No. 800,813. PATENTED OCT. 3, 1905.

C. D. MATTIX.

# COMBINED END GATE AND SHOVEL BOARD.

APPLICATION FILED JAN. 20, 1905.

*Fig. 1*

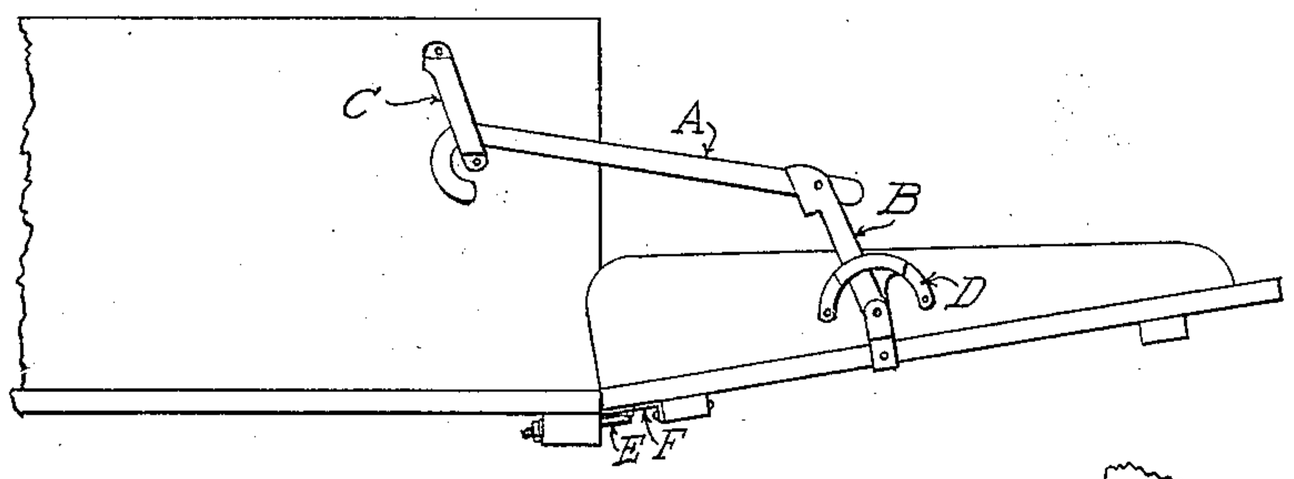



*Fig. 2*

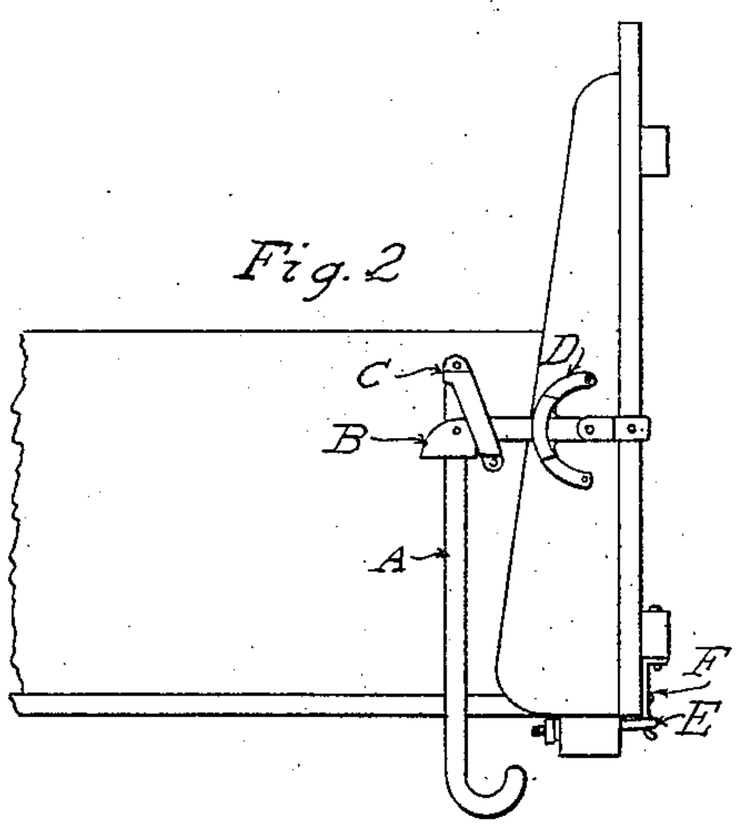
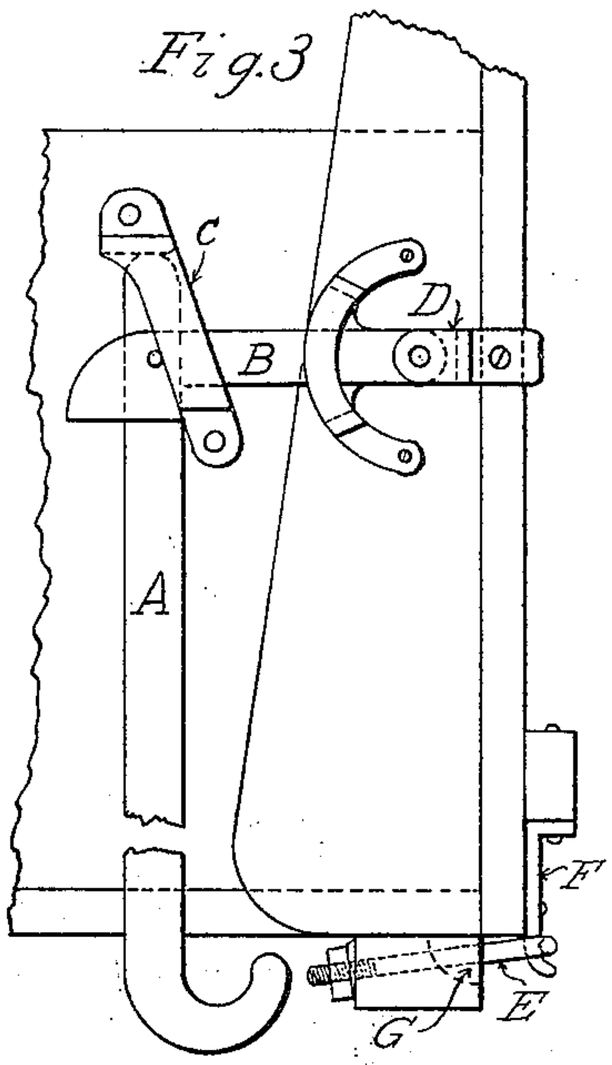



*Fig. 3*

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# UNITED STATES PATENT OFFICE.

CHARLES D. MATTIX, OF BEACON, IOWA.

## COMBINED END-GATE AND SHOVEL-BOARD.

No. 800,813. Specification of Letters Patent. Patented Oct. 3, 1905.

Application filed January 20, 1905. Serial No. 242,016.

*To all whom it may concern:*

Be it known that I, CHARLES D. MATTIX, a citizen of the United States, residing at Beacon, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in a Combined End-Gate and Shovel-Board, of which the following is a specification.

My invention relates to improvements in wagon end-gates.

The object of the invention is to improve the construction of wagon end-gates and to provide a simple, inexpensive, and efficient one adapted to be securely locked in its closed position by automatic action of its parts and capable of being readily arranged to form a shoveling-board or for dumping and of being readily and quickly fastened to or detached from the wagon.

A further object of the invention is to provide a method of attaching the end-gate to the bottom of the wagon-bed in such a way that the same can be readily adjusted so as to be at all times grain-tight.

I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the end-gate in position as a shoveling-board. Fig. 2 is a similar view thereof with end-gate in closed position. Fig. 3 is an enlarged view showing the end-gate-locking device, also the method of attaching the end-gate to bottom of wagon-bed and manner of adjusting same so as to be at all times grain-tight.

The wagon-bed, as shown in Fig. 1, may be of any approved construction. The end-gate, as shown in Fig. 1, is made of one-inch flooring securely nailed to cross-bars or cleats of sufficient size to make same firm and durable. On the side edges of the end-gate are forwardly-extending wings, which engage the sides of the wagon-bed and serve to prevent lateral play to the gate. These side wings may be either wooden or steel. Except the manner of attaching the end-gate to wagon-bed at bottom and method of adjusting same so as to be grain-tight, as hereinafter described, the framework of any ordinarily-constructed combination end-gate and shoveling-board might be used and my appliances for lifting and locking in the closed position to form an end-gate and lowering and fastening in position to scoop from attached thereto.

Attached to the wings on each side of the end-gate are the staple or loop castings D, having a full or closed loop at the upper end of said casting D and at the lower end and at right angles to the full loop an open or half loop, with the upper end of outside arm made oval and lower end beveled. This casting is made of malleable iron. The end-gate is connected with the sides of the wagon-bed by the arms A and B. The arm B is furcated or double at its upper end for about one-half its length, and the lower end is single and cut down one-half in thickness. In the bottom side of the double or furcated end of the arm B is a notch just large enough to engage the bottom arm of casting C, hereinafter described. The open or half loop at lower end of casting D is just large enough to admit between its two sides the lower single end of the arm B, which is joined to it by a rivet upon which this end of the arm B works as a pivot as the end-gate is raised or lowered. The full loop at upper end of casting D is large enough to allow the double or furcated end of the arm B to readily pass through and allow the necessary motion upward and downward as the end-gate is raised and lowered. The full loop on casting D on its upper side comes almost flush with top of side wings of end-gate and runs parallel with it. One end of the arm A works between the two sides of the furcated end of the arm B, and A is connected to B by a rivet upon which A works as a pivot when end-gate is raised or lowered. The other end of A terminates in a hook.

C is a loop or staple casting fastened to the sides of the wagon-bed. Through this loop the arms A and furcated ends of arm B pass, and the curved hooks at end of arm A catch on bottom arm of casting C when gate is lowered to shovel from and is thus held in the shoveling position. When raised to form an end-gate, the notch in B engages the bottom arm of C, holding the gate securely locked to wagon in this position.

The loop or staple casting C is made wide enough to permit the free passage of arms A and B and high enough to allow upper end of arm A to just swing under upper arm of the loop when A is dropped into a vertical position, which it must do when the gate is locked in its upright position. The bottom arm of loop-casting C is just wide enough to completely fill the notch in bottom side of B. The sides of the loop-casting C slant from the top arm downward and rearwardly to bottom arm a distance equal to the width of top arm, so that top of arm A, when it drops to vertical

position as gate is raised and locked in closed position, rests under top arm of loop-casting C. The arms A and B and the castings C and D are all made of malleable iron.

End-gate is attached to wagon-bed at bottom, as shown in Fig. 3. Passing through the cleat at rear of wagon-box is the U-bolt E, which is made of wrought-iron. On the bottom of the end-gate are the plates F, which extend beyond the bottom edge of end-gate in curved hooks forming pintles and engaging the eyes or openings of the U-bolt E. One prong of the U-bolt E goes clear through the cleat at bottom of wagon-box and is threaded and supplied with a nut. By tightening this nut the end-gate may always be adjusted so as to fit grain-tight against the wagon-bed. Recesses are made in the bottom of the wagon-bed between the prongs of the U-bolt E, so that they will engage the projecting hooks of the plates F when the end-gate is lowered to form a shoveling-board. To detach end-gate from wagon-bed so as to dump shelled grain, it is only necessary to lift the end-gate till the projecting hooks at end of plates F are released from the eyes of the U-bolts E.

The invention has the following advantages: The end-gate is simple and inexpensive in construction, strong and durable, can be readily and quickly detached from wagon-box without the use of tools, can be raised and locked for an end-gate or lowered and fastened in place for a shoveling-board by the operator without getting off the wagon by reason of the automatic action of the locking and fastening devices, and can be kept at all times grain-tight by simply tightening a nut.

Changes in form, proportion, size, and minor details of construction within the scope of the appended claim may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination with a wagon-body of an end-gate detachably hinged at its lower edge to the wagon-body at the bottom thereof as follows: a threaded hook or U-bolt passing through rear cleat of wagon-box; iron plates on bottom edge of end-gate ending in extending hooks which enter eyes of the U-bolt in wagon-box and recesses in cleat of wagon-box between the prongs of U-bolt, which receive the projecting hooks when gate is lowered: a locking device to secure the gate in a vertical position or in an inclined position for shoveling, same consisting of the arms A ending in a hook at front end and attached to arm B at other end by a rivet-joint; the arm B, doubled or furcated at front end between the arms of which the arm A works, with its other end made single and reduced in thickness so as to enter opening in half-loop of casting D and attached thereto by a rivet-hinge, said arm B also having a notch on under side of double or furcated ends which automatically engages lower arm of casting C when gate is locked and the loop or staple castings C and D all substantially as heretofore described.

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

CHARLES D. MATTIX.

Witnesses:

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