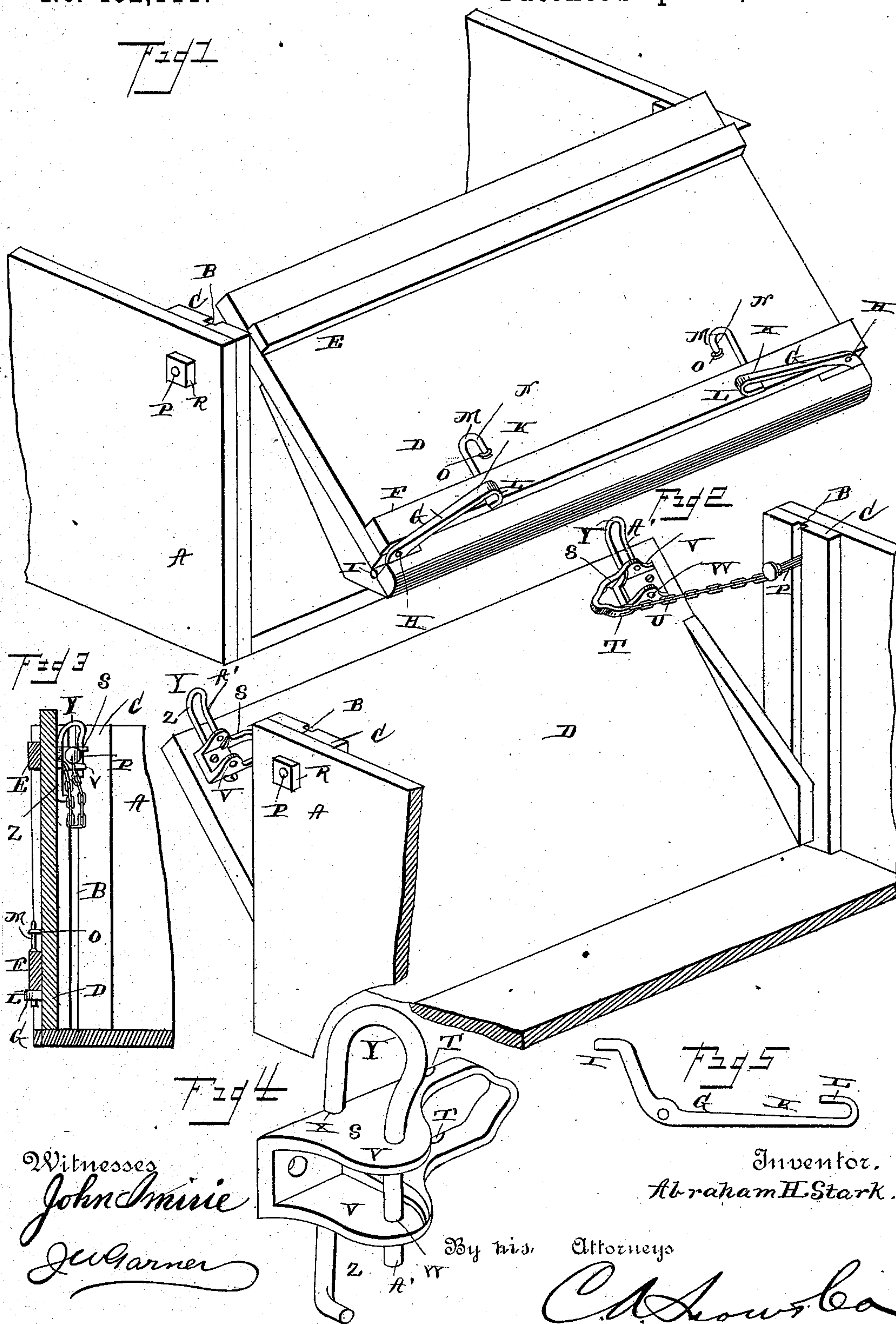


(No Model.)

A. H. STARK.  
END GATE.

No. 402,111.

Patented Apr. 23, 1889.



Witnesses  
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*Jul Garner*

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# UNITED STATES PATENT OFFICE.

ABRAHAM H. STARK, OF BELLEVILLE, KANSAS.

## END-GATE.

SPECIFICATION forming part of Letters Patent No. 402,111, dated April 23, 1889.

Application filed January 5, 1889. Serial No. 295,516. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM H. STARK, a citizen of the United States, residing at Belleville, in the county of Republic and State of Kansas, have invented a new and useful Improvement in End-Gates, of which the following is a specification.

My invention relates to an improvement in end-gates for wagons; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of my invention is to provide an end-gate with devices whereby it may be swung open from the lower side in position for dumping, and whereby it may be swung open from the upper side in position for scooping.

In the accompanying drawings, Figure 1 is a perspective view of the outer side of the end-gate, showing the same swung open from its lower end in position for dumping. Fig. 2 is a similar view from the inner side of the end-gate, showing the same in position for scooping. Fig. 3 is a sectional view. Fig. 4 is a detail view. Fig. 5 is a similar view.

The sides of the wagon-body A are provided near their rear ends with vertical grooves B, formed between pairs of cleats C. The end-gate D is provided on its outer side, near its upper and lower edges, with transverse cleats E F, respectively.

G represents a pair of right-angled hooks that are arranged on the lower side of the cleat F, are pivoted on bolts H, which extend through the said cleat, and are adapted to engage the slots B, the projecting arms I of said hooks entering said slots. The inner arms, K, of the hooks are bent to form handles L, as shown.

M represents a pair of keys or pins, which are arranged in transverse openings in the cleat F, and have their upper ends doubled or bent upon themselves to form vertical arms N, which are guided in keepers O, that project from the outer side of the end-gate. The said hooks or pins, when the same are pushed downward, engage the openings between the handles L and arms K of hooks G, and lock

the latter with their arms I in engagement with the slots B. When said keys or pins are raised, they clear the hooks, and the latter may be then disengaged from the slots, as will be readily understood.

P represents a pair of transverse bolts, which extend through the sides of the wagon-body above the upper ends of the slots B. The said bolts are provided with clamping-nuts R, and the inner ends thereof project beyond the inner surfaces of the sides. On the inner side of the end-gate, near the upper corners thereof, are secured a pair of castings or frames, S, each of which has an opening, T, to which one end of a chain or link, U, is attached, and said castings or frames are further provided with pairs of ears V, arranged one above the other and provided with vertically-aligned openings W. On the inner sides of said frames or castings are vertical grooves X. The frames or castings are secured in such position on the end-gate that when the latter is in a vertical position between the sides of the wagon-bed the pairs of ears V will pass on opposite sides of the bolts P.

Y represents a pair of keepers, bent substantially in the form of an inverted letter U, to provide each keeper with a long arm, Z, and a shorter arm, A'. The arms A' work in the openings W and the arms Z work in the grooves X. The lower ends of said arms Z are bent outward at right angles to form stops, which limit the upward movement of the keeper. When the end-gate is in a vertical position, with the arms V on the upper and lower sides of the bolts P, the keepers are lowered to cause their arms A' to engage the inner sides of said bolts, and thereby secure the upper side of the end-gate, as will be readily understood.

The chains U have their front ends attached to the bolts P, and are of such length that when the keepers Y are disengaged from the bolt and the upper side of the end-gate is swung open the end-gate will be supported at a suitable angle for scooping, as shown in Fig. 2. When the upper side of the end-gate is secured to the bolts P, the hooks G may be disengaged from the slots B and the lower side of the end-gate swung outward from the

wagon in position for dumping, as shown in Fig. 1.

Having thus described my invention, I claim—

5 1. The combination, with the wagon-bed having the vertical slots or grooves B and bolts P at the upper ends thereof, of the end-gate having the hooks G near its lower side to engage the slots B, the frames or castings  
10 secured to the upper side of the end-gate, and keepers Y therein adapted to engage the bolts P, substantially as described.

2. The combination, with the end-gate, of the hooks G, pivoted thereto and adapted to  
15 engage the wagon-bed, and having the arms K and bent ends or handles L, and the pins

or keys N, for the purpose set forth, substantially as described.

3. The frames or castings adapted to be secured to an end-gate and pivot the same to  
20 the wagon-bed, and having the ears V, and the keepers Y, with arms A', adapted to slide in aligned openings in the said ears, substantially as described.

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

ABRAHAM H. STARK.

Witnesses:

T. C. REILY,

F. W. STUDLEY.