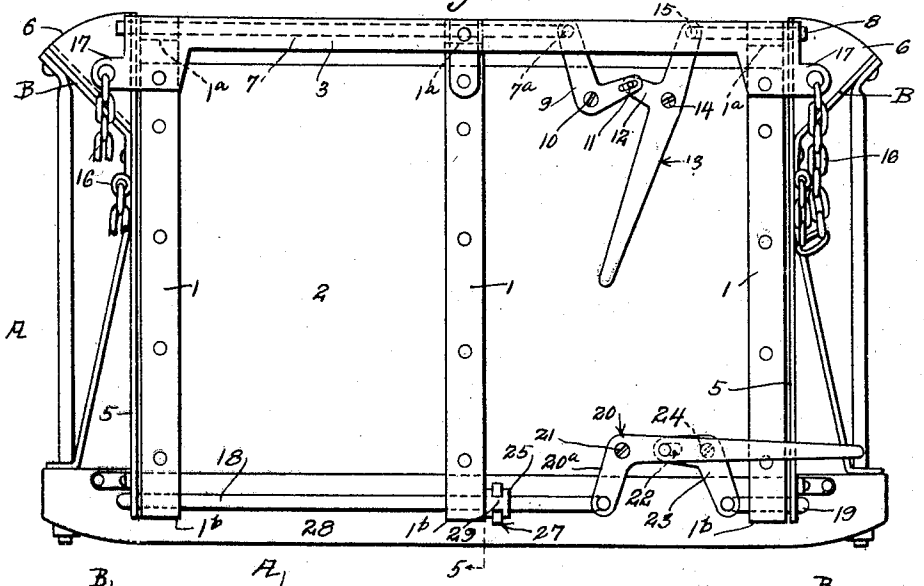
May 19, 1925. 1,538,756

J. STIFTER

DOUBLE ACTING END GATE

Filed Oct. 28, 1922

Fig. 1.



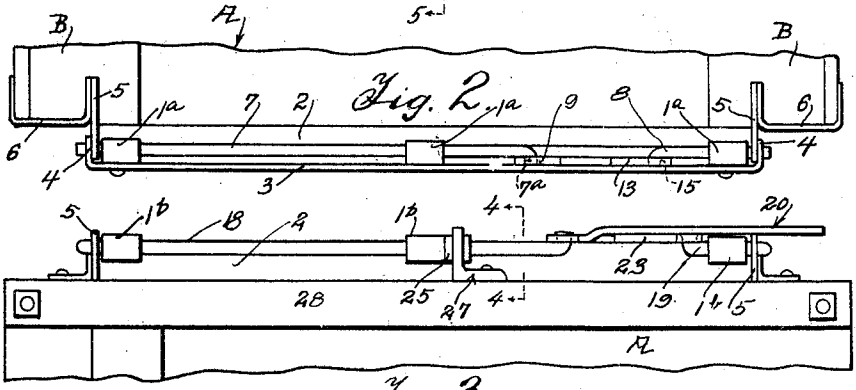


Fig. 2.

Fig. 3.

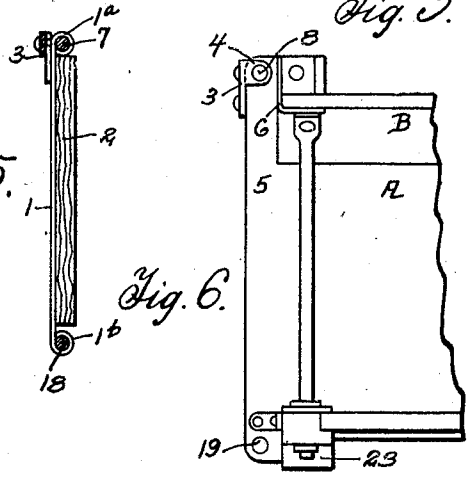


Fig. 5.

Fig. 6.

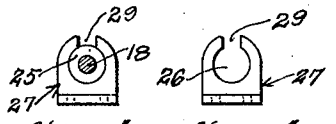


Fig. 4. Fig. 4a

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UNITED STATES PATENT OFFICE.

JOSEPH STIFTER, OF PITTSBURGH, PENNSYLVANIA.

DOUBLE-ACTING END GATE.

Application filed October 28, 1922. Serial No. 597,621.

To all whom it may concern:

Be it known that I, JOSEPH STIFTER, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Double-Acting End Gates, of which the following is a specification.

This invention relates to end gates for vehicles, and more particularly to what I term a double acting end gate.

One of the main objects of the invention is to provide simple and efficient means for securing an end gate in a vehicle body whereby the gate may be swung from either its upper or its lower end, as preferred. Another object is to provide simple and efficient means for effectually preventing bulging of the gate at its lower end under the stress of the load. Further objects will appear from the detailed description.

In the drawings:—

Figure 1 is an outer face view of the gate and the securing means therefor as applied;

Figure 2 is a top plan view;

Figure 3 is an underneath view;

Figure 4 is a section taken substantially on line 4—4 of Fig. 3;

Figure 4ª is a similar view the locking rod and associated parts being omitted;

Figure 5 is a section taken substantially on line 5—5 of Fig. 1;

Figure 6 is a fragmentary side view of the vehicle body showing the gate and associated parts applied.

Three straps or strips 1 of steel of suitable gauge are secured across body 2 of the gate at each end and the center thereof. These straps are turned over at their upper and lower ends to provide spaced sleeves 1ª and 1ᵇ respectively disposed longitudinally of body 2 of the gate. A top brace strap 3 is secured to the upper ends of straps 1 and is provided, at each end, with a forwardly directed ear 4 which, when the gate is closed, fits snugly against the outer face of a strip 5 secured to the side of vehicle body A. An upwardly and outwardly inclined side board B is provided at the upper edge of each side of body A, and the space between the rear end of each side board and the strip 5 is closed by a V-shaped plate 6. Locking rods 7 and 8 are slidable through sleeves 1ª and are positioned to pass through alined openings provided in strips 5 and ears 4, when the gate is closed, thus effectually securing the upper end of the gate.

Rod 7 is loosely connected at its inner end, at 7ª, to one arm of a bell crank lever 9 pivoted at 10 on body 2 of the gate. The other arm of this lever is connected by pin and slot connections 11 to a finger 12 extending from a lever 13 pivoted at 14 on body 2, the upper end of this lever being loosely connected at 15 to the inner end of locking rod 8. By swinging lever 13 in a clockwise direction, as considered in Figure 1, the locking rods 7 and 8 are forced outwardly for securing the upper end of the gate, as illustrated. By swinging the lever in the opposite direction rods 7 and 8 are withdrawn thus releasing the upper end of the gate. To limit downward movement of the gate when the upper end thereof is released, I provide chains 16 which are secured to the body A and to tabs 17 projecting from top brace strips 3.

Rods 18 and 19 are slidably mounted through sleeves 1ᵇ and are positioned to engage through openings provided in the lower ends of strips 5 when the gate is in closed position. Rod 18 is loosely connected, at its inner end, to arm 20ª of an angle lever 20 pivoted at 21 on the body of the gate. This lever is connected by pin and slot connections 22 to a bell crank lever 23 pivoted at 24 on the gate body, the other arm of this lever being loosely connected to the inner end of rod 19. When lever 20 is in the position illustrated in Figure 1, rods 18 and 19 are projected so as to hingedly secure the lower end of the gate to body A of the vehicle. By rocking lever 13 in a counter-clockwise direction, as considered in Figure 1, the rods 18 and 19 are withdrawn thus releasing the lower end of the gate which, when released, can swing outwardly on rods 7 and 8, lever 13 remaining in the position illustrated.

Rod 18 is provided with a collar or annular member 25 which is adapted, when rod 18 is in securing position, to fit into an opening 26 through one arm of a locking angle bracket 27 secured to beam 28 of vehicle body A. Bracket 27 is provided with a slot 29 communicating with opening 26 and of such size as to accommodate locking rod 18. With the lever 20 and associated parts in the positions illustrated, member 25 fits snugly into opening 26 of bracket 27 thus effectually securing the end gate at the center of its lower edge so as to prevent bulging

or springing of the gate under the load. By swinging the lever 20 in a counter-clockwise direction locking rods 18 and 19 are withdrawn from strips 5 and member 25 is simultaneously withdrawn from opening 26 of bracket 27, thus permitting the lower end of the end gate to swing outwardly, in the manner previously described, locking rod 18 passing through slot 29. By swinging the end gate downwardly into closed position, the locking rod 18 is caused to pass through slot 29 into opening 26, after which lever 20 is turned into the position illustrated projecting rods 18 and 19 through strips 5 and simultaneously forcing member 25 into opening 26 of the bracket so as to secure the gate.

It will be seen that I have provided very simple and efficient means whereby the gate may be quickly and easily secured at both its top and bottom and may be swung from either end, as desired, this means also serving to effectually prevent bulging of the gate under the pressure of the load. In addition, the ears 4 fit about the strips 5 and serve to brace the wagon body against lateral strains due to the pressure of the load.

What I claim is:—

1. In combination with a vehicle body, an end gate, means for hingedly securing the gate at its upper end to the body, locking rods slidably mounted on the lower end of the gate, means connecting said rods for simultaneously projecting and retracting them, members secured to the body and positioned to receive the outer end portions of the rods when projected, and cooperating means carried by one of the rods and the body for securing the lower central portion of the gate against outward movement away from the body when said rods are projected, said means being released when the rods are retracted.

2. In combination with a vehicle body, an end gate, means for hingedly securing said gate at its upper end to the body, locking rods slidably mounted at the lower end of the gate, members secured to the body and provided with openings for receiving said rods, means for retracting and projecting the locking rods simultaneously, a locking member carried by one of said rods, and a member secured to the vehicle body and cooperating with said locking member when the rods are projected for holding the central portion of the gate against outward movement, said member permitting outward movement of the locking rod with the gate when said rods are retracted.

In testimony whereof I affix my signature.

JOSEPH STIFTER.