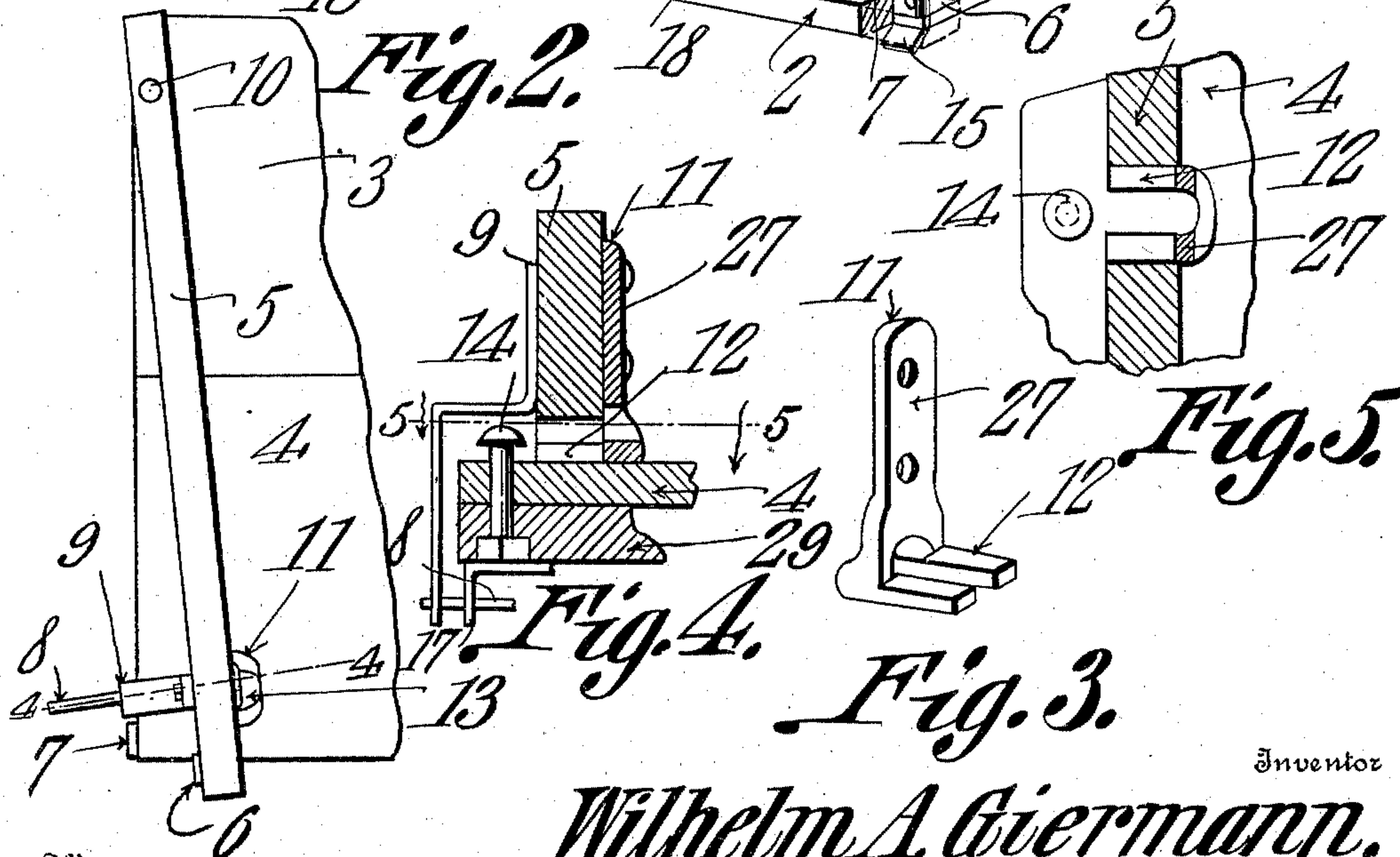


END GATE.

967,181.

Patented Aug. 16, 1910.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## END-GATE.

967,181.

Specification of Letters Patent. Patented Aug. 16, 1910.

Application filed January 31, 1910. Serial No. 541,130.

*To all whom it may concern:*

Be it known that I, WILHELM A. GIERMANN, a citizen of the United States, residing at Blencoe, in the county of Monona and State of Iowa, have invented a new and useful End-Gate, of which the following is a specification.

The end gate forming the subject matter of this application for Letters Patent, is intended as an improvement upon the end gate disclosed in Patent No. 932,980.

The objects of the invention are to provide a novel means for holding the platform portion of the end gate against the side plates thereof, so as to provide an end gate of unusual strength; another object of the invention being to provide means for reinforcing and strengthening the end gate at points where such reinforcement and strengthening is most necessary in the operation of the device.

With the above and other objects in view, the invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the drawings, and specifically claimed, it being understood that, within the scope of what is claimed, divers changes in the form, proportions, size, and minor details of the structure may be made, without departing from the spirit of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings,—Figure 1 is a perspective, showing the end gate of my invention assembled with the rear end of a wagon box; Fig. 2 is a fragmental elevation of the inner face of the end gate, showing one of the side plates tilted inwardly; Fig. 3 is a detail perspective of a bracket which is connected with the side plates; Fig. 4 is a fragmental section upon the line 4—4 of Fig. 2; and Fig. 5 is a fragmental section upon the line 5—5 of Fig. 4.

In Fig. 1 of the drawings, the rear portion of a wagon box is shown in dotted lines, and indicated by the numeral 1. Upon the rear of a wagon box, at its bottom, there is commonly disposed a cross sill 2,

the ends of which outstand beyond the sides of the wagon box.

In carrying out my invention, I provide a pair of side plates 5 adapted to be disposed upon the exterior of the wagon box, on its sides. Upon the rear edges of these side plates 5, adjacent their lower ends, are located open bearings 15 which are adapted to engage the protruding ends of the cross sill 2, to uphold the end gate and to provide a bearing for the same, when it is downturned to serve as a shoveling board. Angular straps 6 are secured to the remote faces of the side plates 5, to extend within the open bearings 15, the straps serving to prevent the side plates 5 from splitting when the device is in use, and also serving as a reinforcement to hold the bearings 15 in place.

A platform is connected to the rear edges of the side plates 5, and this platform consists of an upper section 3 and a lower section 4, united by hinges 16. Bolts 10, or other suitable connecting means, are extended through the upper section 3, into engagement with the side plates 5, these bolts 10 serving as a pivotal mounting, whereby the side plates 5 are so connected with the upper section 3, that the lower ends of the side plates 5 may, when desired, be swung inwardly toward the sides of the wagon box. The lower edge of the lower section 4 of course comes into close relation to the cross sill 2, in order that the end gate may effect the complete closure of the wagon box. Secured to the lower section 4, adjacent its lower edge, are rectangular stops 7, the ends of which project around the ends of the lower section 4, to engage the side plates 5 adjacent their lower ends, to limit the outward movement of the free ends of the side plates.

Secured transversely to the lower section 4, adjacent its lower edge, is a cleat 29. This cleat 29 carries, adjacent its ends, U-shaped guides 17. In the upstanding arms of the U-shaped guides, are slidably mounted locking bolts 8, which are actuated outwardly by means of springs 18. The extremities of these locking bolts 8 are adapted to engage in openings in rectangular keepers 9, secured at one end to the side



plates 5. The rear extremities of these keepers flare outwardly, so that when the lower section 4 is swung downwardly, the locking bolts 8 will automatically engage the openings in the ends of the keepers; and, if desired, the keepers may be fashioned from resilient material.

In order to withdraw the locking bolts 8 from the keepers 9, a handle 19 is pivoted, intermediate its ends, to the lower section 4. Connections 20 unite the ends of the handle 19 with the adjacent ends of the locking bolts 8, and it can be seen that when the handle 19 is tilted upon its pivotal mounting, the locking bolts 8 will be withdrawn from the keepers 9, against the action of the springs 18.

Arms 21 are secured to the lower edge of the upper section 3, and are arranged to outstand beyond the lateral edges of the said section. In the outstanding portions of these arms 21, there are openings, through which pivotally connected rods 22 and 23 are adapted to reciprocate. The free ends of the rods 23 are pivotally connected with brackets 24 secured to the side walls of the wagon box 1. There is a hook 25 upon the upper section 3 and behind this hook the ends of the rods 22 may be placed, thus upholding the end gate against the rear of the wagon box. The free ends of the rods 22 are provided with enlargements 26. When the end gate, tilting upon the open bearings 15, is swung into a horizontal position, the enlargements 26 engaging the arms 21, will make the rods 22 and 23 effective as a means for sustaining the end gate in its horizontally disposed position.

Secured to the adjacent faces of the side plates 5, adjacent their lower ends, are brackets 11, shown most clearly in Fig. 3 of the drawings. Each of these brackets comprises a body 27 which is disposed transversely of one of the side plates 5, and secured thereto. The body 27, at one end, is provided with spaced parallel arms 12. These arms extend outwardly through the side plate 5, through the notch 13 therein. Secured to the lower section 4, upon its inner face, and adjacent its ends, are headed bolts 14, or like elements, and it is beneath the heads of the bolts 14 that the arms 12 of the brackets 11 are arranged to fit, when the side plates 5 swing outwardly, into a substantially vertical position.

The operation of the device is as follows: When it is desired to drop the end gate as an entity from the position shown in Fig. 1, into a substantially horizontal position to serve as a shovel board, the adjacent ends of the rods 22 are withdrawn from beneath the hook 25, whereupon the end gate, tilting upon the open bearing 15, will drop into a

substantially horizontal position, in which position it will be retained, by the engagement between the enlargement 26 of the rods 22, and the outstanding arms 21.

When it is desired to empty the wagon box of its contents without using the end gate as a shoveling board, the lower ends of the side plates 5, are tilted inwardly, breaking the engagement between the arms 12 of the brackets 11 and the bolts 14. By manipulating the handle 19, the locking bolts 8 may be withdrawn from the keepers 9, whereupon the lower section 4 may be swung upwardly, a suitable hook 28 located upon the upper section 3, being arranged to engage the handle 19 to hold the lower section 4 in upturned position.

Obviously, the brackets 11 operate to effect a rigid end gate structure, and to secure the section 4 to the side plates 5, the said brackets serving, together with the rectangular stops 7, to prevent the side plates 5 from tilting outwardly at their lower ends. The side plates 5 will not ordinarily fit closely against the side boards of the wagon box, but will be spaced apart therefrom, so that the device may be upturned into the position shown in Fig. 1, without friction, and without marring the side boards. Fig. 2 may be taken to represent the device in the form which it will assume when used as a shoveling board, and disposed in a horizontal position. From that figure it will be seen that the rear ends of the side plates 5 may be swung toward each other, to bear upon the outer faces of the side boards of the wagon box, thus preventing grain from leaking off the platform portion of the device, between the side plates 5 and the side boards of the wagon box. When the shoveling of the grain has been completed, the side plates 5 at their rear ends may be swung in opposite directions so as to clear the side boards of the wagon box, when the device is tilted upwardly into the position shown in Fig. 1, the arms 12 engaging beneath the heads of the bolts 14.

Having thus described the invention, what is claimed is:—

1. In an end gate, spaced side plates; a platform comprising hingedly connected parts, to one of which parts the upper ends of the side plates are pivotally connected; the lower ends of the side plates and the other part being provided with interlocking elements effective when the side plates are tilted outwardly, to hold said other part against the side plates.

2. In an end gate, spaced side plates; a platform comprising hingedly connected parts, to one of which parts the upper ends of the side plates are pivotally connected; there being spaced projections upon the in-

ner face of the other part; the side plates being provided upon their adjacent faces, with bifurcated brackets arranged to engage the projections when the side plates are tilted  
5 outwardly, to hold the said other part against the side plates.

In testimony that I claim the foregoing as

my own, I have hereto affixed my signature in the presence of two witnesses.

WILHELM A. GIERMANN.

Witnesses:

TIM BRUN,

WILBER PINNEY.