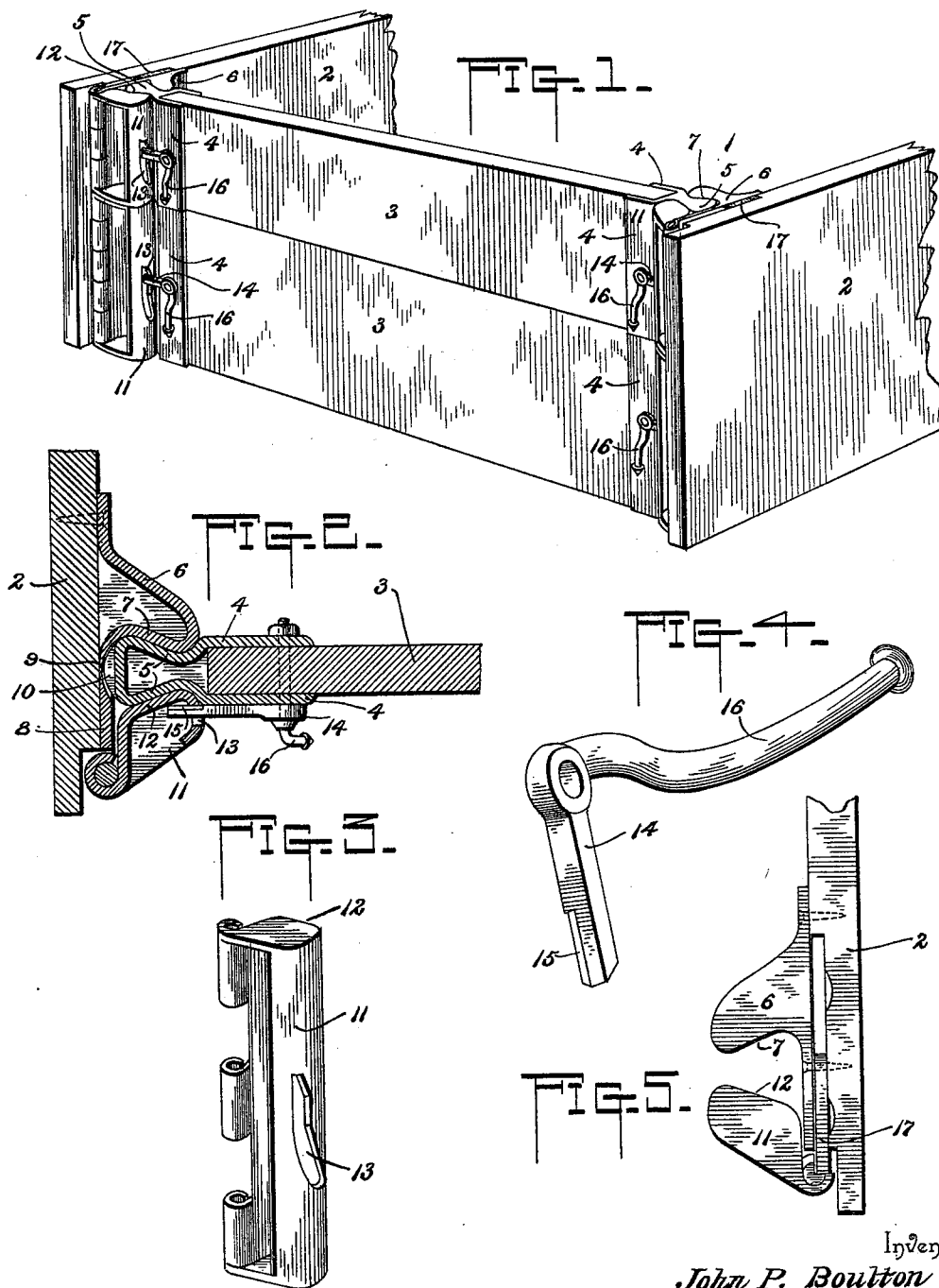


(No Model)

J. P. BOULTON & L. E. MARK.
END GATE FOR WAGONS.

No. 582,805.

Patented May 18, 1897.



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JOHN P. BOULTON AND LEVI E. MARK, OF GRIDLEY, KANSAS.

END-GATE FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 582,805, dated May 18, 1897.

Application filed April 22, 1896. Serial No., 588,667. (No model.)

To all whom it may concern:

Be it known that we, JOHN P. BOULTON, a subject of the Queen of England, and LEVI E. MARK, a citizen of the United States, residing at Gridley, in the county of Coffey and State of Kansas, have invented a new and useful End-Gate, of which the following is a specification.

This invention relates to end-gates for wagons and other vehicles; and the object in view is to provide a simple and efficient fastening for holding end-gates in place between the side-boards of the wagon-box, whereby the usual cross-tie bolts may be dispensed with and the side-boards of the wagon-body braced and prevented from spreading by reason of the particular form and arrangement of the fastening device.

The invention also has for its object to make provision whereby the end-gate may be withdrawn horizontally from its position and whereby also the end-gate when made in sections may be removed as to its lower section without disturbing the upper section or sections.

Other objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of one end of a wagon-body, showing the improved end-gate applied thereto. Fig. 2 is a detail horizontal section through one end of the end-gate and the adjacent side-board. Fig. 3 is an inner face view of the hinged cleat, showing the form of the slot therein with which the latch-lever engages. Fig. 4 is a detail perspective view of the latch-lever. Fig. 5 is a detail plan view showing the means for locking the hinged cleat.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates a wagon-body of any ordinary description having the usual side-boards 2 and the removable end-gate 3.

For the purpose of carrying out the pres-

ent invention we attach to each end of the end-gate what may be termed a "metallic dovetailed slide." Each slide is of a length equal to the height of the end-gate 3 or to the section of the end-gate to which it is applied, and the slide comprises the parallel flange portions 4, which embrace and receive between them the end of the end-gate. The dovetailed portion 5 of the slide is located at and extends beyond the end of the gate 3 proper, where it is adapted to engage between correspondingly-shaped metal cleats secured to the inner surfaces of the wagon sides, as will appear.

6 designates a stationary metal cleat disposed vertically upon and secured to the inner surface of each side-board of the wagon-body at or near the end thereof, such cleat being provided with an inclined receding surface 7, which is adapted to engage and interlock with the dovetailed portion 5 of the end-gate slide when said gate is in position. The cleat 6 is extended rearwardly to form a facing-plate 8, which is secured flatwise against the side of the box, and said facing extension is provided with a recess 9, into which a projection 10 on the end-gate slide is adapted to fit when the gate is in position for preventing said gate from being withdrawn vertically or becoming accidentally displaced.

To the rear edge of the cleat 6 or its facing portion 8 is pivotally connected another cleat 11, which is fulcrumed on a vertical axis and adapted to be swung toward or away from the end-gate or its end slide. This hinged cleat is provided with an inclined or receding surface 12, corresponding to and opposing the similar surface 7 of the stationary cleat 6, the said surface being also adapted to interlock with the dovetailed slide on the end-gate. The hinged cleat has formed in its inner surface a vertically-disposed slot 13, the inner edge of which is inclined or made tapering, as shown, and the gate 3 is provided at each end with an elbow-shaped latch-lever 14, one arm of which is formed with a beveled face 15, which is adapted to be rocked into the slot 13 and to engage the inclined or tapered inner edge of the slot, the action being such that the farther the latch-lever is rocked the more firmly the hinged cleat 11 will be forced toward the stationary cleat 6

for binding and clamping the dovetailed slide between the same. The other arm of each latch-lever is deflected away from the plane of the end-gate, so as to form a convenient
5 handhold 16, by means of which the lever may be conveniently grasped and vibrated.

17 designates a pivoted catch mounted in a recess in the upper inner corner of each side-board of the wagon and just behind the
10 stationary cleat 6. The pintle of the hinge, which connects the cleat 11 to the stationary cleat 6, is notched at its upper end, as shown in the plan view, (see 18, Fig. 5,) and the
15 swinging end of the catch 17 is formed to engage said notch when swung into position. (Shown in the said plan view.) When the end-gate is removed, the pivoted cleat 11 may be swung inward and held closed against the
20 side of the wagon-body by means of said catch, thus preventing said hinged cleat from becoming injured or broken. The pintle of the hinge is held stationary or prevented from turning by passing a transverse pin through it and the stationary cleat 6 or in any con-
25 venient manner, so that the pintle is held in readiness to be engaged by the catch 17.

Where the end-gate is made in sections superposed one above the other, it will be understood that separate sets of cleats, station-
30 ary and hinged, are employed for each section. This enables any one of the sections of the gate to be removed without interfering with an adjoining section, and the sections are so firmly clamped in place that a lower
35 section may be removed without removing a superposed section.

In operation, the gate being clamped in place, the handholds 16 of the latch-levers are grasped at each end of the gate and vibrated
40 into a substantially horizontal position, after which the gate is drawn toward the operator, the hinged cleats swinging back to allow the removal of the gate. This operation is of course reversed in placing the gate in position, and it will be apparent that the reced-
45 ing surfaces of the hinged and stationary cleats will coact with the corresponding surfaces of the dovetailed slide to draw the side-boards of the wagon together and prevent
50 the same from spreading when the wagon is loaded just as efficiently as the usual cross-tie bolts. The stationary and hinged cleats, as well as the end slides on the gate, are preferably formed of malleable castings. It will
55 be understood, however, that they may be formed in any manner of any desired material and that other changes in the form, pro-

portion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages
60 of this invention.

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

1. An end-gate provided at one end with a dovetailed slide, in combination with a sta-
65 tionary cleat, a hinged cleat connected to the wagon-box and forming together with the stationary cleat, a dovetailed recess for the slide, the hinged cleat being provided with an in-
70 clined edge, as described, and a hand-lever fulcrumed on the end-gate and adapted to operate against said edge with a wedging action so as to force the hinged cleat laterally against the slide, substantially as described.

2. A laterally-removable end-gate having a
75 dovetailed slide at each end, in combination with stationary cleats secured to the wagon-box at the inner side of the gate and having receding surfaces for engaging said slides, hinged cleats connected to the wagon-box
80 upon the outside of the gate and also having receding surfaces for engaging said slides, said hinged cleats being provided with in-
85 clined edges, and an elbow-lever for each hinged cleat fulcrumed on the end-gate and coöperating with the inclined edge of its re-
90 spective cleat to vibrate the latter into engagement with the slide, at the same time drawing the sides of the wagon-box together, substantially as described.

3. An end-gate provided at one end with a dovetailed slide, in combination with a sta-
95 tionary cleat, and a hinged cleat both attached to the wagon-box and together forming a dovetailed recess or channel for the slide, the hinged cleat having formed therein a lon-
100 gitudinal slot with an inclined inner edge, and a hand-lever fulcrumed on the end-gate, and adapted to operate against said edge with a wedging action for forcing the hinged cleat laterally against the slide of the end-gate, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOHN P. BOULTON.
LEVI E. MARK.

Witnesses for John P. Boulton:

J. S. OLSON,
ALEX. CAIRNS.

Witnesses for Levi E. Mark:

HARRY A. FOSTER,
GEORGE M. MARK.