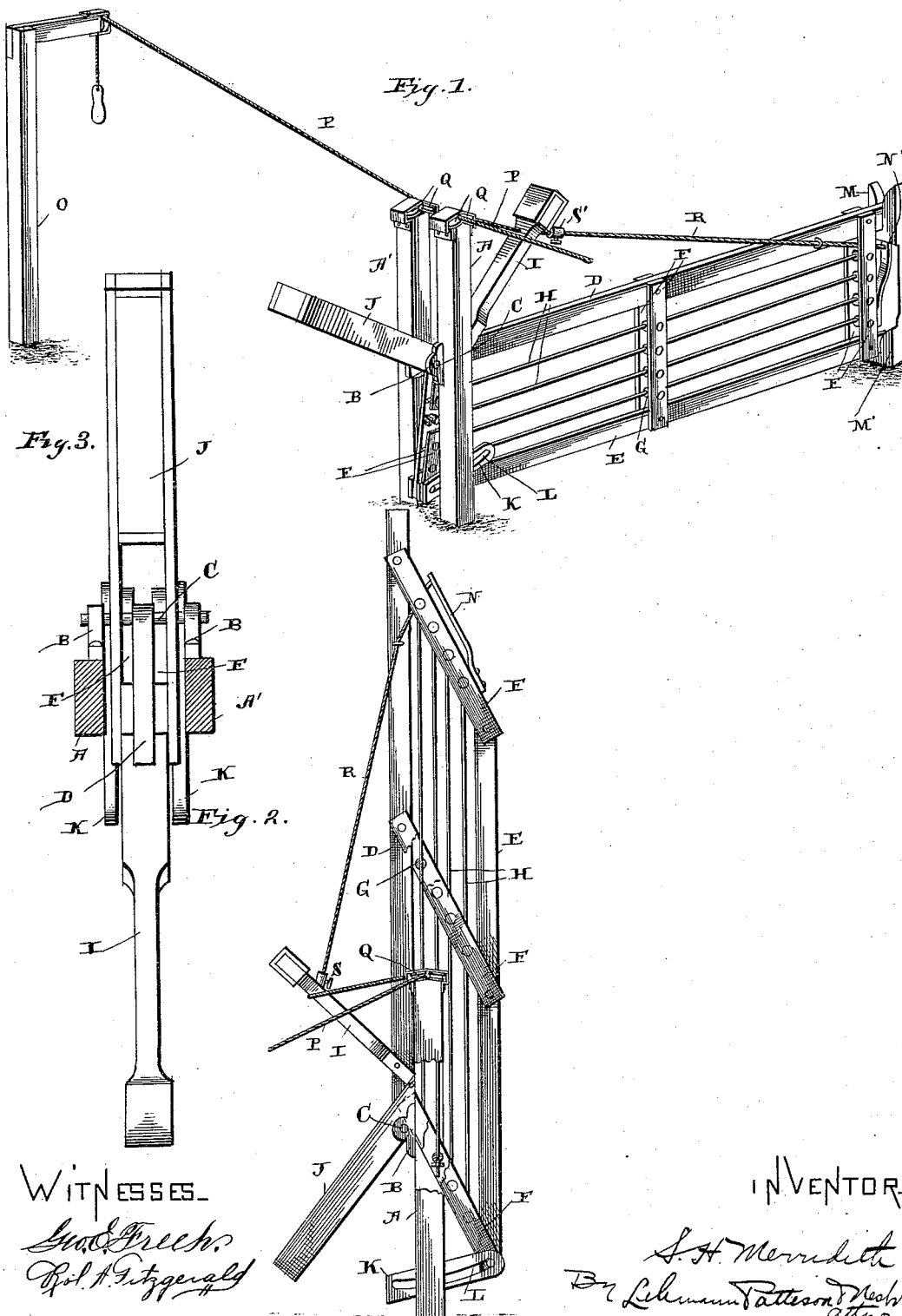


(No Model.)

S. H. MERRIDITH.
TILTING GATE.

No. 475,132.

Patented May 17, 1892.



WITNESSES.

Geo. Freese
Chas. H. Fitzgerald

INVENTOR

S. H. Merridith
By Lehmann Patterson & Neff
attys.

UNITED STATES PATENT OFFICE.

SAMUEL H. MERRIDITH, OF WEST LIBERTY, IOWA.

TILTING GATE.

SPECIFICATION forming part of Letters Patent No. 475,132, dated May 17, 1892.

Application filed January 27, 1892. Serial No. 419,483. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. MERRIDITH, of West Liberty, in the county of Muscatine and State of Iowa, have invented certain new and useful Improvements in Tilting Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in tilting gates; and it consists in certain novel features of construction and in the combination and arrangements of parts, which will be fully described hereinafter, and more particularly referred to in the claims.

The object of my invention is to construct an improvement in that class of gates which are adapted to be opened by being turned to a vertical position on a pivotal bolt at their rear ends, the operation being accomplished by suitably-arranged weights.

A further object of my invention is to provide an improved means whereby the latch which holds the gate in a locked horizontal position is released and the gate thrown to a vertical position by the pulling of a single rope or wire.

Referring to the accompanying drawings, Figure 1 is a perspective view of my improved gate, showing the position of the various parts when the same is closed. Fig. 2 is a side elevation, the gate being open. Fig. 3 is a plan view of the rear portion of the gate.

A A' represent two vertical parallel posts, which are either inserted in the ground or provided with a suitable base, as may be preferred. Projecting from the rear sides of these posts are the brackets B, which support the horizontal pivotal bolt C.

The gate proper consists of the top rail D and the bottom rail E, connected at their ends and centers by the battens F, which are arranged in pairs on opposite sides of the said rails, as shown. Pivoted at intervals between these battens are the perforated heads G, and extending through and supported by these heads are the rods H, which close the space between the top and bottom rails. These members are preferably iron rods; but

wooden rails may be employed, if preferred, by pivotally connecting them with the battens F. When rods are employed, they are made screw-threaded at their ends and burrs are placed thereon, as shown, and by this means the said rods may be tightened up within the gate when they become loose from wear. The pivotal bolt C passes through the rear end of the top rail D. Just forward of the said pivotal point and extending upward from the said rail is the arm I, which is weighted at its upper end, as shown. This arm extends outward at about an angle of forty-five degrees from the horizontal line of the gate. Also mounted on the pivot C and made rigid with the rail D and weight I is the pair of rearwardly-extending arms J, which project at an angle and which are adapted to carry a weight at their outer ends. The weights on the two arms above described may consist of any heavy material secured thereto, or may consist of boxes carried thereby filled with sand or other heavy material. In case weights of the latter description are employed it is very easy to adjust the weight to the amount required for throwing the gate in the direction desired. Inclosed within the space formed by the rail D, the arms J and I, and the pivotal bolt C are the upper ends of the rear battens F, which have no connection with the said rail, but are confined in position by the spaces formed as above described and as illustrated in Fig. 1.

Secured to the lower ends of the posts A A' and to their adjacent faces are the plates K, in which are formed the segmental slots L. The pivot-bolt which connects the lower ends of the rear pair of battens with the rail E is extended outward on each side into the said slots. When the gate is closed, these plates K form a support for the rear battens, as they have no connection with the top rail of the gate or its hanging. When the gate is thrown to a vertical position, as shown in Fig. 2, the lower ends of the said battens are drawn forward by the movement of the rail E in assuming its folded position, and the forward movement thus caused is permitted by the movement of the said pivotal bolt in the slots L. These slots and the pivotal bolt moving therein also serve as a stop for the rearward movement of the gate, preventing the lower

end thereof from moving any farther forward, as will be plainly understood by referring to Fig. 2.

The outer post M is forked at its upper end, as shown, so as to receive the extended end of the top rail D of the gate while closed, and in this manner the outer end of the gate is supported. The support thereof is also assisted by the stop M' on the inner face of the said post, which catches the lower edge of the rail E when lowered.

Secured to the outer edge of the forward pair of battens is the spring-latch N, the upper free end of which projects outward and engages the stop N', formed on the inner face of the post M.

O represents a post, one of which is located on each side of the gate and substantially in line with the posts A A'. P represent wires or ropes, which extend from the said posts O over pulleys Q, supported on the upper ends of the posts A A', where they are connected. From this point of connection they extend as one rope R through the arm I just below its upper end and forward along the gate between the front pair of battens F, where its outer end is connected to the upper free end of the latch N. An adjustable stop S is secured to the rope or wire a short distance in front of the arm I, so that when the rope has been drawn backward sufficiently far to disengage the latch from the stop N' the said stop S will be drawn against the said arm, and any further pull that may be exerted on the rope will be brought to bear on the said arm I and not on the latch.

The gate is so balanced on the pivot C that when closed the combined weight of the same and the weighted arm I is a little greater than the weight on the arms J, so that normally the gates remain down or closed independently of being so held by the latch. The gate is so nearly balanced, however, that a slight pull on either of the ropes P will, after disengaging the latch, draw the weighted arm I backward and the gate upward. In this upward and backward movement, after the arm has come into line with the posts A A', the rope ceases to have any effect upon it; but at this point the weighted arm I crosses the vertical line of the pivot C, and thus throws its weight, with that of the weighted arms J, in lifting the gate upward to the desired height or completely open, as shown in Fig. 2.

When it is desired to close the gate, the rope P is drawn upon, which draws the arm I forward between the posts A A' across the vertical line of the pivot C, when its weight is then with the gate, and the combined weight of the two being greater than that of the weighted arms J the gate automatically drops to a closed position, in which it is locked by the latch N. The connection between the ends of the battens and the top and bottom rails of the gate being pivotal, as well as the heads which support the intermediate rods, the gate assumes the vertical folded position

without the slightest friction. Teamsters approaching the gate from either side can by simply exerting a pull on the rope P throw open the gate, and after having passed through by pulling the rope on the opposite side the gate is closed, the whole operation being accomplished without the driver's moving from his seat.

Having thus described my invention, I claim—

1. The combination, with a pivotal support, a gate mounted thereon, and weighted diverging arms secured to the gate near its pivotal point, of an operating-rope extending through the forwardly-projecting weighted arm and connected at its outer end to a locking mechanism, and a stop on said rope in front of the said arm, which it engages when the rope is drawn upon, substantially as shown and described.

2. The combination, with a vertical support and a weighted folding gate pivoted thereto, of slotted plates secured to the base of said support, a guide-pin at the rear end of the gate, which moves in said slotted plates when the gate is tilted, and means for operating the gate, substantially as shown and described.

3. The combination, with a post, of the top rail D, pivotally supported thereon, weighted arms secured to said rail, bottom rail E and battens pivotally connecting it with rail D, parallel plates having slots secured to the base of the post, a guide-pin extending across the rear end of rail E, which moves in the said slots, and a means for raising the gate, substantially as shown and described.

4. The combination, with a vertical support, of rail D, pivoted thereto, diverging-weighted arms secured to the rear end of said rail, rail E, and double battens connecting the said rails, pivoted perforated heads between said battens, rods supported in said heads, and a means for tilting the gate, substantially as shown and described.

5. In combination with a vertical support, rail D, pivoted thereto, diverging weighted arms secured to said rail near its pivotal point, the said arms being so connected thereto as to form spaces on opposite sides thereof, rail E and pivoted battens connecting the said rails at their centers and ends, guides slotted, as shown, which are secured to the base of said support, a guide-pin extending through the rear end of rail E and the lower ends of the rear battens and which moves in the said slotted guides, the upper ends of the last-named battens being free from the rail D, but held in position thereto by extending into the inclosed spaces above described, and a means for tilting the gate, substantially as set forth.

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

SAMUEL H. MERRIDITH.

Witnesses:

GEO. C. SHIPMAN,
C. G. MERRIDITH.