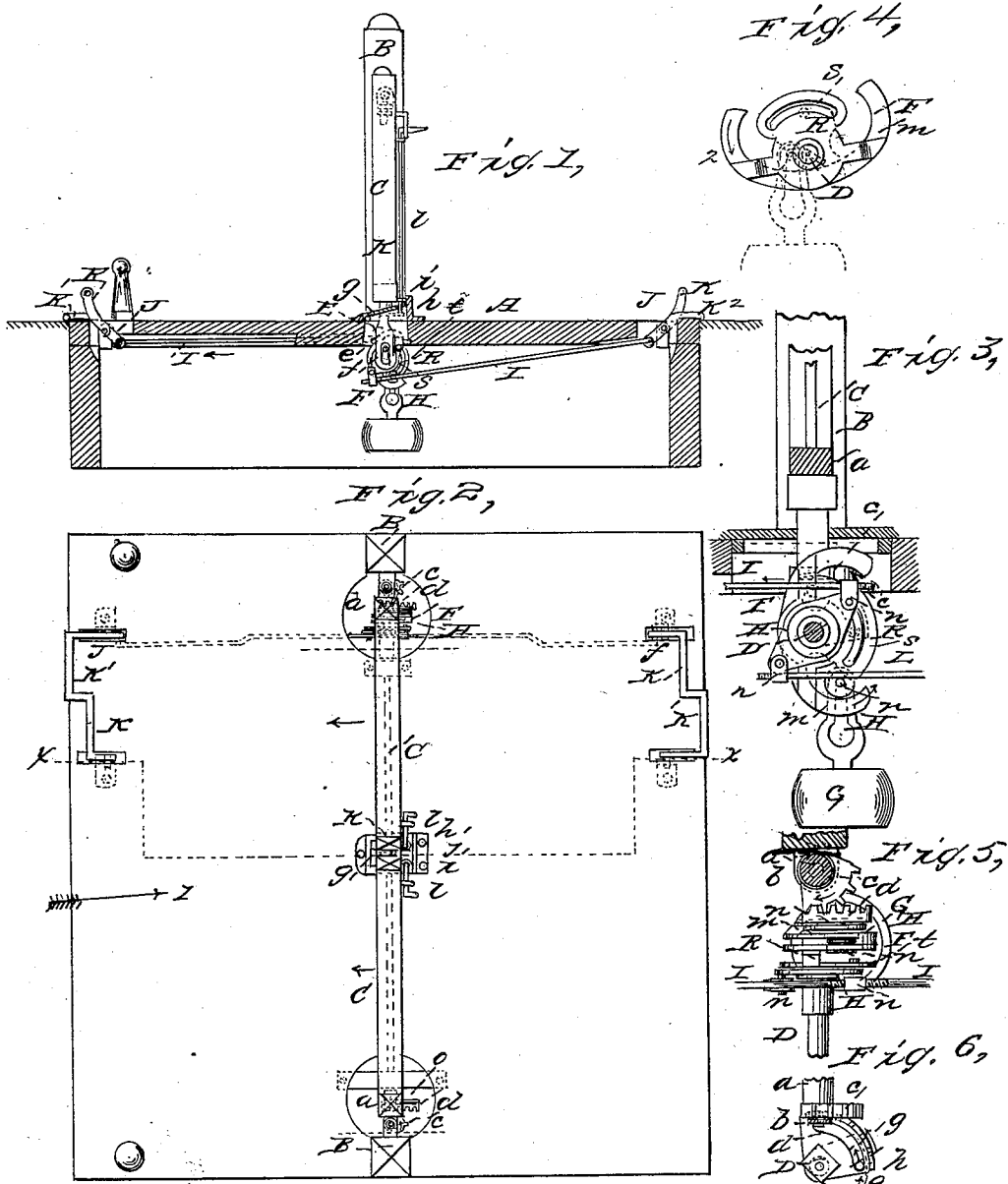


E. WATERBURY.

Gate.

No. 33,723.

Patented Nov. 12, 1861.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

ENOS WATERBURY, OF STAMFORD, CONNECTICUT.

## IMPROVED AUTOMATIC GATE.

Specification forming part of Letters Patent No. 33,723, dated November 12, 1861.

*To all whom it may concern:*

Be it known that I, ENOS WATERBURY, of Stamford, in the county of Fairfield and State of Connecticut, have invented a new and Improved Automatic Gate; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention, taken in the line *xx*, Fig. 2. Fig. 2 is a plan or top view of the same; Fig. 3, a detached and enlarged side view of the mechanism by which the gate is operated; Fig. 4, the same view as Fig. 3, showing a different position of the parts; Fig. 5, a plan or top view of Fig. 3; Fig. 6, a detached side view of the gear portion of the mechanism, which is not fully shown in Fig. 3.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improved gate of that class which is operated or opened and closed by the vehicle, the wheels of the latter as they approach and leave the gate actuating certain levers which put in motion the parts which open and close the gate.

The object of the within-described invention is to obtain a simple means for effecting the above-mentioned result, which will operate efficiently without being liable to derangement from slight casualties.

The invention consists in actuating the gate through the medium of a weight connected with a sector and gearing and arranged with a catch, substantially as hereinafter fully shown and described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a platform on which the gate-posts B B' are placed. This platform covers a pit or excavation in which the operating mechanism of the gate is placed. The gate is formed of two parts C C', each part being hinged at its upper end to a post, C being hinged to B, and C' to B'. The lower end of the outer stile *a* of each part of the gate is stepped below the platform A, as shown at *b* in Figs. 5 and 6, and each stile has a toothed segment *c* on it. The segments *cc* gear into

corresponding segments *dd* on the ends of a shaft D, which is underneath the platform A. At the center of the shaft D there is a crank *e*, on which a fork *f* at the lower end of a rod E fits, the upper end of said rod being connected to a flap *g*, which is hinged at one end in the upper part of a box *h*, said box being secured to the upper surface of the platform and having a ledge *i* at one end, a space *j* being allowed between the flap *g* and the ledge *i*, as shown in Fig. 1. This flap *g* and the ledge *i* form the catch of the gate, the inner stile *k* of each part of the gate having a vertical sliding rod *l* affixed to it, the lower ends of which drop into the space *j* when the gate is closed.

To one end of the shaft D there is attached a sector F, which is formed of two plates *mm*, placed side by side, as shown in Fig. 5, and having a weight G suspended between them, said weight being attached to a plate H, which passes between the plates *mm* of the segment and has rollers *nn* at its upper end, the roller resting on the upper or inner edges of the rims of the plates *mm*. (See Figs. 3 and 5.)

The toothed segments *dd* are fitted loosely on the shaft D, and are connected therewith through the medium of arms *oo*, which are attached permanently to the shaft D and have pins *p* projecting from their outer sides, which pins pass through curved slots *q* in the segments *dd*. (See Fig. 6.) This arrangement, it will be seen, admits of a considerable play of the shaft and arms *oo* before the segments *dd* are moved or actuated, said play or movement being equal, of course, to the length of the slots *q*.

The sector F has a plate R, in which a curved slot *s* is made, and on the shaft D, adjoining the sector F, there is placed loosely an arm H', the shaft D passing through the center of the arm, so that the latter will project at equal distances from opposite sides of it, as shown in Fig. 3. The arm H' has a pin *t* attached to it near one end, and this pin projects through the slot *s* of the plate R. (See Figs. 3 and 5.)

To the ends of the arm H' there are attached by loops *nn* rods I I, one to each end of the arm. These rods extend to opposite ends of the platform A and are connected to

the lower ends of levers J J, which extend up above the platform and are so curved or bent as to form each two loop-shaped projections K K', one being at right angles to the other.

The operation is as follows: Suppose, for instance, the gate to be in a closed state. When in that position, the weight G and sector F are in the position shown in Fig. 3, and the projections K K' of the levers J J are in an elevated or vertical position, while the projections K' K' are in a horizontal position. A carriage or vehicle in passing toward the gate in the direction indicated by the arrow 1 will have its wheels at one side strike the elevated projections K and the latter will be forced down, and the rod I, which is connected to it, will actuate the arm H', the pin *t* of which will turn the sector F in the direction indicated by the arrows 2, and the weight G, when the sector has turned a certain distance, will by its own gravity cause the sector F to complete its movement and be in a precisely reverse position to what it was at first. This movement of the sector F causes the shaft D to turn, the latter being actuated through the medium of the pins *p* of the arms *o*, said pins passing through the slots *q* of the toothed segments *d d*, the latter turning the parts C C' of the gate through the medium of the toothed segments *c c*. The slots *q* in the segments *d d* and the slots *s* in the plate R admit of a free movement of the sector F under the action of the weight G independent of the positive movement given by the rods I, and it is the movement of the sector under the action of the weight that opens and closes the gate, the positive movement of the rods I merely turning the sector F to a position which admits of the weight G

acting upon it by gravity. The gate is closed in consequence of the wheels of the vehicle passing over the elevated projections K' at the opposite side of the gate, the projections K' being elevated as the projections K are depressed, and vice versa. At each movement of the shaft D, which opens the gate, the rod E, under the action of crank *e*, draws down the flap *g*, and thereby releases the rods *l l*, so that the gate may open, the flap *g* rising to its original position when the shaft D is turned to close the gate. This arrangement of the catch or fastening and gate-opening mechanism does not interfere with the use thereof in the ordinary way, for if a person on foot desires to pass through the gate the rods *l* may be raised by hand and either part C C' opened as an ordinary gate.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the sector F with sliding weight G attached, toothed segments *d d*, placed loosely on shaft D, arms *o o*, attached to the shaft D, and the plate R, attached to the sector F, the arms *o o* being connected to the segments *d d*, which gear into the segments *c c*, by the pins *p p* and the plate R, connected to the arm H' by the pin *t*, substantially as and for the purpose set forth.

2. The flap *g*, connected with the shaft D, as shown, in connection with the sliding rods *l l* on the gate, all arranged to operate as and for the purpose set forth.

ENOS WATERBURY.

Witnesses:

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