the lever. Fig. 8 is a sectional elevation of one end of the rock shaft whereby the end gate latches are operated, showing the arm upon said rock shaft.

Corresponding parts in the several figures are denoted by like characters of reference.

The wagon body A shown in the drawings is equipped with the customary top box B which latter is provided with a tail board C of the usual or any well known construction. Suitably fitted and firmly secured at the tail end of the wagon body A is a frame D including side members 1, 1 and a cross bar or top piece 2 with which the improved dumping gate 3 is connected by means of hinges 4 enabling the said dumping gate to open in an outward direction. Firmly secured upon the uprights 1 of the frame D are brackets 5 constituting boxes wherein a rock shaft 6 is supported for oscillation, said rock shaft being spaced in an outward or rearward direction from the frame D and said rock shaft being formed with cranks 7 upon which links 8 are loosely supported by means of box caps 9. Pivotally connected with the lower end of each of the links 8 is a latch member 10 consisting of a bolt which is guided through a keeper 11, said bolt being provided with a lug or projection 12 adapted when the bolt is raised to engage a similar lug or projection 13 upon the keeper. Coöperating latch members 14 are secured upon the bed or base 15 of the wagon body, said latch members being adapted to engage the bolts for the purpose of retaining the end gate in closed position. A sill 16 is secured transversely across the base or bottom of the wagon body, said sill having a beveled forward edge 17 so as to offer no obstruction to the contents of the wagon when it is being dumped. The latch members 14 which consist of straps suitably bent to form laterally unobstructed shoulders 14′ are extended forwardly beneath the sill and are firmly secured by the screws or other fastening members 18,

whereby said sill is secured in position. The shoulders 14′ being laterally unobstructed will prevent the accumulation behind or adjacent to them of grain, dust or refuse, whereby the bolts coöperating therewith would be rendered inoperative.

The rock shaft 6 is provided with an arm 19 having a sleeve 20, see Fig. 8, which engages a non-circular portion adjacent to the end of the rock shaft where it is firmly secured by means of a nut 21. The arm 19 is connected by a rod 22 with an operating lever 23 which is fulcrumed upon a stud 24 projecting from a frame 25 having a toothed rack or quadrant 26 adapted to be engaged by a spring stop member 27 which is suitably connected with a sleeve 28 which is secured upon the hand lever 23 in any convenient manner. As seen in Fig. 1, the hand lever has a portion 29 extended below the fulcrum and provided with an aperture 30 adapted to engage the fulcrum pin or member 24. When as is sometimes the case, an auxiliary top box is used, the hand lever is fulcrumed by placing the aperture 30 in engagement with the pin 24, thus extending the handle of the lever upward for the convenience of the driver. The handle 30 whereby the stop member 27 is actuated consists of a lever fulcrumed upon the hand lever 23 at 31 and having a hook member 32 upon which a latch member 33 is pivotally supported. The hook member 32 is connected with the stop member 27 by means of a link rod comprising two flexibly connected members 34, 35 of unequal length, one of which only need be used when the device is applied to a wagon having a single top box, as shown in Fig. 1, while when an auxiliary top box is used, and the lever is fulcrumed by the aperture 30 engaging the pin 24, the entire two members 34, 35 will be needed to make the necessary connection. It is obvious that the sleeve 28 carrying the stop member 27 is to be adjustably supported upon the lever and that the connecting rod 22 is likewise adjustably connected with the said hand lever.

From the foregoing description taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains. It will be seen that when the end gate is shut, the bolts 10 engaging the latch members 14 will serve to retain it securely in a closed position, and that the parts may be locked in the desired relation by means of the stop member connected with the hand lever being thrown into engagement with the rack bar or quadrant 26. When it is desired to open the end gate, the stop member 27 is released from the rack bar 26, and the lever 23 is thrown in a forward direction, thus imparting motion to the rock shaft 6, whereby the cranks 7 will be thrown in an outward or rearward direction, thus causing the links 8 to pull upward upon the bolts 10 until the latter are disengaged from the latch members 14. As soon as the lugs 12 of the bolts 10 are brought into contact with the corresponding lugs 13 of the keepers 11, the strain exercised upon the hand lever will be effective to throw the end gate 3 to an open position, thus permitting the contents of the wagon to be readily dumped.

The improved device may be readily applied to all classes of ordinary farm wagons with or without top or extension boxes.

The construction is simple, and the device will be found thoroughly efficient for the purpose for which it is provided.

Having thus described the invention, what is claimed as new, is:—

An end gate operating mechanism for wagons, including brackets secured at the opposite sides of the gate, a rock shaft journaled in said brackets, and latch members secured to the bottom of the wagon, bolts coöperating with said latch members, links connecting said bolts with said rock shaft, guides for said bolts secured to said gate and provided with laterally disposed lugs, means for operating the said shaft, and said bolts being provided with correspondingly disposed lugs for engagement with the lugs of said guides for the purpose set forth.

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

EDWARD BAILEY.

Witnesses:
S. H. North,
J. E. Schermerhorn.