(No Model.) 2 Sheets—Sheet 1.

B. T. MURPHY.

END GATE FOR WAGONS.

No. 571,277. Patented Nov. 10, 1896.

Fig. 1.

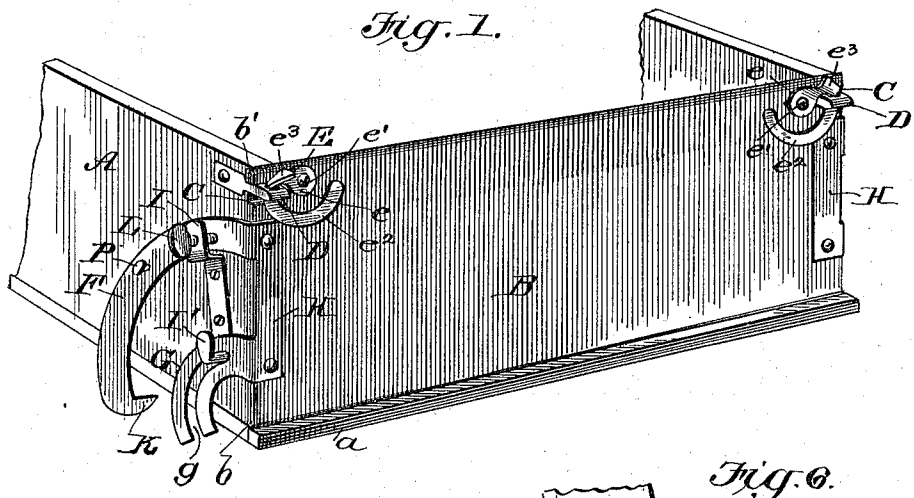

Fig. 6.

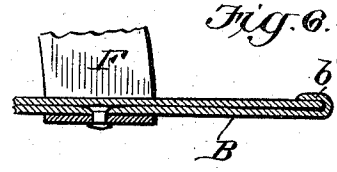

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

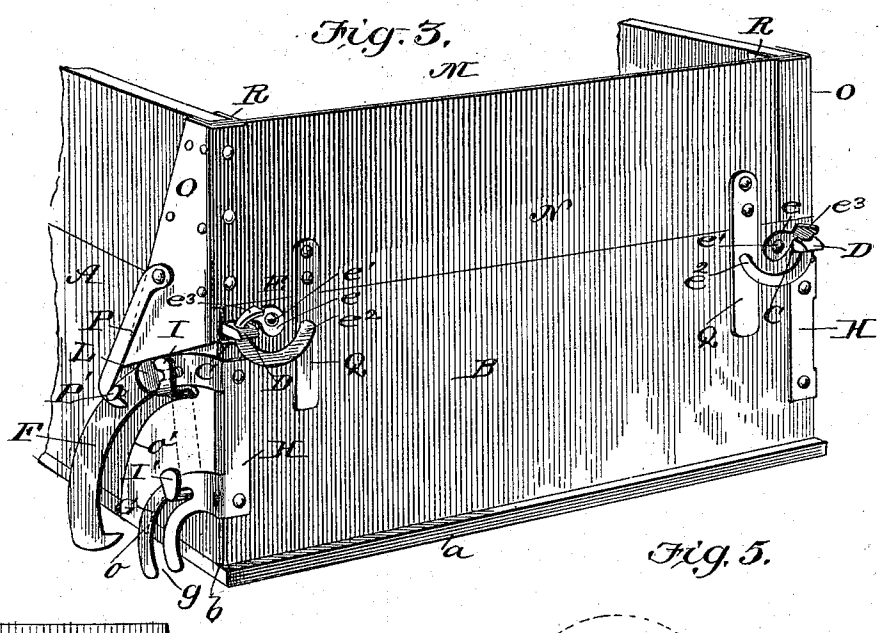

Fig. 5.

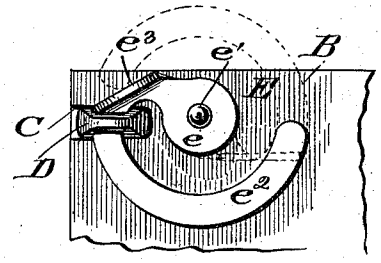

Fig. 4

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BERNARD T. MURPHY, OF MARENGO, IOWA.

END-GATE FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 571,277, dated November 10, 1896.

Application filed February 19, 1896. Serial No. 579,892. (No model.)

To all whom it may concern:

Be it known that I, BERNARD T. MURPHY, of Marengo, in the county of Iowa and State of Iowa, have invented an Improved End-Gate, of which the following is a specification.

This invention relates generally to end-gates for wagons, and particularly to an improved metallic end-gate having an extension thereto.

The object of the invention is to provide a sheet-metal end-gate which can be quickly raised or lowered, and one that is so constructed that it will not obstruct anything moved thereover in passing either in or out of the wagon.

Another object of the invention is to provide an improved form of locking device by means of which the gate will be securely fastened when in a closed position, and it is also the object of the invention to provide means for locking the gate in any desired adjustable position.

A still further object is to provide an extension to the end-gate which is adapted to coöperate with the extension side-boards of the wagon-body, said extension being connected with the end-gate proper in such a manner that it can be readily attached and detached and works easily in connection with said end-gate proper to either an open or closed position.

With these objects in view my invention consists in the peculiar construction of the various parts and their novel combination or arrangement, all of which will be fully described hereinafter and pointed out in the claim.

In the drawings forming a part of this specification, Figure 1 is a view of the wagon-body provided with my improved end-gate, said end-gate being closed. Fig. 2 is a view showing the end-gate open. Fig. 3 is a view showing the end-gate and the extension closed. Fig. 4 is a view showing the end-gate and extension open. Figs. 5 and 6 show details of construction.

Referring to the drawings, A indicates the body of the wagon, which may be of any desired construction, the sides thereof being preferably vertical, as shown.

At the extreme rear end of the bottom of wagon is arranged an extension or beam *a*, upon which rests the lower end of the end-gate B. This end-gate is formed of sheet metal, and preferably consists of one layer or sheet bent centrally upon itself at *b*, the ends of said sheet being secured at their ends by the overlapping portion *b'* of one of said layers.

At opposite sides of the end-gate, near the top thereof, are produced the slots or openings C, through which pass locking-staples D when the end-gate is raised or closed, said staples being secured to the ends of the side-board or body, and in order to securely fasten said end-gate in a raised or closed position I employ a locking bolt or catch E, consisting, essentially, of a central or body portion *e*, through which the pivot-pin *e'* passes, and a curved tongue or finger e^2, extending outward from and around said central portion, said tongue or finger being adapted to pass through the locking-staple, and at the inner end of said tongue or finger and adjacent to the body portion I provide a flange or handle e^3, by means of which the locking-bolt is operated.

Now in operation when the gate is closed the staples will pass through the slots at each side of the end-gate. The locking-bolt is then revolved, passing the tongue or finger thereof through the staple until the flange or handle contacts with the staple. The greater portion of the weight is therefore at a point below the pivot of said bolt, and in case said bolt should be jarred by the motion of the wagon it will be impossible to cause a sufficient revolution to unlock said bolt.

In order to guide the end-gate in its movements, I employ the segment-shaped arms F and G at each end of the gate, said arms extending forward at right angles to the end-gate proper and at their rear ends are either integral with or are connected to a strap or member H, which strap or member H is riveted to the outer face of the end-gate, the inner heads of said rivets resting between the layers or sheets of the end-gate. It is for the purpose of covering the heads of these rivets that I construct the end-gate of two layers, so that in shoveling anything over the end-gate a smooth surface will be presented and no obstruction whatever to the shoveling device.

As before stated, the arms F and G extend

alongside of the wagon, the upper arms passing through the guide-iron I, attached to the sides of the body, and at their forward or free ends carry a hook K, which is adapted to engage said guide when the end-gate is open to its full extent and hold the gate in such position. The lower arms G are more in the nature of lugs and are slotted longitudinally, as shown at *g*, for the purpose of engaging the guide-iron I′, said guide-irons I and I′ being preferably connected, as shown, for the purpose of convenient attachment and of adding strength to the wagon.

In the construction above described it will be seen that in opening the gate the arms F will pass through the upper guide-iron I, and the slotted arm G will work upon the lower guide-iron I′, so when the gate reaches a horizontal or open position the hooks K will engage the upper guide-iron and prevent said gate falling lower, and by having the lower guide-arms slotted, as shown, it is obvious that it will be impossible to raise the inner or lower end of the end-gate, so that said gate will always be held flush with the bottom of the wagon when said gate is open.

For the purpose of guiding the segmental arms accurately I employ the adjustable set-screws L, which pass through the upper guide-iron I and bear upon the side of the upper guide-arms, and in case it is desired these screws can be tightened to such an extent as to bear promptly upon the guide-arms and thus lock said arms and end-gate in any desired adjustable position.

The extension M consists of the end portion N and the side portions O, said side portions extending below the end portion N, as clearly shown. Hooks P are pivoted upon the side portions O and are adapted to engage studs P′ upon the guide-arms F, thus connecting the end-gate and extension. The side portions of the extension, which project beyond the end portion of extension, pass upon the inner side of the arms F and G. Said side portions are cut out at the ends, as at *o*, to correspond with the slots in the arms G and are curved or cut out, as at *o′*, to correspond with the upper arm F, so that said side extensions will not interfere with the movement of the guide-arms back and forth over the guide-irons. Brace-irons Q are riveted to the rear face of the extension and project some distance below the same, and upon the inner face of said extension similar brace-irons and guides R are attached at each side of the extension, said guides serving to hold the rear ends of the extension side-board of the wagon-body, and by projecting beyond the extension the bearing is secured upon the end-gate proper upon the inner side thereof, while the members Q secure a bearing upon the end-gate upon the outer side thereof.

In order to detach the extension from the end-gate proper, the hooks P are disengaged from the studs P′, and the extension can then be withdrawn from the end-gate by simply pulling the two apart.

It will thus be seen that I provide a metallic end-gate, which can be held flush with the bottom of the wagon when open, and one which is void of all obstructions upon its inner face, such as bolt-heads, &c. It will also be seen that I provide an end-gate which can be quickly and easily attached to any of the wagons now in use, and one which can be quickly and easily locked in either a raised, lowered, or intermediate position. It will also be observed that I provide an extension which can be readily attached to or detached from the end-gate proper and one which will not interfere with the operations of the said end-gate in any manner.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the wagon-body, having the guide-irons attached thereto, of a sheet-metal end-gate having straps or members each side thereof, the segmental guide-arms extending from said strap members, and passing over the guide-irons, two guide-arms on each side an upper and a lower arm, the upper guide-arms having hooks at their forward ends, the lower guide-arms being slotted, substantially as shown and described.

In testimony whereof I affix my signature in the presence of two witnesses.

BERNARD T. MURPHY.

Witnesses:
A. C. BRODIE,
E. J. FREEMAN.