

No. 763,718.

PATENTED JUNE 28, 1904.

C. E. BYINGTON.
END GATE FOR WAGONS.
APPLICATION FILED JAN. 20, 1904.

NO MODEL.

Fig. 1.

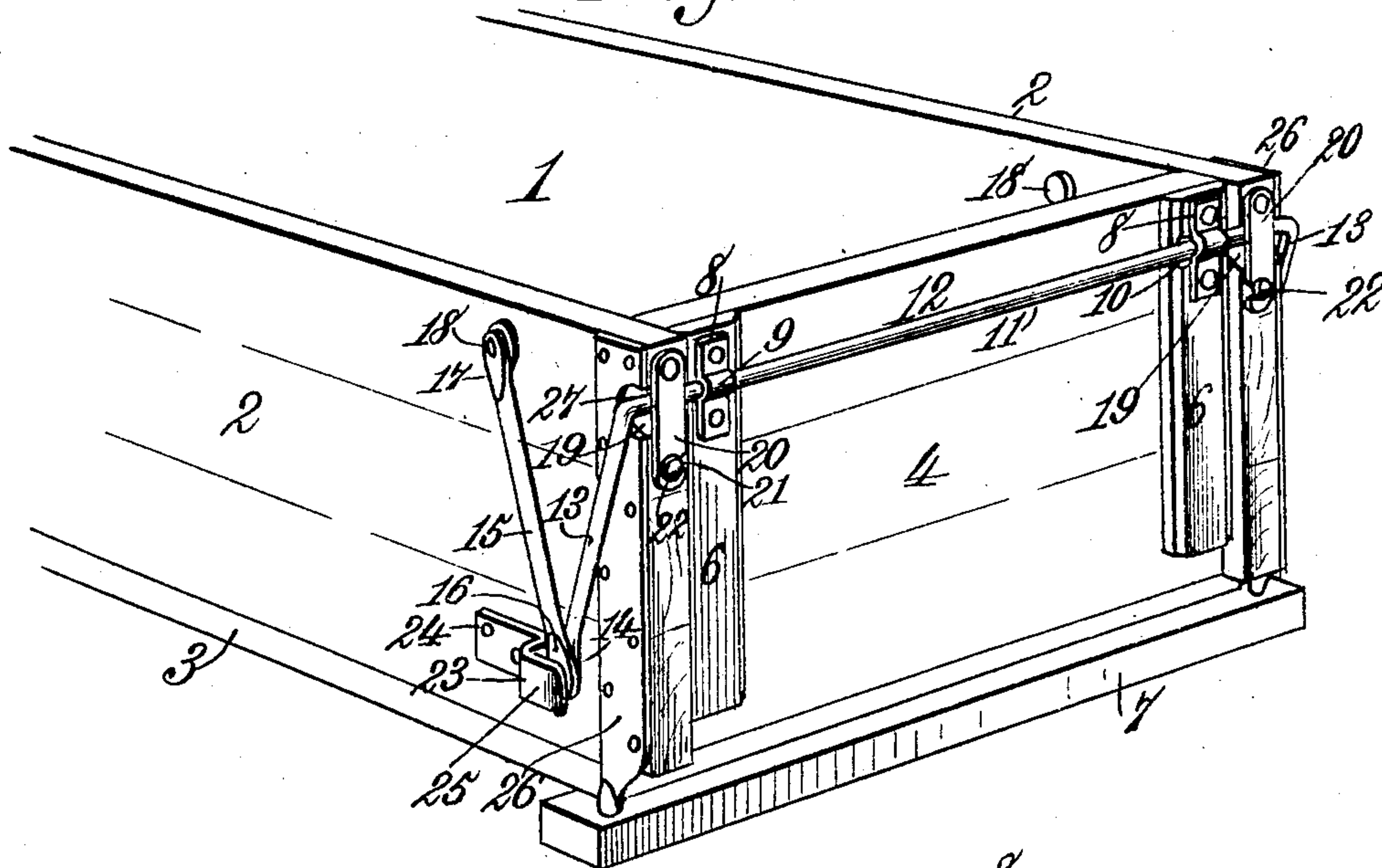


Fig. 2.

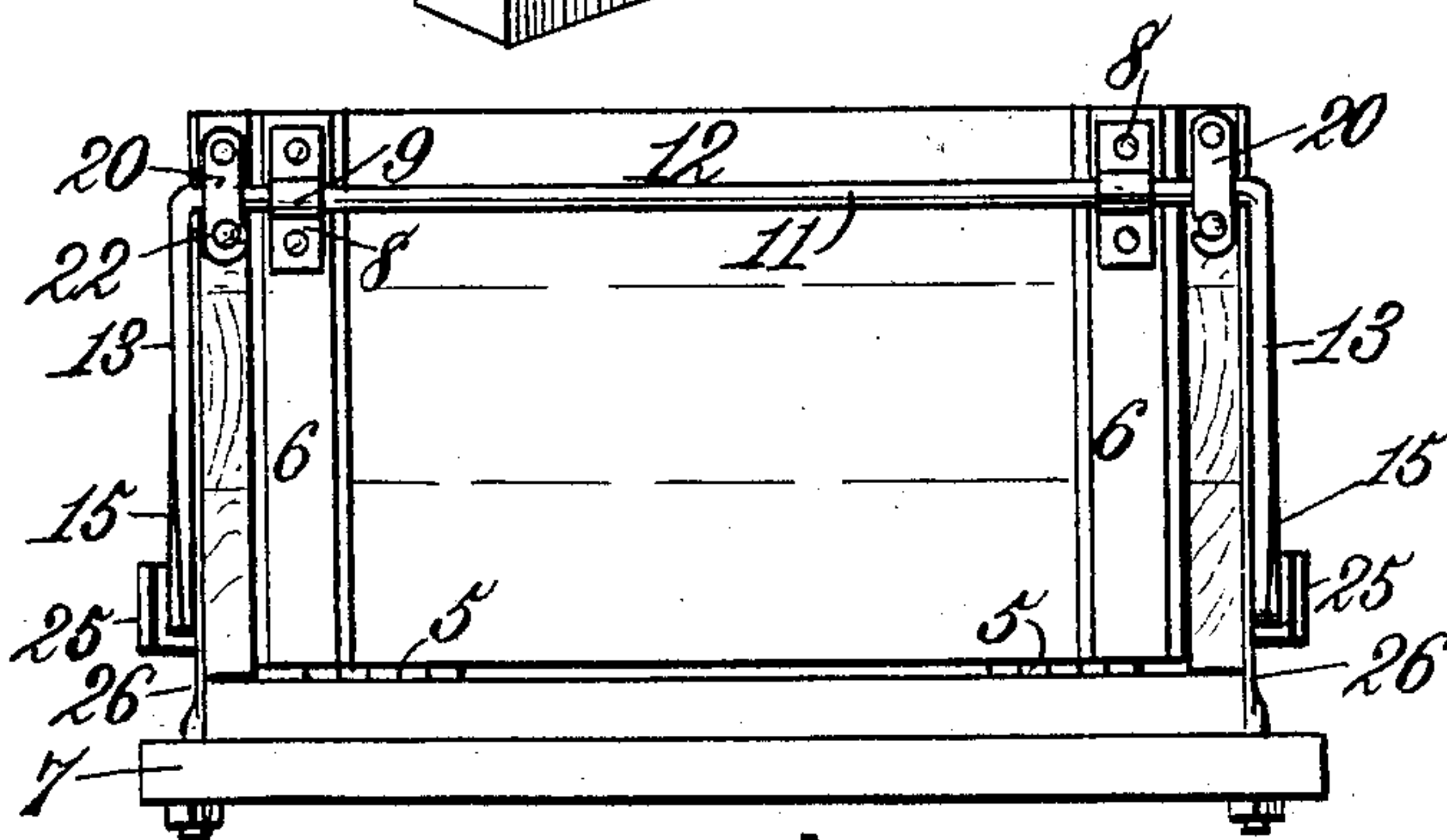
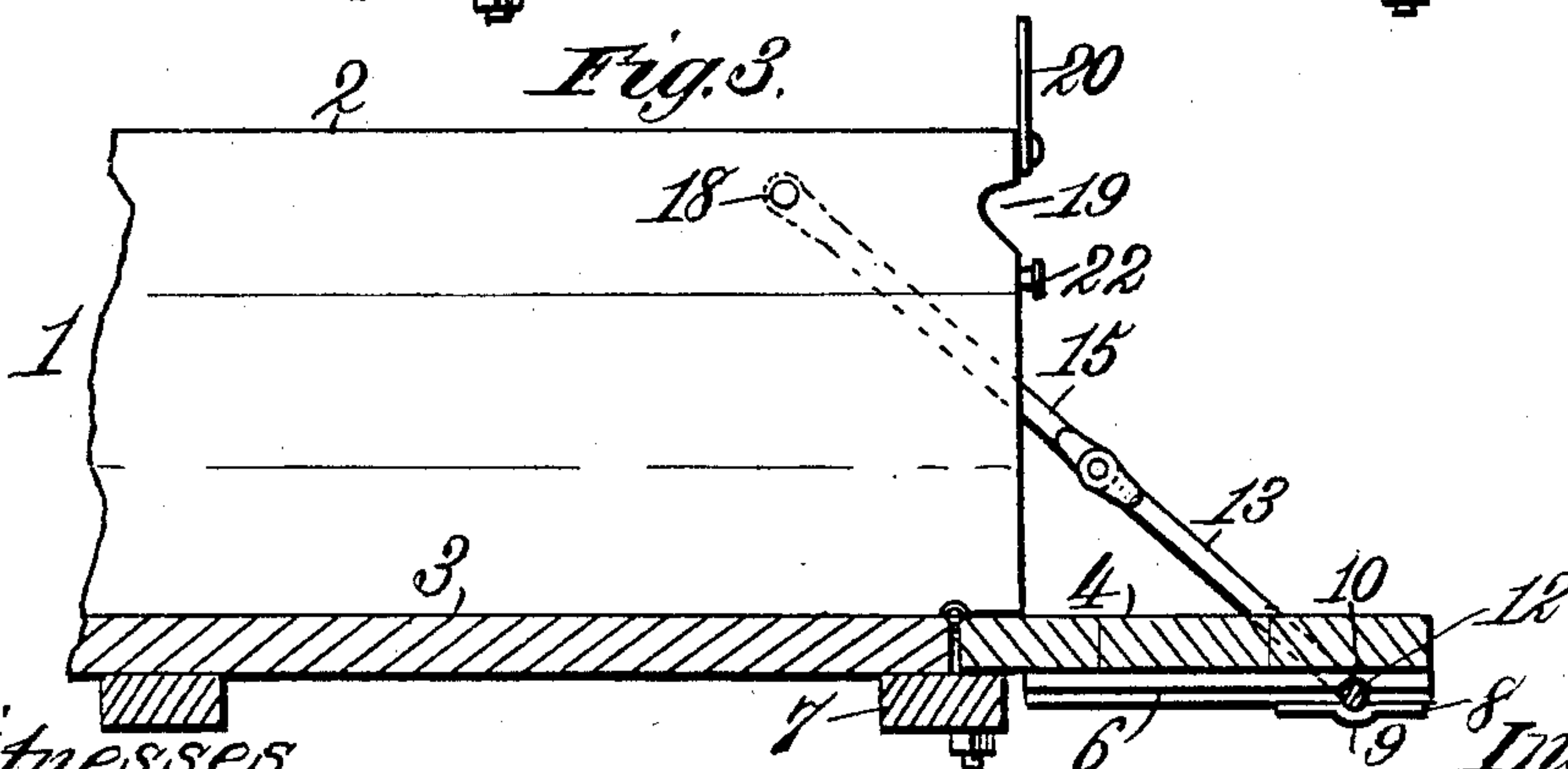


Fig. 3.



Witnesses.
Robert Everett.
[Signature]

Inventor:
Chilton E. Byington.
By James L. Norris.
[Signature]
Att'y.

UNITED STATES PATENT OFFICE.

CHILTON E. BYINGTON, OF HARRISBURG, ILLINOIS.

END-GATE FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 763,718, dated June 28, 1904.

Application filed January 20, 1904. Serial No. 189,858. (No model.)

To all whom it may concern:

Be it known that I, CHILTON E. BYINGTON, a citizen of the United States, residing at Harrisburg, in the county of Saline and State of Illinois, have invented new and useful Improvements in End-Gates for Wagons, of which the following is a specification.

This invention relates to end-gates for wagons, and has for its object to provide a novel end-gate which will be simple and inexpensive in construction and efficient in operation, which may be locked in its closed position with certainty and when unlocked may be readily lowered and securely held in a horizontal position to form shoveling-boards for convenient means for loading and unloading a wagon.

It also has certain other objects in view, which will hereinafter become apparent.

To these ends my invention consists in the features and in the construction, combination, and arrangement of parts hereinafter described, and particularly pointed out in the claims following the description, reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a perspective view of the rear end of a wagon-body equipped with my improved end-gate, the end-gate being shown closed. Fig. 2 is a rear end view of the same, and Fig. 3 is a longitudinal sectional view showing the end-gate lowered.

Referring to the drawings, the numeral 1 indicates in a general way the body of a wagon of any ordinary construction, 2 the sides thereof, and 3 the bottom. To the rear end of the bottom is hinged an end-gate 4 by means of hinges 5, which are mortised in the bottom and inner side of the end-gate, so that when the end-gate is lowered to a horizontal position said hinges will not project above the surface of the bottom and end-gate, and thereby will not offer obstructions during the operation of shoveling material from the wagon. To the rear side of the end-gate and near its opposite ends are attached transverse battens 6, which not only serve to strengthen the end-gate, but also serve as supports for the bearings of the bail hereinafter described. To the under side of the rear end of the bottom

3 of the wagon is secured a transverse sill 7, which, as shown, projects in rear of the rear end of the bottom, so that when the end-gate 4 is lowered to a horizontal position the forward edge of the end-gate will rest on said sill, thus taking the strain from off the hinges. Attached to the upper ends of the batten 6 are bearings 8, which may conveniently consist of metallic half-boxes corrugated or grooved intermediate their ends, as at 9, to form half-bearings, the other halves of the bearings being formed of grooves 10, formed in the battens. Journaled in said bearings is the central or intermediate portion 11 of a bail 12, said bail extending entirely across the rear side of the end-gate, the ends 13 of said bail being bent at right angles to the central portion 11 and flattened at their extremities, as at 14.

The numeral 15 indicates two links, one upon each side of the wagon-body, said links being flattened at their opposite ends, as at 16 and 17, the flattened ends 16 of said links being pivoted to the flattened extremities of the bail and the flattened ends 17 of said links being pivoted by pivot-pins 18 to the outer sides of the two sides of the wagon.

Formed in the rear edges of the sides 2 of the wagon are recesses or notches 19, which when the end-gate is folded up between the sides 2 receive the bail 12. Pivoted to the upper ends of the rear edges of the sides 2 above the notches or recesses 19 are swinging latches 20, composed of metallic plates, each slotted on one side of its lower end portion, as at 21, and fixed in the rear edges of the sides 2 below said notches or recesses are headed pins or studs 22, the arrangement being such that when the end-gate is folded up to its closed position the latches may be swung down, causing the slotted ends of the latches to engage the headed pins or lugs 22, and thus lock the bail in the notches or recesses 19, thereby securely locking the gate in its closed position.

To lower the end-gate, it is only necessary to swing the latches 20 to one side, when the end-gate may be lowered with ease, the links 15 and the ends 13 of the bail unfolding and straightening out as the gate is lowered, and

by the time the gate has been lowered to a horizontal position said links 15 and the ends or arms 13 of the bail will be straightened out in alinement with one another, thus affording
 5 a firm support for the rear end of the end-gate. As before stated, when the end-gate is in this position its forward edge will rest on the sill 7 and relieve the hinges of all strain. When in this position, the end-gate serves as
 10 a shoveling-board to facilitate the contents of the wagon being shoveled out, and it also affords a convenient aid in loading and unloading the wagon. As the gate is swung up to its closed position the links 15 and the ends or
 15 arms 13 of the bail fold up, as is clearly shown in the drawings, and to protect said links and arms when in their folded position I provide brackets 23, each consisting of a metallic plate bent into what may be termed a "double-L" shape—that is to say, the ends of said
 20 plate are bent reversely at right angles to the body portion thereof, as indicated at 24 and 25, the end portions 24 of the brackets being rigidly secured to the sides 2, and the other
 25 angular portions, 25, of said brackets stand out from the sides of the wagon and project rearwardly, as shown, so that when the end-gate is raised to a closed position and the links and arms are folded up the pivoted adjacent ends of
 30 said links and arms rest between the said brackets and the sides of the wagon, whereby the links and arms are protected against injury—that is to say, they are guarded against being broken by striking or rubbing against any-
 35 thing while the wagon is in transit.

Fixed to the rear ends of the sides 2 of the wagon are wear-plates consisting of vertical metallic plates 26, which are securely fastened by any means to the sides of the wagon, and
 40 the lower ends of said plates project below the bottom of the wagon and are attached in any suitable manner to the ends of the sill 7 and serve to aid in supporting said sill and securing it to the bottom 3 of the wagon. Said
 45 wear-plates serve to receive the wear of the arms 13 of the bail 12 as the end-gate is raised and lowered and prevent said arms from rubbing or chafing the sides of the wagon. The said wear-plates at points opposite the recesses
 50 or notches 19 are notched or recessed, as at 27, to permit said bail to enter said notches or recesses 19 in the sides of the wagon.

It will be noted that in closing the end-gate folds up between the sides 2 of the wagon,
 55 and as the bail is drawn into the notches or recesses 19 the arms 13 thereof firmly clasp the sides and hold them tightly up against the opposite ends of the end-gate, thereby making a tight joint between the ends of the end-gate
 60 and the sides of the wagon and effectually preventing the sifting through or leakage of any fine material with which the wagon may be loaded. The bail also, when the gate is closed, serves as a brace to resist the outward pres-
 65 sure which might be exerted by the contents

of the wagon and prevent said sides from sagging or bulging outward.

It will be obvious that various changes and alterations may be made in the details of construction and in the arrangement of parts
 70 without departing from the spirit of my invention, and I therefore wish it to be understood that I do not confine myself to such excepting as is specifically pointed out in the claims hereunto appended. 75

Having described my invention, what I claim is—

1. In an end-gate for wagons, the combination with a wagon-body, of an end-gate
 80 hinged to the rear end of the wagon-bottom and arranged, when closed, to rest between the sides of the wagon-body, of a bail journaled in bearings on the rear side of the end-gate, and links disposed on opposite sides of
 85 the wagon-body, said links being pivoted to the ends of the arms of the bail and to the wagon sides, the arms of the bail, when the end-gate is closed, being constructed to embrace the sides of the wagon-body and hold
 90 the same tightly to the ends of the end-gate, substantially as and for the purpose specified.

2. In an end-gate for wagons, the combination with the wagon-body and the end-gate hinged to the rear end of the wagon-bottom, of a U-shaped bail the central portion of which
 95 is disposed transversely across the rear of the end-gate and journaled in bearings thereon, and links disposed on opposite sides of the wagon-body, said links being pivoted at their opposite ends to the ends of the arms of the
 100 bail and the sides of the wagon, respectively, the arms of the bail when the end-gate is closed embracing the sides of the wagon-body and holding the same tightly to the ends of the end-gate, substantially as and for the pur- 105
 pose specified.

3. In an end-gate, for wagons, the combination with the wagon-body, of the end-gate hinged to the rear end of the wagon-bottom, of a U-shaped bail the central portion of which
 110 is disposed transversely across the rear end of the end-gate and journaled in bearings thereon, links disposed on opposite sides of the wagon-body and pivoted at their opposite ends to the ends of the arms of the bail and to the
 115 sides of the wagon, respectively, and brackets attached to the sides of the wagon and arranged to cover and protect the pivoted ends of the arms of the bail and the links when the end-gate is closed, substantially as and for 120
 the purpose specified.

4. In an end-gate for wagons, the combination with the wagon-body and the end-gate hinged to the rear end of the wagon-bottom, of a U-shaped bail the central portion of which
 125 is disposed transversely across the rear end of the end-gate and journaled in bearings thereon, links disposed on opposite sides of the wagon-body and pivoted at their opposite ends to the ends of the arms of the bail and to the 130

sides of the wagon, respectively, the rear edges of the sides of the wagon being recessed to receive the bail when the end-gate is closed, and means for closing the open ends of said
5 recesses to lock the bail therein, substantially as described.

5. In an end-gate for wagons, the combination with the wagon-body and the end-gate hinged to the rear end of the wagon-bottom, of a U-shaped bail the central portion of which is disposed transversely across the rear end of the end-gate and journaled in bearings thereon, links disposed on opposite sides of the wagon-body and pivoted at their opposite ends
15 to the ends of the arms of the bail and to the sides of the wagon, respectively, the rear edges of the sides of the wagon being recessed to resist the bail when the end-gate is closed, notched latches pivoted at their upper ends to the rear edges of the sides of the wagon above
20 said recesses, and headed pins below the recesses arranged to be engaged by the notched end of the latches, substantially as and for the purpose specified.

25 6. In an end-gate for wagons, the combination with the wagon-body and the end-gate hinged to the rear end of the wagon-bottom, of a U-shaped bail the central portion of which is disposed transversely across the rear of the end-gate and journaled in bearings thereon,
30 links disposed on opposite sides of the wagon-

body, said links being pivoted at their opposite ends to the ends of the arms of the bail and the sides of the wagon, respectively, and vertical wear-plates attached to the outer portions of the rear ends of the sides of the wagon,
35 substantially as and for the purpose specified.

7. In an end-gate for wagons, the combination with the wagon-body and the end-gate hinged to the rear end of the bottom of the wagon, of a U-shaped bail the central portion of which is disposed transversely across the rear of the end-gate and journaled in bearings thereon, links disposed on opposite sides of the wagon-body, said links being pivoted at
40 their opposite ends to the ends of the arms of the bail and the sides of the wagon, respectively, vertical wear-plates attached to the outer portions of the rear ends of the sides of the wagon, and a sill arranged beneath the rear end of the bottom of the wagon and projecting rearwardly therefrom, the lower ends of said wear-plates being connected to the ends of said sill, substantially as described and for
50 the purpose specified. 55

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

CHILTON E. BYINGTON.

Witnesses:

ADOLPH I. BAIR,
WILL M. MCGUIRE.