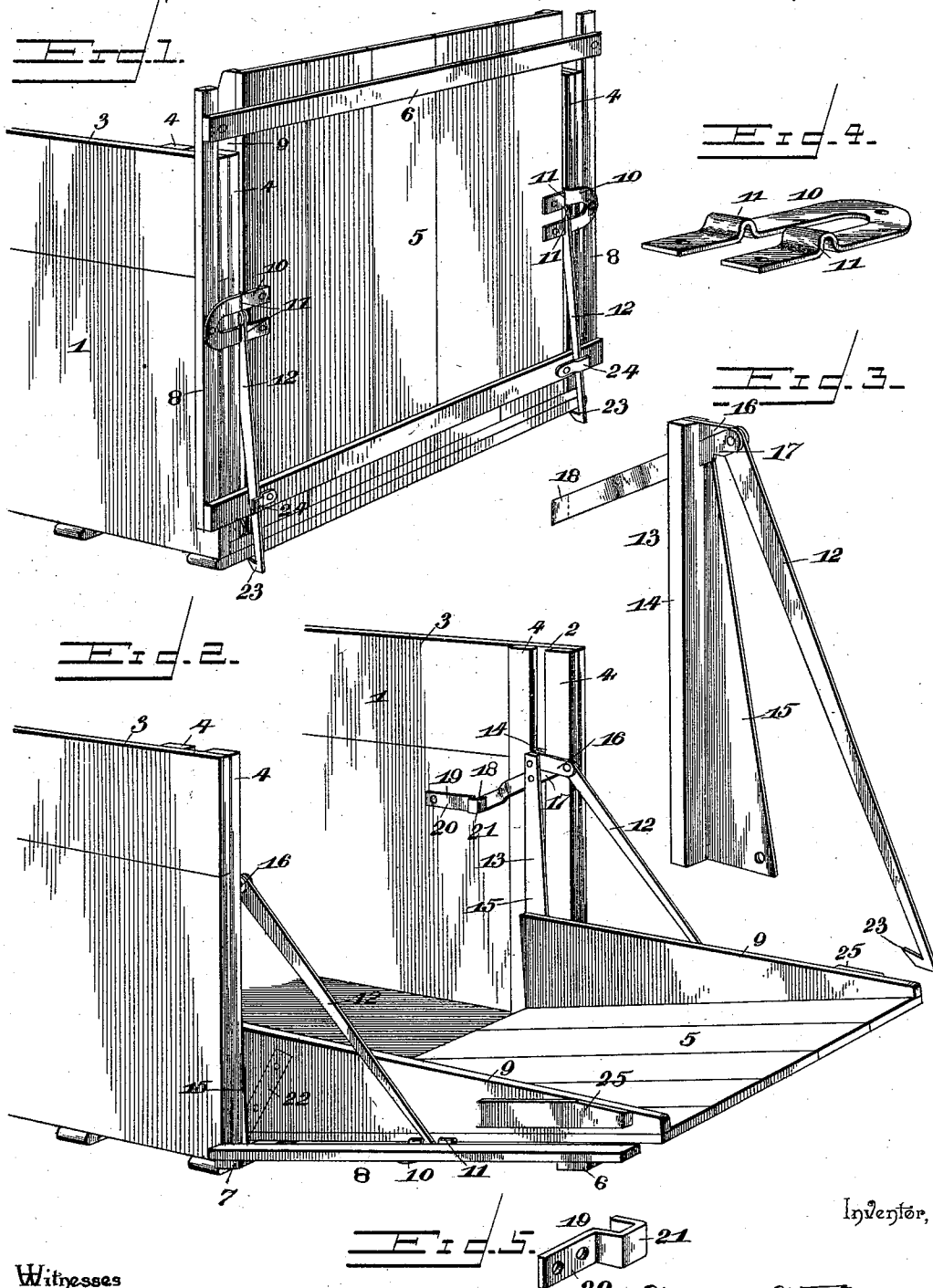


(No Model.)

G. C. FLAGG.
END GATE.

No. 540,784.

Patented June 11, 1895.



Witnesses

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UNITED STATES PATENT OFFICE.

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END-GATE.

SPECIFICATION forming part of Letters Patent No. 540,784, dated June 11, 1895.

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To all whom it may concern:

Be it known that I, GEORGE C. FLAGG, a citizen of the United States, residing at Lewistown, in the county of Fulton and State of Illinois, have invented a new and useful End-Gate, of which the following is a specification.

The primary object of the present invention is the provision of an end gate which can be readily applied to wagons of ordinary construction having vertical ways in their sides in which the usual end gate has vertical movement when removing it from the wagon body and placing it in position.

The invention also aims to provide an end gate which will brace the sides of the wagon body and prevent the same from being forced outward when the wagon is loaded.

A still further purpose of the invention is the provision of an end gate which can be detachably connected with a wagon body, will brace the sides thereof in the manner aforesaid, and which will be capable of lowering to form the usual shoveling board, and combining with such gate means for securing it in either a closed or lowered position.

The invention also has for its object the combination with the end gate of means for taking the strain from off the rear cleat, or wall, of the guideway in which the standard moves vertically when removing or placing the gate in proper position in the wagon body; and in the novel construction whereby a close joint is obtained between the sides of the end gate and the opposing sides of the wagon bed.

The improvement consists of the novel features and the peculiar construction and combination of the parts which hereinafter will be more fully described and claimed, and which are shown in the accompanying drawings, in which—

Figure 1 is a perspective view of an end-gate constructed in accordance with the principles of the present invention, showing it applied to a wagon-bed of ordinary construction and in closed relation. Fig. 2 is a perspective view showing the end-gate lowered and adapted for use as a shoveling-board. Fig. 3 is a detail view of one of the standards, showing the parts connected therewith. Fig. 4 is a detail view of one of the U-shaped irons attached to the end-gate, and which co-operates with the pivoted braces. Fig. 5 is a de-

tail view of one of the fastenings designed to be attached to the inner face of the wagon-body side, and with which a brace from the standard forms engagement.

The wagon body 1 is provided with vertical ways 2 near the rear end of its sides 3, said ways 2 being provided between parallel cleats 4, which are attached to the inner faces of the sides 3 in the ordinary manner. The end gate 5 is formed of a series of boards, which are disposed in parallel relation and occupy a relatively vertical position when the said gate is raised or closed. Cleats 6 and 7, located near opposite ends of the boards comprising the gate, serve as means to secure and bracingly connect the said boards. The end portions of these cleats project a short distance beyond the sides of the end gate, and are connected by bars 8. These bars 8 are adapted to lie against the outer faces of the sides 3 and form braces to prevent the latter from spreading in the event of the wagon being heavily loaded. The rear end portions of the sides 3 project into the space formed between the bars 8 and the sides 9 of the end gate 5 when the latter is closed. U-shaped irons 10 are located about midway of the ends of the bars 8 and connect the latter with the end portions of the end gate, thereby bracing and strengthening the said bars 8 at a middle point. These U-shaped irons 10 have depressions 11 just outside of the sides 9 of the gate to give clearance for the pivoted braces 12 when the gate is at its extreme positions. Standards 13 are provided and adapted to operate in the ways 2, and comprise a wooden bar 14 and a metal plate 15, the latter being attached to the exposed side of the bar 14 so as to provide for the firm attachment of the several parts to the standards. The wooden portion 14 operates in the ways 2, and the metal portion 15 occupies a position exterior to the cleats 4, between which the ways 2 are formed. The plates 15 gradually widen from the upper to the lower ends, and an arm 16 projects rearwardly from its upper end and has the brace 12 pivotally attached to its outer end. A brace 17 is firmly attached to the outer end of the arm 16 and extends in an opposite direction to the said arm, and is secured to the plate 15 at the point of crossing and terminates in an outer extension 18, which is adapted to en-

gage with a hooked fastening 19 on the inner face of the side 3. The inner end portion of the brace 17 is bent so as to bring the extension 18 close against the inner face of the side 3.

The hooked fastening 19 comprises a base plate 20, which is attached to the side 3, and an approximately hook-shaped catch 21, which has its engaging portion projecting inward so as to engage with the outer extension 18 of the brace 17, thereby preventing accidental disengagement of the brace 17 when the end gate is in position for efficient service.

The end gate proper has pivotal connection at its lower end with the standards 13, preferably by means of strap irons 22, which are attached to the sides 9 of the end gate and have pivotal connection at their lower ends with the lower outer projecting portion of the plates 15. By thus extending the plates 15 at their lower ends, the pivotal connection between the end gate and the standards is to the rear of the guideways 2. Hence when closing the gate the outer face thereof comes flush with the rear ends of the sides 3. This gives a neat finish to the structure and enables the end portions of the sides 3 to be embraced between the side bars 8 and the sides 9 of the end gate.

The braces 12 are comparatively thin and wide, and are pivoted at one end to the arms 16, and have hooks 23 at their outer ends to engage with the U-shaped irons 10 and support the end gate in a lowered position, as shown in Fig. 2. These braces taper from their pivoted to their hooked ends, and are sufficiently elastic to be sprung laterally when it is required to release the end gate and lower the same from a closed position. Hooks 24 are provided near the ends of the cleat 7, and are adapted to engage with the end portions of the braces 12 and hold the gate 5 in a closed position. This is shown most clearly in Fig. 1. When the gate is closed the braces 12 extend across the lower members of the U-shaped irons 10, thereby forming a positive means for securing and holding the said gate in closed relation.

It will be observed that the standards 13 project a short distance above the middle portion of the cleats 4, and that a sufficient space is left between the sides 9 and the sides 3 for the reception of the plates 15 when the end gate is closed. These plates 15 approach close to the sides 9 so as to attain a close joint therewith and prevent the escape of any matter from the wagon bed. In order to close the space above the ends of the standards 13 when the gate is closed, filling pieces, or strips, 25 are attached to the sides 9, and are so disposed as to close the guideways 2 and prevent the lodgment of dirt, or other matter, therein.

An end gate constructed as herein set forth can be readily detached from the wagon bed by slipping the standards 13 from the guideways 2, and can be placed in position quite as readily. When the end gate is lowered, as

shown in Fig. 2, it is supported by the braces 12 by having the hooked ends thereof engage with the U-shaped irons 10. The inner braces 17, engaging with the hooked fastenings 19, serve to brace and strengthen the standards 13 and relieve the outer cleat 4 of all strain, or nearly so, that may be imposed thereon by outward pressure against the end gate.

It will be seen that the attachments are simple and efficient, and can with slight changes be adapted to wagon beds of ordinary construction, thereby enabling the invention to become of general application.

The disposition and relative arrangement of the parts herein shown are preferred. However, changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

The side bars 8, in addition to forming braces for the sides of the wagon body, also provide an extended portion of the end gate, and enable a driver to obtain a purchase thereon when unloading, thereby imposing the greater portion of the driver's weight upon the said side bars, which are better adapted to carry the weight because of their close proximity to the supporting braces 12, and relieving the middle portion of the end gate, which is already weighted by the load imposed thereon.

It will be understood that in adapting the invention to wagon bodies, the hooked fastenings 19 will be secured directly to the sides of the wagon bed and not to the removable side pieces, which latter are provided to increase the height of the body in wagons designed to have their capacity varied. Thus in the drawings these hooked fastenings are shown attached directly to the permanent parts, or sides, of the wagon body, those parts appearing above the heavy line indicating the extra side pieces placed in position to attain the required height of the body.

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

1. In combination, a wagon body, an end gate composed of a series of boards arranged in parallel relation, upper and lower cleats connecting the said boards and having their end portions extending beyond the sides of the end gate, side bars connecting the projected ends of the cleats and adapted to lie exterior to the sides of the wagon bed to strengthen and brace the same, side pieces attached to the end gate and adapted to come opposite the inner walls of the wagon bed sides, approximately U-shaped irons connecting the side bars midway of their ends with the end gate, and pivoted braces having connection with the wagon body and adapted to operate between the members of the U-shaped irons, substantially as set forth.

2. The combination with a wagon bed, of an end gate pivotally connected at its lower end to the wagon bed, and provided with upper and

lower cleats whose end portions project beyond the sides of the end gate, side bars connecting the end portions of the cleats and adapted to brace the sides of the wagon bed against lateral pressure from within, U-shaped irons connecting the side bars midway of their ends with the end gate, and having depressions in the outer side, pivoted braces adapted to operate between the members of the U-shaped irons to support the gate in a lowered position, and hook-shaped fastenings near the ends of the lower cleat to engage with the end portions of the pivoted braces to secure the gate in a closed position, substantially as set forth.

3. The combination with a wagon bed having vertical guideways in its sides, of standards detachably connected with the said guideways, an end gate having pivotal connection with the standards, and braces between the standards and the sides of the wagon body, substantially as and for the purpose set forth.

4. The combination with a wagon body having vertical guideways in its sides, of standards detachably connected with the said guideways, an end gate having pivotal connection with the lower ends of the standards, braces pivotally attached to the upper ends of the standards and adapted to support the gate in a lowered position, and inwardly-extending braces connected with the upper ends of the standards, and connected at their inner ends to the sides of the wagon body, to brace the said standards and relieve the rear cleat forming the guideways from strain, substantially as set forth.

5. The combination with the wagon body having vertical guideways, standards detachably connected with the said guideways, brace connections between the standards and the sides of the wagon body, an end gate pivoted

to the lower ends of the standards, and filling strips attached to the sides of the end gate to close the space above the standards and between the opposing sides of the end gate and wagon body when the said end gate is closed, substantially as set forth.

6. In combination, standards detachably connected with guideways in the sides of the wagon body and having their lower portions widened and provided with rearwardly-extending arms at their upper ends, inner braces attached to the said arms and standards and constructed to engage at their inner ends with fastenings on the sides of the wagon body, tapering braces pivoted to the said arms and having hooks at their free ends, an end gate having pivotal connection with the lower widened portion of the standards, and having upper and lower cleats whose ends project beyond the sides of the end gate, side bars connecting the projected ends of the cleat, and adapted to lie against the outer faces of the wagon body sides, U-shaped irons connecting the side bars midway of their ends with the end gate, and adapted to have the pivoted braces operate between their parallel members, hook-shaped fastenings near the ends of the lower cleat to engage with the free ends of the pivoted braces to secure the latter and hold the end gate in a closed position, and filling pieces attached to the sides of the end gate to close the space above the standards and between the opposing sides of the end gate and wagon body sides, substantially as set forth.

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

GEORGE C. FLAGG.

Witnesses:

GARRETT R. DAILY,
ROBERT HARBEN.