

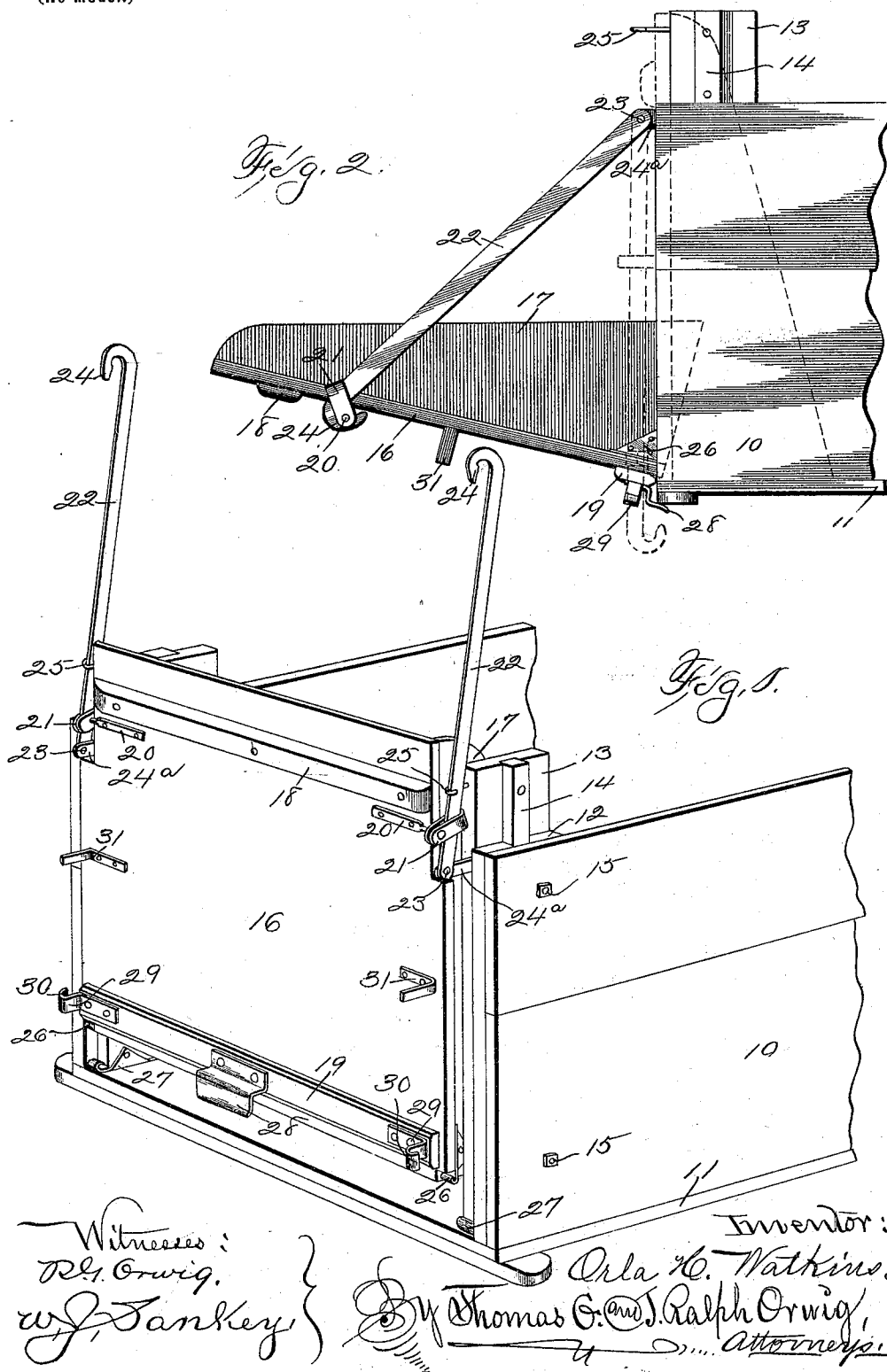
No. 624,585.

Patented May 9, 1899.

O. H. WATKINS.
WAGON END GATE.

(Application filed Oct. 5, 1897. Renewed Oct. 20, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

ORLA H. WATKINS, OF ELDORA, IOWA, ASSIGNOR TO THE ELDORA SPRING MANUFACTURING COMPANY, OF SAME PLACE.

WAGON END-GATE.

SPECIFICATION forming part of Letters Patent No. 624,585, dated May 9, 1899.

Application filed October 5, 1897. Renewed October 20, 1898. Serial No. 694,080. (No model.)

To all whom it may concern:

Be it known that I, ORLA H. WATKINS, a citizen of the United States, residing at Eldora, in the county of Hardin and State of Iowa, have invented a new and useful Wagon End-Gate, of which the following is a specification.

The object of this invention is to provide an end-gate of simple, cheap, strong, and durable construction which may be readily and quickly applied to or detached from an ordinary wagon-box without injuring or marring the surface of the wagon-box and which will be prevented from rattling or becoming loosened by the jarring of the wagon when it is in its locked position.

A further object is to provide an end-gate which may be easily elevated and then securely held and pivoted near its upper end, so that its lower end may swing rearwardly and permit the contents of the wagon-box to pass out.

A further object is to provide an end-gate which may be readily and quickly placed in position for use as a shoveling-board and when in said position be firmly supported.

My invention consists in the construction, arrangement, and combination of the various parts of the end-gate, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective my improved end-gate attached to a wagon-box in its elevated position. Fig. 2 shows a side elevation of the end-gate and wagon-box with the end-gate in position for use as a shoveling-board and showing by dotted lines the position the end-gate assumes when in its locked position.

The wagon-box is composed of the sides 10 and bottom 11, and on the inner edge of the rear end of the sides are the parallel vertical strips 12, having spaces between them. These parts are of the ordinary construction and are connected together in the usual manner.

13 13 indicate two upright side pieces having ribs 14 thereon, the said ribs being designed to enter the spaces between the vertical strips 12. The side pieces 13 are attached to the wagon-box by means of bolts 15.

The end-gate is composed of the back 16, wings 17, and cleats 18 and 19 of the ordinary construction. Metal arms 20 are fixed to the end-gate a slight distance below the cleat 18 and metal loops 21 are pivotally connected to the outer ends of the arms 20.

The reference-numerals 22 indicate two end-gate-supporting rods pivoted at 23 to the supports 24^a, which supports are firmly attached to the side pieces 13 at points above the arms 20 when the end-gate is in its locked position. The end-gate-supporting rods are made of spring metal, so that they may be bent as desired, but when released will spring back to their normal positions. The free ends of said rods 22 are bent rearwardly and downwardly to form the hooks 24, which engage the arms 20 when the end-gate is in its lowered position, as shown in Fig. 2, and the said rods 22 are designed to pass through the loops 21 on the arms 20.

25 indicates two hooks attached to the upright side pieces 13 above the supports 24^a and designed to receive the rods 22 when the end-gate is in its elevated position, as shown in Fig. 1.

The reference-numerals 26 indicate two hooks attached to the end-gate, near the lower corners thereof, and designed to engage with two mating hooks 27, attached to the under surface of the side pieces 13. I preferably employ a guide 28, fixed to the central portion of the cleat 19 and extending rearwardly and downwardly therefrom. When the end-gate is in its lowered position, the guide touches the under surface of the wagon-box and prevents the part of the end-gate to which it is attached from moving upwardly, so that the said hooks 26 and 27 cannot become disengaged from each other when in this position.

The reference-numerals 29 indicate two metal plates attached to the ends of the cleat 19 and having their free ends extended rearwardly, outwardly, and then forwardly to form the hooks 30. These hooks 30 are designed to receive the end-gate-supporting rods 22 when the end-gate is in its locked position.

31 indicates two metal posts fixed to the end-gate, near the central portions of the sides

thereof and extending rearwardly therefrom. The end-gate-supporting rods 22 are placed on the inner sides of these posts when the end-gate is in its locked position, and the said
 5 posts are so placed with relation to the hooks 30 and the pivotal points 23 of the end-gate-supporting rods 22 that the said rods are bent inwardly when the end-gate is locked. Thus the end-gate is prevented from moving laterally of the wagon-box by the inward pressure of the end-gate-supporting rods 22 against the hooks 30. The end-gate-supporting rods 22 are pivoted to the supports 24 at points slightly in advance of the arms 20, so
 15 that when the said rods engage the hooks 30 they will be bent rearwardly and will therefore exert a rearward pressure upon the hooks 30, which will prevent the end-gate from moving longitudinally of the wagon-box. This inward and rearward pressure of the end-gate-supporting rods will obviously prevent the end-gate from rattling and will also prevent the said rods 22 from becoming accidentally disengaged from the hooks 30.
 25 In practical operation the end-gate is secured in its locked position by placing the end-gate-supporting rods 22 on the inner sides of the posts 31 and then moving the said rods outwardly and downwardly until they engage with the hooks 30.

The end-gate may be secured in its elevated position, as shown in Fig. 1, by moving the end-gate-supporting rods 22 upwardly and forwardly and then engaging the said rods
 35 with the hooks 25. When in this position, it is obvious that the upper portion of the end-gate is firmly held and that the lower portion thereof may be moved rearwardly, as is the common practice in unloading grain from a wagon.

When it is desired to use the end-gate as a shoveling-board, the upper end thereof is moved rearwardly and downwardly until the hooks 24 on the end-gate-supporting rods 22
 45 engage the arms 20. The end-gate is firmly held in this position at one end by the said rods 22 and at the other end by the hooks 26 and 27 and the guide 28.

To detach the end-gate from the wagon, the end-gate is placed in its lowered position, as shown in Fig. 2, and then the loops 21 are moved downwardly. The end-gate is next elevated, which will obviously disengage the rods 22 from the loops 21, and the hooks 26 are
 50 then disconnected from their mating hooks 27 on the side pieces 13. This obviously will detach the end-gate proper from the wagon-box. The upright side pieces 13 are removed from

the wagon-box by detaching the bolts 15, and since the end-gate is connected with the wagon-box only by the bolts 15 it is obvious that the outer surface of the wagon-box will not be injured or marred by attaching the end-gate to the wagon.

Having thus described the construction, arrangement, and functions of the various parts of the end-gate, what I claim as my invention, and desire to secure by Letters Patent of the United States therefor, is—

1. A wagon end-gate, comprising upright side pieces attached to the wagon-box, two end-gate-supporting rods pivoted to the upright side pieces near their upper ends, means for detachably connecting the end-gate to the lower portions of the upright side pieces,
 75 arms fixed to the end-gate at the upper portions thereof, loops on said arms designed to receive the end-gate-supporting rods, posts attached to the central portions of the sides of the end-gate, hooks attached to the lower portion of the end-gate and designed to receive the end-gate-supporting rods when the end-gate is in its locked position, and hooks attached to the upper portions of the upright side pieces and designed to receive the end-gate-supporting rods when the end-gate is in its elevated position, substantially as and for the purposes stated.

2. A wagon end-gate, comprising in combination, two upright side pieces having ribs on their outer surfaces to enter the spaces between the cleats on the wagon-box, bolts for connecting the upright side pieces to the wagon-box, two end-gate-supporting rods made of spring metal, pivoted to the upper portions of the upright side pieces, and having hooks formed on their free ends, hooks 26 on the lower corners of the end-gate, and mating hooks 27 fixed to the under surface of the upright side pieces, arms attached to the upper portion of the end-gate, loops connected with said arms and designed to receive the end-gate-supporting rods, posts 31 fixed to the central portions of the sides of the end-gate, plates 29 fixed to the lower portion of the end-gate and having hooks 30 thereon, hooks 25 attached to the upper portions of the upright side pieces, and a guide 28 attached to the lower portion of the end-gate, all arranged and combined to operate substantially in the manner set forth and for the purposes stated.

ORLA H. WATKINS.

Witnesses:

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 E. H. LUNDY.