(No Model.) 2 Sheets—Sheet 1.

J. D. MACK.

END GATE FOR WAGONS.

No. 292,931. Patented Feb. 5, 1884.

Fig. 1.

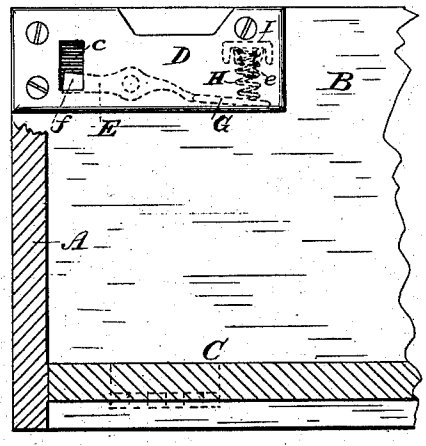


Fig. 3.

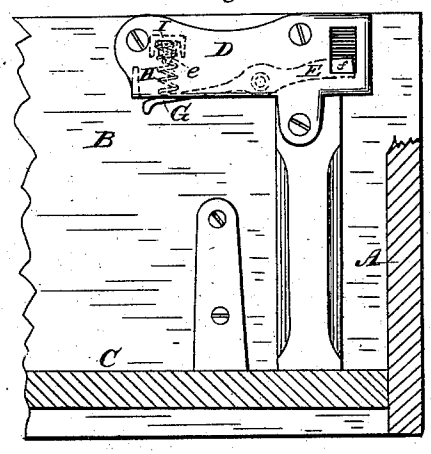


Fig. 2.

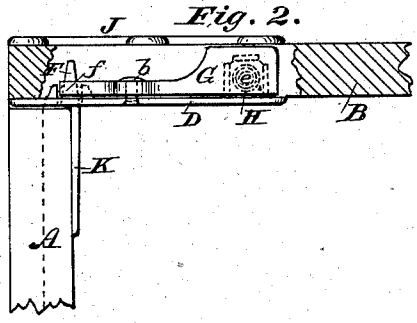


Fig. 4.

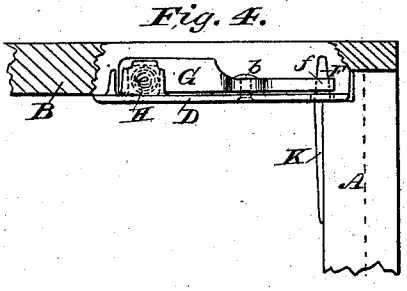


Fig. 5.

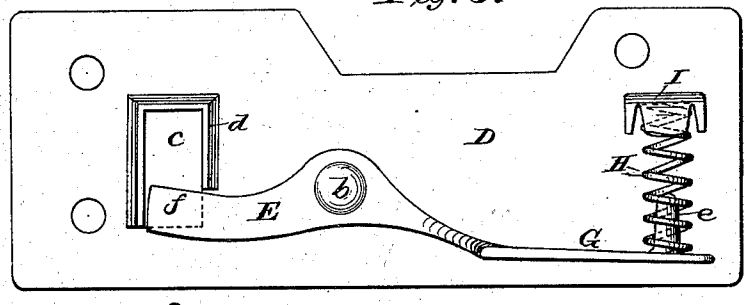
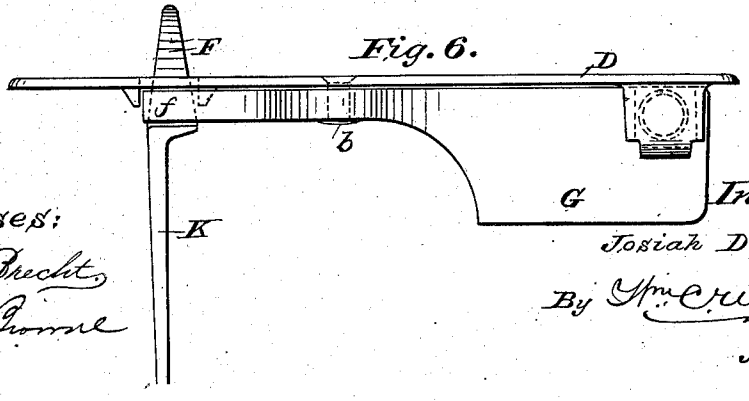


Fig. 6.



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(No Model.) 2 Sheets—Sheet 2.

J. D. MACK.

END GATE FOR WAGONS.

No. 292,931. Patented Feb. 5, 1884.

Fig. 7.

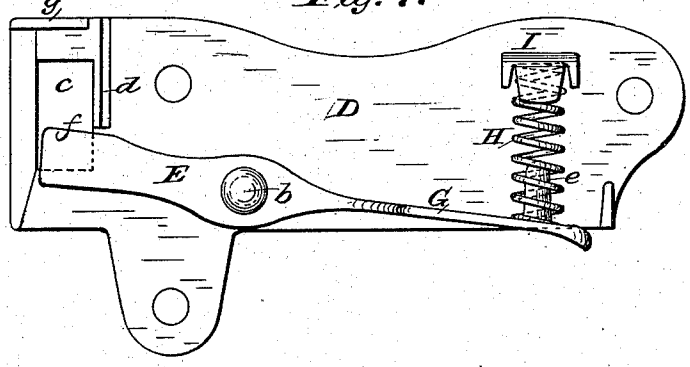


Fig. 8.

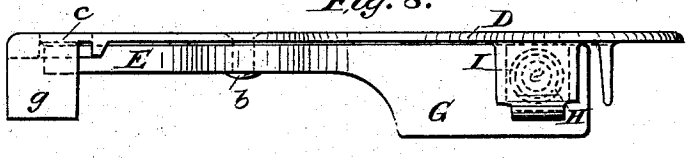


Fig. 10.

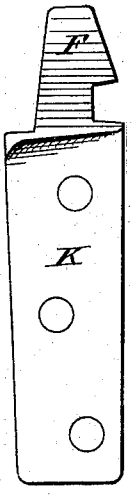


Fig. 9.

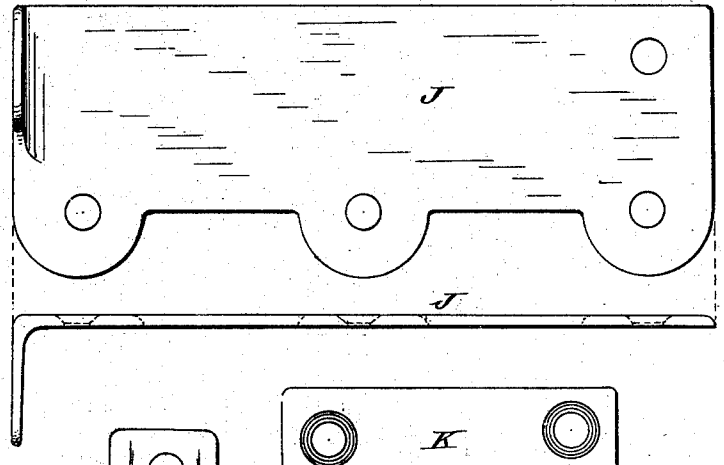


Fig. 12.

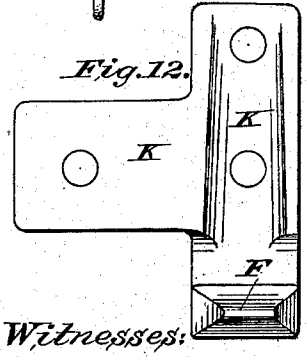


Fig. 11.

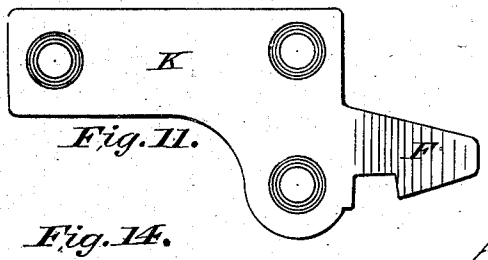


Fig. 14.

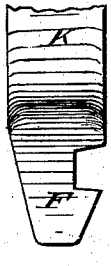


Fig. 15.

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UNITED STATES PATENT OFFICE.

JOSIAH D. MACK, OF SALEM, ASSIGNOR OF ONE-HALF TO GEORGE H. REDWAY, OF ALBANY, NEW YORK.

END-GATE FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 292,931, dated February 5, 1884.

Application filed August 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH DUNTON MACK, a citizen of the United States, residing at Salem, Washington county, New York, have invented new and useful Improvements in Fasteners for Wagon End-Gates, of which the following is a specification.

My invention relates to certain new and useful improvements in wagon end-gate fasteners.

It has for its object to provide a fastener which will securely lock the gate, and which may be released by the grasp made to pull the gate open; and with these ends in view my invention consists in the novel features of construction and arrangement hereinafter described and specifically claimed.

In order that those skilled in the art to which my invention appertains may know how to make and use the same, I will proceed to describe its construction and operation, referring by letters to the accompanying drawings, in which—

Figure 1 is a plan view of one of the rear corners of a wagon-body with the end-gate partially open, and presenting an inside view of one of the fasteners secured to the inside of the gate, and adapted to be operated from the rear or outside. Fig. 2 is a plan view with the gate closed and the upper portion broken away to expose the fastener. Fig. 3 is a similar view to Fig. 1, but of a modified form of fastener, adapted to be operated from the inside. Fig. 4 is a similar view to Fig. 2, showing the fastener exhibited at Fig. 3. Fig. 5 is a full-sized detail view of the fastener shown at Fig. 1. Fig. 6 is a plan view of the same, with the locking lip or nose, which is secured to the side-board of the wagon. Fig. 7 is a view, similar to Fig. 5, of a fastener to be operated from the inside, as shown in Fig. 3. Fig. 8 is a plan or top view of the same. Fig. 9 is an enlarged side and top view of a finishing-plate to be secured to the rear side of the end-gate, when the modification shown at Figs. 1 and 2 is used. Figs. 10, 11, 12, 13, and 14 are detail views, showing differents forms of lips used, according to the design of the rear end of the wagon and the location of the fastener on the end-gate, the said lips and plates being varied, according to desire, to secure strength, &c.

Similar letters indicate like parts in the several figures of the drawings.

A represents the side-boards of an ordinary wagon-body, and B the end-gate, which is hinged at C to the bottom of the wagon. To the inside or outside of the end-gate, as may be desired, and near to the top, is secured the fastener, which consists of a plate D, provided with suitable holes, through which securing-screws pass into the end-gate. At a point about central of the plate is pivoted, by a pivot, *b*, a lever-catch, E, adapted to have its forward end rise up and across a slot or opening, *c*, in the plate D, through which a beveled catch-lip, F, secured to the side of the wagon, passes. The opening *c* in the casting is provided with a raised projection, *d*, which serves as a stop to limit the upward movement of the lever E, as clearly indicated at Figs. 5 and 7.

The operating end of the lever E is extended laterally, as shown at G, to provide a surface against which the fingers may be pressed to operate said lever, (see Figs. 6 and 8,) and on the top surface it is provided with a short teat, *e*, Figs. 5 and 7, adapted to enter one end of a spiral spring, which is confined between the upper surface of the rear end of lever D and a box or keeper, I, cast on the plate D, said spring serving to force the opposite end of the lever upward positively. The rear portion of the lever may be so increased in weight, or the pivot *b* so located, as to accomplish the desired movement of the lever by gravity; but I prefer to use the spring. When the fastener is designed to be secured in place on, and to be operated from the inside of, the gate, the portion G of the lever need not be projected laterally to any considerable extent; but when the fastening is to be arranged so as to be operated on the rear or outside, the portion G is extended sufficiently to pass through a mortise in the end-gate, and project a sufficient distance to be operated by the fingers, and, when so constructed, I employ a plate or box of cast metal, J—such as shown at Fig. 9—of any desired shape or configuration necessary to conceal the lever and furnish a neat finish.

The upper surface, *f*, of the latch end of the lever D is beveled to correspond with the bevel of the lower surface of the catch-lip F, so that the former will be automatically forced downward by said lip F as it passes into and through the slot *e*. The lip F is provided on the under side with a cross slot or channel, into which the end *f* of the lever D immediately locates itself when the gate B has been forced into its locking or closed position. The lip F is beveled on all four sides rearward, the lower bevel serving to operate the lever, as just described, the inside and outside bevels serving to force or draw the sides of the wagon-body into proper position, and the upper bevel serving to lift the gate into the proper position to render the latching certain and effective. The catch F is formed with any suitable-shaped plate, K, (see Figs. 10, 11, 12, and 14,) by which it is secured to the inside of the side-boards in a rigid, strong manner by screws or bolts, serving also to strengthen the joint or corners of the frame of said side-boards.

When it is desired to apply my improved fastening to end-gates of round-cornered wagons, the lip F is made upon the end of a curved iron, such as shown at Fig. 13.

By reference to Fig. 8, it will be seen that the plate or casting D may be formed with a "return," *g*, to conceal the space left by cutting the frame of the gate to allow it to pass the lip F.

One of my improved catches is secured near the top and at each end of the end-gate; and it will be readily seen that when placed on the inside of the gate the hands are placed over the top edge of the gate to pull it down, and, while grasping the gate, the ends of the fingers are pressed against the under side of the lateral projection G of the levers E, which causes the same to vibrate on their pivots *b*, and release the catch-lips F; and when the fasteners are arranged to be operated from the outside the fingers are placed under the under edge of the concealing-plate J, and against the projection G, the plate J serving in the capacity of a "draw-pull." It will be understood that in opening the gate it is not necessary to operate several devices successively, (which is always difficult, especially in loaded or strained bodies,) and that in closing the gate the parts all act automatically.

What I claim as new, and desire to secure by Letters Patent, is—

1. A fastener adapted to be secured to an end-gate of a wagon, consisting of a plate, D, having a slot or opening, *e*, for the passage of the catch-lip on the side of the wagon, and having pivoted thereto a vibratory or rocking lever, E, the end *f* adapted to enter a gate or channel in the catch-lip, and the opposite end, G, extended laterally to receive pressure from the fingers of the operator, substantially as hereinbefore set forth.

2. The plate D, provided with the pivoted lever E, formed as described, and having the slot or opening *e*, with the raised projection *d*, whereby the upward movement of the end *f* of the lever is limited, substantially as and for the purpose set forth.

3. In combination with the plate D and lever E, constructed and arranged as described, the box or keeper I, teat *e*, and spring H, whereby the lever is positively operated, substantially as hereinbefore set forth.

4. In combination with the end-gate of a wagon provided with the plates D and latch-levers E, as described, the catch-lips F, secured to the sides of the wagon, and formed with beveled sides and securing-channel, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSIAH D. MACK.

Witnesses:
CURTIS LAMMOND,
F. L. BROWNE.