

No. 698,604.

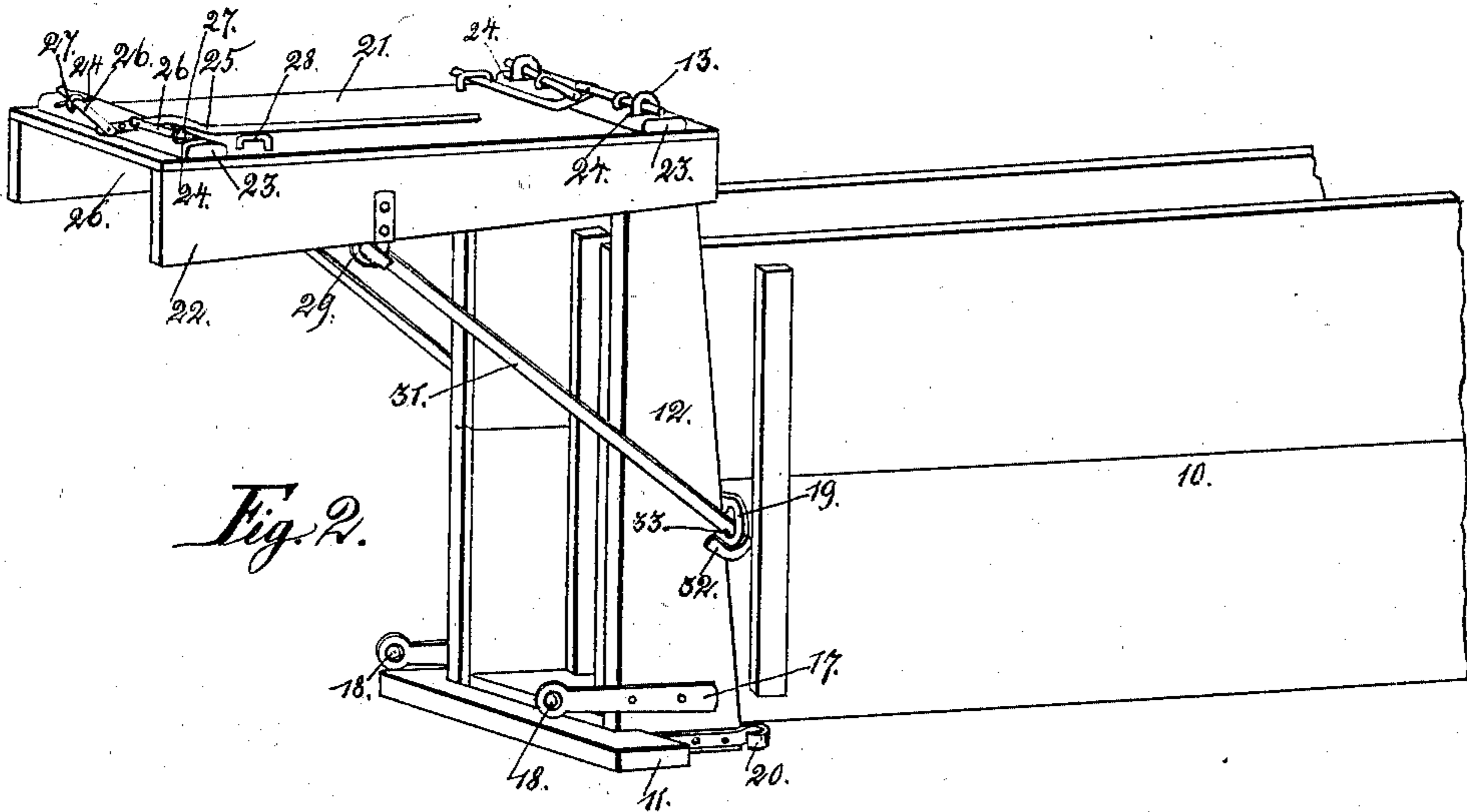
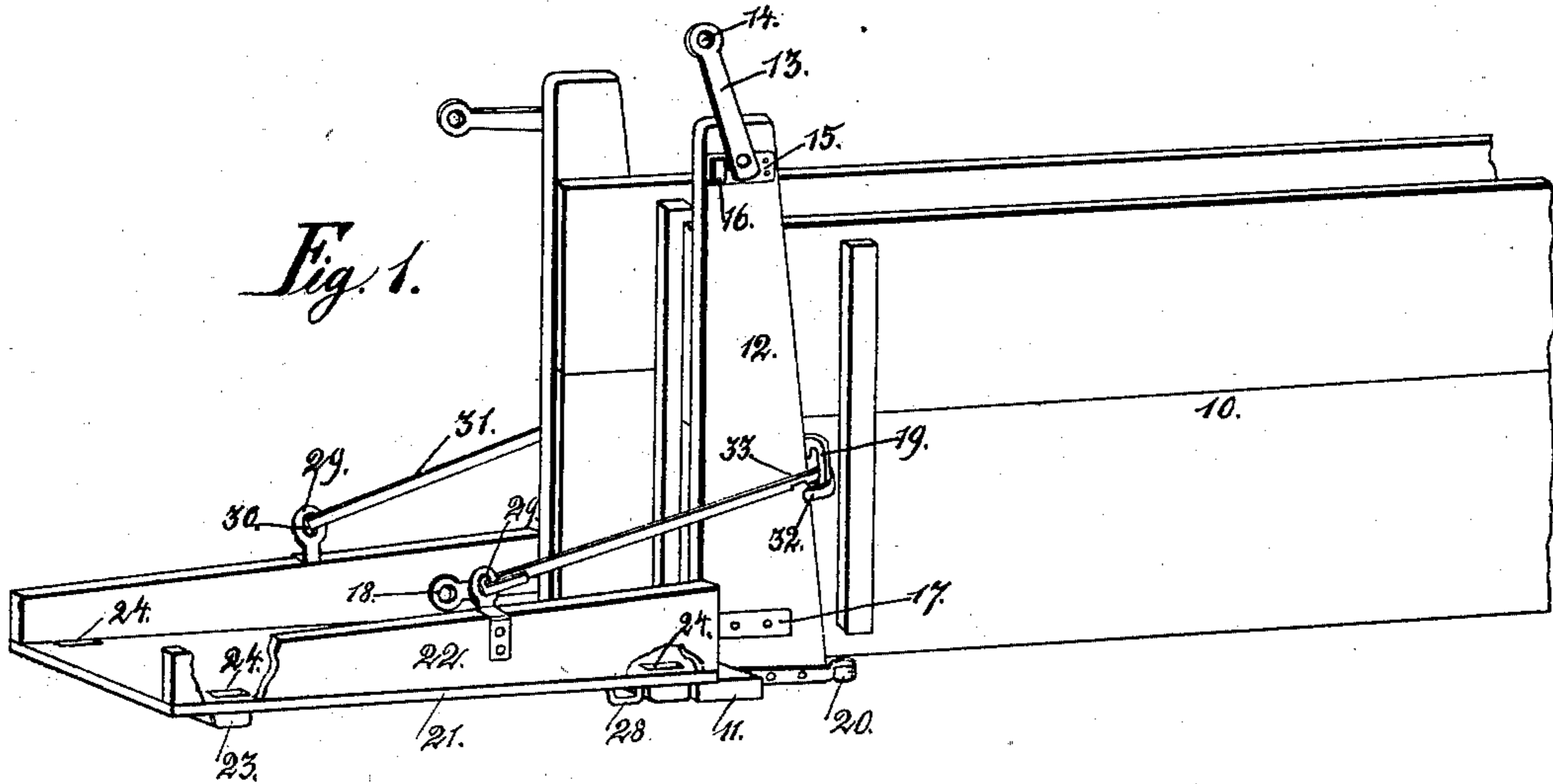
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D. K. WIER.

WAGON END GATE AND SHOVELING BOARD.

(Application filed Sept. 9, 1901.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

DAVID K. WIER, OF LAKE CITY, IOWA.

## WAGON END-GATE AND SHOVELING-BOARD.

SPECIFICATION forming part of Letters Patent No. 698,604, dated April 29, 1902.

Application filed September 9, 1901. Serial No. 74,737. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID K. WIER, a citizen of the United States, residing at Lake City, in the county of Calhoun and State of Iowa, have  
5 invented certain new and useful Improvements in Wagon End-Gates and Shoveling-Boards, of which the following is a specification.

The objects of my invention are, briefly, to  
10 provide a wagon end-gate and shoveling-board of simple, durable, and inexpensive construction that when used as an end-gate may be firmly locked and held in position and prevented from rattling and shaking loose,  
15 and, further, to provide a device of this class that may be readily and quickly adjusted to position for use as a shoveling-board.

Furthermore, it is my object to provide means whereby the lower end portion of the  
20 end-gate may be released, so as to swing rearwardly and permit the discharge of the contents of the wagon-box without removing the end-gate from the wagon-box; and, further, it is my object to provide improved means  
25 whereby the end-gate may be swung to a position in line with the top of the wagon-bed and there firmly held, so as not to interfere with the placing of articles in the wagon-bed or removing them therefrom, all of which may  
30 be accomplished without detaching the end-gate and shoveling-board from the wagon-box.

In all of the above operations none of the parts are removed from the device, and hence are not liable to be lost.

35 My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out  
40 in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective the rear end portion of the wagon-box with my improved end-gate and shoveling-board connected  
45 therewith and supported in position for use as a shoveling-board. Fig. 2 shows a like view with the end-gate and shoveling-board supported in position parallel with the top of the wagon-box.

50 Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the wagon-box. At the rear end of the

wagon-box is a cross-piece 11, secured to the under surface thereof and projected rearwardly and laterally a slight distance beyond  
55 the rear end and sides of the wagon-box. Two uprights 12 are secured to the outer surface of the wagon-box at its rear end. These uprights preferably extend a short distance above the top of the wagon-box and are con-  
60 nected with the wagon-box in any ordinary way. At the upper portions of the uprights 12 I have pivoted the arms 13, having openings 14 in their ends. The pivoted ends of the arms 13 are pivoted to a plate 15, secured  
65 to the upright 12 and having a stop 16, designed to receive the arms 13 when they are at the downward limit of their movement, which limit is substantially in a horizontal  
70 plane. Hence the said arms may freely swing from the horizontal position to a vertical position. Near the lower ends of the uprights 12 are two arms 17, similar to the arms 13, except that they are not pivoted, and they  
75 project straight downwardly. They are provided at their rear ends with the openings 18.

At the sides of the wagon-box, in front of the uprights 12, are the metal loops 19, projecting laterally from the wagon-box for purposes hereinafter made clear, and on the under  
80 surface of the wagon-box are the hooks 20, directly below the loops 19, the function of which will be described hereinafter.

The end gate proper comprises a flat back 21 and side pieces 22, said side pieces being  
85 arranged to overlap the side pieces 12 and fit closely thereto. On the rear surface of the end-gate are the cross-pieces 23, and at each end of each cross-piece is an opening 24, which extends through the cross-piece and  
90 also through the back 21. These openings are designed to receive the arms 13 and 17, so that said arms may project through the end-gate when it is in its closed position. I have provided means whereby the end-gate  
95 may be locked to the arms 13 and 17, as follows: Fulcrumed to the cross-pieces 23 are the levers 25. Pivoted to each of the levers 25, at the opposite sides of its fulcrumed point, are the slide-bolts 26, the outer ends of which  
100 pass through the eyes 27 to serve as guides. These bolts when extended pass over the openings 24, and obviously when the arms 13 and 17 are passed through the openings 24

and the said bolts are in their extended position they will pass through the openings 14 and 18. Then the levers 25 may be firmly locked in such position by means of the hooks 28, which are secured to the rear end of the end-gate. To unlock the bolts 27, it is only necessary to move the levers 25 to substantially vertical positions.

Fixed to the central portions of the side piece 22 of the end-gate are the straps 29, each having an opening 30 therein. Pivoted to said straps are the arms 31, passed through the openings 30. At the other ends of the arms 31 are the hooks 32, designed to pass through the loops 19, and thereby limit the downward movement of the end-gate when in position for use as a shoveling-board, as illustrated in Fig. 1. Near each of the hooks 32 I have formed a notch 33. This notch serves the purpose of supporting the arms 31 when the end-gate is in the position illustrated in Fig. 2 of the drawings, said notch engaging the loop 19 when in this position. The said straps 30 are of such shape and are so placed relative to the loops 19 that when the end-gate is in its closed position the said straps will pass through the loops 19 and then the arms 31 may hang straight downwardly, the said hooks 20 being provided for the purpose of engaging the arms 31 when in this position, so as to prevent them from rattling.

In practical use it is obvious that the end-gate and shoveling-board will be firmly supported in position as a shoveling-board by means of the arms 31. The lower edge of the end-gate rests between the arms 17 and the cross-piece 11, so that lateral and vertical movements of said end are thereby prevented. Assuming that it is desired to place the end-gate in its closed and locked position, the end-gate is swung upwardly until the arms 13 and 17 project through the openings 24 of the end-gate. When this is done, the arms 31 may swing downwardly and be held by the hooks 20. The end-gate is then locked by moving the levers 25 to such position that the slide-bolts 27 will pass through the openings 14 and 18. In this position the levers 25 will be held firmly and prevented from rattling by means of the hooks 28, as above described. Assuming, further, that it is desired to dump the contents of the wagon-box without detaching the end-gate, it is obvious that the lower end of the levers 25 may be placed in position to withdraw the bolts 27, and the arms 31 may be detached from the hooks 20. Then the lower end of the end-gate may freely swing rearwardly, thus permitting the contents of the wagon-box to discharge. When in this position, the pivoted arms 13 are of considerable advantage, because they will permit the end-gate to swing to a substantially horizontal position, as shown in Fig. 2, without detaching the end-gate from its fixtures, and, if desired, the end-gate may be supported in said position by permitting

the notches 33 in the arms 31 to engage the loops 19.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. The combination with a wagon and an end-gate having openings therein, of two arms fixed to the wagon-box to project rearwardly and having openings in their ends, and two arms pivotally connected with the wagon-box above the first-mentioned arms and also having openings in their ends, slide-bolts or the like on the rear end of the end-gate to pass through the openings in the ends of said arms to lock the end-gate to the wagon-box, and arms pivoted to the end-gate and adjustably connected with the wagon-box, for the purposes stated.

2. The combination with a wagon-box and an end-gate having openings therein, of two arms fixed to the wagon-box near its lower end to project rearwardly beyond the ends of the wagon-box and having openings in their ends, and two arms pivoted to the wagon-box above the first-mentioned arms to swing in a vertical plane and also having openings in their outer ends, and stops to limit the movement of these pivoted arms, slide-bolts secured to the rear surface of the end-gate to pass through the openings in said arms, and arms pivoted to the end-gate and adjustably connected with the wagon-box, for the purposes stated.

3. The combination with a wagon and an end-gate, of two arms fixed to the rear lower corners of the wagon-bed and projected rearwardly, two arms pivoted to the rear upper corners of the wagon-bed to swing in a vertical plane, means for detachably connecting the end-gate with the lower arms, and means for detachably connecting the end-gate with the upper arms, and two rods pivoted to the sides of the end-gate and adjustably connected with the sides of the wagon-box to be capable of supporting the end-gate in a horizontal position with its lower end engaging the bottom portion of the wagon-bed and also capable of supporting the end-gate with its upper end in engagement with the pivoted arms on the wagon-bed, and its other end extended straight rearwardly, substantially as and for the purposes stated.

4. The combination with a wagon-box, of a cross-piece projecting rearwardly and laterally, uprights secured to the outer surface of the wagon-box, arms pivoted to the upper portions of the uprights having openings in their free ends, stops for limiting the downward movement of these arms, arms fixed to the lower end of the uprights and projected rearwardly and having openings in their rear ends, loops projecting laterally from the sides of the wagon-box, hooks secured to the wagon-box beneath the said loops, an end-gate having side pieces to overlap the said uprights and also having openings to receive the said

arms, two levers fulcrumed to the rear surface of the end-gate, slide-bolts pivoted to said levers at opposite sides of their fulcrumed points, guides for the slide-bolts, 5 hooks to receive the ends of said levers, straps secured to the sides of the end-gate designed to pass through the loops on the wagon-box, arms pivoted to the said strap and having hooks at their ends, said arms being designed 10 to pass through said hooks, and said hooks

being designed to engage the loops to support the end-gate in position for use as a shoveling-board, and said arms having notches therein to engage the loops and support the end-gate in its elevated position, substantially as and for the purposes stated. 15

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