

No. 755,834.

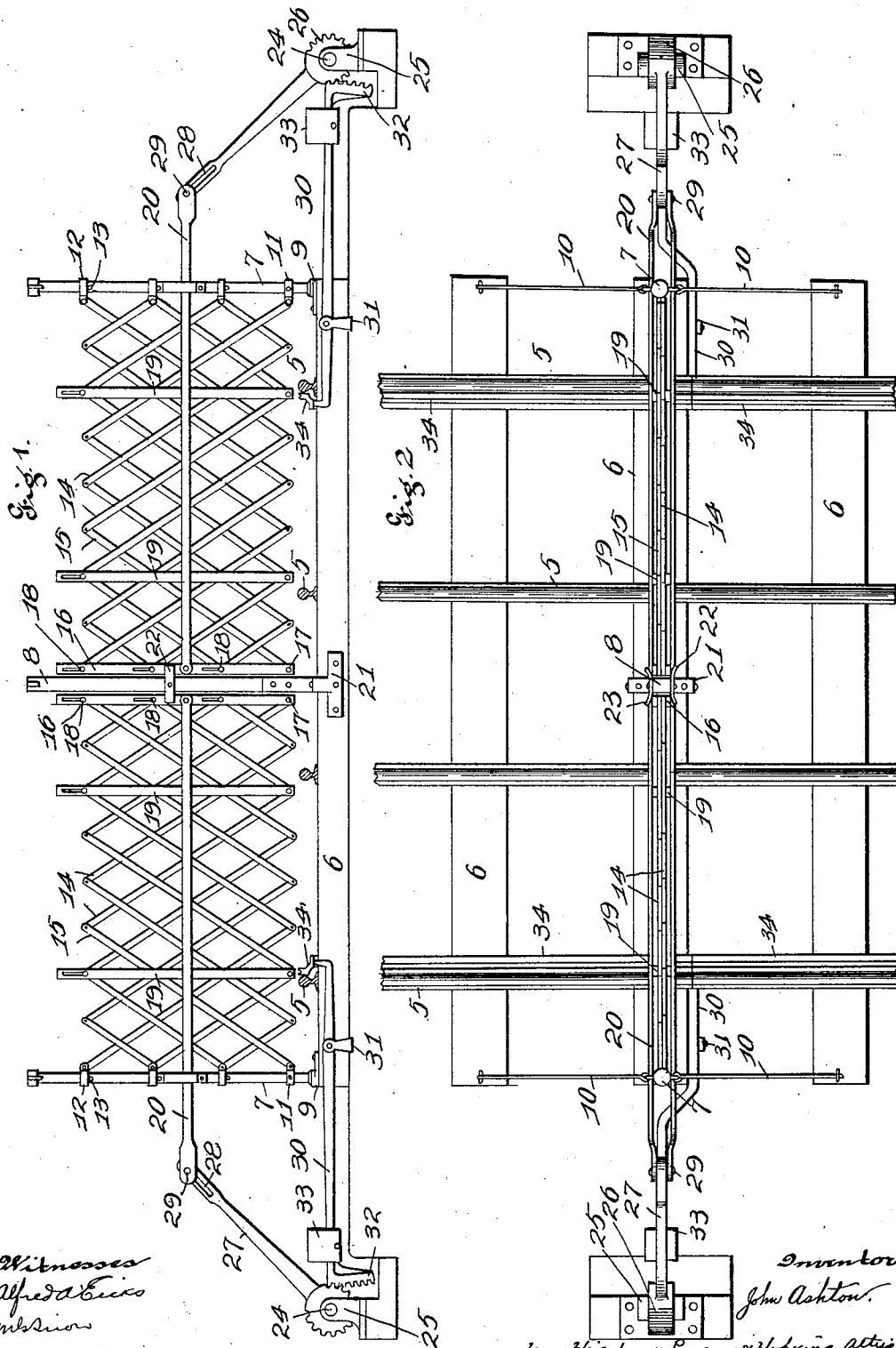
PATENTED MAR. 29, 1904.

J. ASHTON.
AUTOMATIC GATE.

APPLICATION FILED DEC. 1, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
Alfred E. ...
M. ...

Inventor
John Ashton.

By Higdon & Longan & Hopkins Atty.

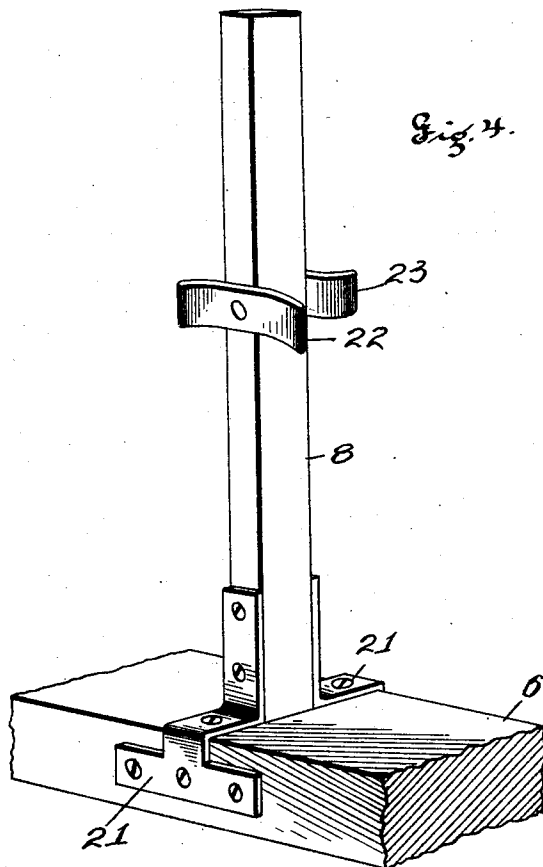
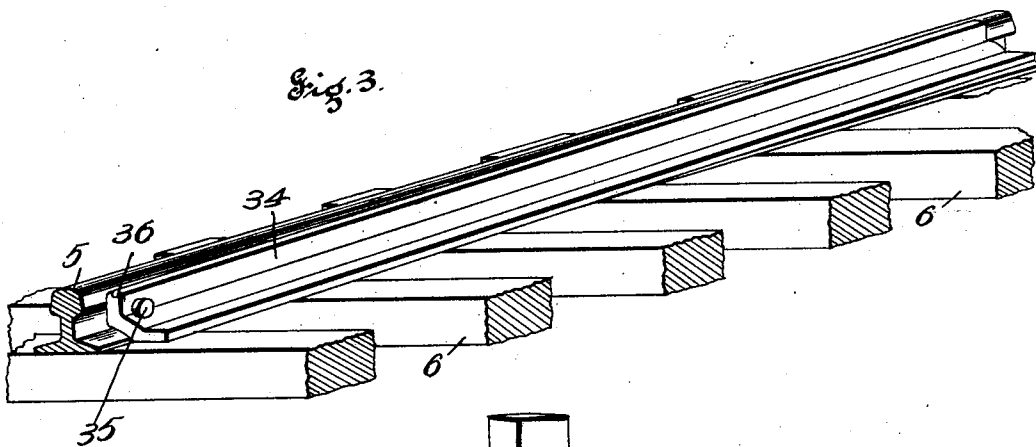
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2 SHEETS—SHEET 2.



Witnesses
Alfred Lewis
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UNITED STATES PATENT OFFICE.

JOHN ASHTON, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
FRANK R. CLAYTON, OF ST. LOUIS, MISSOURI.

AUTOMATIC GATE.

SPECIFICATION forming part of Letters Patent No. 755,834, dated March 29, 1904.

Application filed December 1, 1903. Serial No. 183,420. (No model.)

To all whom it may concern:

Be it known that I, JOHN ASHTON, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Automatic Gates, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to automatic gates; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

My invention is intended primarily for use on railroad and street-car lines; but it may be adapted to thoroughfares.

My object is to construct a gate which will automatically open as a vehicle approaches and which will automatically close as the vehicle passes through and onward.

My invention consists of a supporting-post rigidly mounted, a "lazy-tong" or folding gate attached to the post, a rock-shaft mounted near the post, a segmental gear upon the rock-shaft, an arm extending from the segmental gear, a connecting-rod attached to the gate and to the free end of said arm, a connecting-lever pivotally mounted near the supporting-post, a rack upon the long end of said connecting-lever in mesh with said gear, an adjustable weight upon the long end of said lever to counterbalance the gate, vehicle-levers mounted in position to be engaged by the vehicles and operate the short end of the connecting-lever, so as to throw the gate open when a vehicle approaches, said weight serving to close the gate as the vehicle passes through and onward, and a retaining-post to keep the free end of the gate from swinging.

In the drawings, Figure 1 is a view in elevation of a double gate arranged to open and close across a double railroad or street-car track and constructed in accordance with the principles of my invention. Fig. 2 is a top plan view. Fig. 3 is a perspective of a piece of the track and one of the vehicle-levers upon an enlarged scale. Fig. 4 is a perspective, upon an enlarged scale, of the meeting-post between the two gates.

Referring to the drawings in detail, the rails 5 are mounted upon the ties 6. The gate-posts 7 are mounted upon the outer ends of one of the ties 6, and the retaining-post 8 is mounted upon the center of said tie. The posts 7 are secured to the tie by means of the bases 9, and braces 10 connect the upper ends of the posts to adjacent ties. The clips 11 are rigidly secured to the posts 7 near their lower ends. The clips 12 are slidingly mounted upon the posts, and the pins 13 form stops to limit the downward motion of said clips 12. The slanting gate-bars 14 are pivotally connected to the oppositely-slanting gate-bars 15 to form the lazy-tong gate, said gate being held uniform distances above the ground by being pivoted to the rigid clips 11 and to the sliding clips 12, so that said gates move to and from each other. At the opposite ends of the gates from the posts 7 are stiffening-slats 16, one on each side of each set of gate-bars, said slats being held in horizontal position by the fixed pivots 17 and in vertical position by the slot-pivots 18, and similar slats 19 are mounted intermediate of the ends of the gates, said slats serving to hold the gates in vertical positions by guiding and strengthening the gate-bars.

The connecting-rods 20 each consist of two pieces slidingly connected to the posts 7, one piece on each side of each gate, and said connecting-rods are attached to the stiffening-slats 16, so that as the connecting-rods are reciprocated endwise the gates are opened or closed and so that the gates cannot bend or swing sidewise without bending the connecting-rods.

The retaining-post 8 is secured to the tie by means of the brackets 21, and the retaining-arms 22 and 23 are secured to said post near its center, so that when the gates are closed said arms support the gates from swinging sidewise.

The rock-shafts 24 are mounted one near each gate in bearings 25. Segmental gears 26 are mounted upon the rock-shafts, and arms 27 extend from the segmental gears, said arms having slots 28, through which the pins 29 extend, said pins being fixed in the ends of the connecting-rod 20.

The connecting-levers 30 are pivotally mounted upon the brackets 31, said brackets being secured to the same tie to which the gates are secured, and racks 32 upon the outer and long ends of said levers mesh with the segmental gears 26, so that as said levers tip upon their pivots the gates are opened or closed. The weights 33 are adjustably mounted upon the long ends of the levers, said weights serving to close the gates.

The vehicle-levers 34 are connected at their outer ends to the rails 5 by the pivots 35, as shown in Fig. 3, and the inner ends of said vehicle-levers rest upon the short ends of the connecting-levers 30, as shown in Fig. 1. The upper faces 36 of the vehicle-levers are grooved to receive the flanges of the car-wheels if the gate is designed for use on a railroad or street-car line, and said faces may be variously adapted for various vehicles. The vehicle-levers extend in both directions from the gates, so that the gate will open for vehicles coming in either direction.

When a vehicle approaches the gate, the wheels on one side of the vehicle run onto the vehicle-lever, passing over the pivot 35, thus depressing the free end of said lever, thereby depressing the short end of the connecting-lever 30, elevating the rack 32, and opening the gate, and as the vehicle passes through the gate it passes on the other vehicle-lever, thus holding the gate open until the vehicle is out of the way of the gate. Then the weight 33 overbalances all the mechanism and closes the gate.

While I have shown a double gate, it is obvious that either will operate without the other.

I claim—

1. A gate comprising a post rigidly mounted; a lazy-tong gate attached to the post; a rock-shaft mounted near the post; a segmental gear upon the rock-shaft; an arm extending from the segmental gear; a connecting-rod attached to the gate and to the free end of said arm; a connecting-lever pivotally mounted near the post; a rack upon the long end of said connecting-lever in mesh with said gear; a weight upon the long end of said lever to counterbalance the gate; and vehicle-levers mounted in the vehicle path and engaging the short end of said connecting-lever, so that as a vehicle approaches, it will engage the vehicle-levers, thereby opening the gate and holding it open until the vehicle passes through and onward, and so that said weight will close the gate after the vehicle has passed, substantially as specified.

2. A gate comprising a supporting-post; a lazy-tong gate attached to the post; vertical stiffening-slats at the free end of the gate; a retaining-post to engage said slats and hold the gate from swinging; a connecting-rod consisting of two pieces, one on each side of the gate connected to said stiffening-slats at the

free end of the gate and slidingly connected to said supporting-post, so as to hold the gate from bending; vehicle-levers mounted in the vehicle-path; and a connection between the vehicle-levers and the connecting-rod, whereby the gate is opened by the approaching vehicle, substantially as specified.

3. A gate comprising a supporting-post; a lazy-tong gate attached to the post; vertical stiffening-slats at the free end of the gate; a retaining-post to engage said slats and hold the gate from swinging; a connecting-rod consisting of two pieces, one at each side of the gate connected to said stiffening-slats at the free end of the gate and slidingly connected to said supporting-post, so as to hold the gate from bending, vehicle-levers mounted in the vehicle-path, whereby the gate is opened by the approaching vehicle; and a counterbalancing-weight in position to close the gate after the vehicle has passed, substantially as specified.

4. A gate comprising a post rigidly mounted beside a railroad-track, a lazy-tong gate attached to the post, a rock-shaft mounted near the post, a segmental gear upon the rock-shaft, an arm extending from the segmental gear, a connecting-rod attached to the gate and to the free end of said arm, a connecting-lever pivotally mounted near the post, a rack upon the long end of said connecting-lever in mesh with said gear, vehicle-levers connected at their outer ends to the track-rails, with their inner ends resting upon the short end of said connecting-lever, so that as the car approaches the gate, the car-wheels will engage the vehicle-levers and open the gate, substantially as specified.

5. A gate comprising a post rigidly mounted beside a railroad-track, a lazy-tong gate attached to the post, a rock-shaft mounted near the post, a segmental gear upon the rock-shaft, an arm extending from the segmental gear, a connecting-rod attached to the gate and to the free end of said arm, a connecting-lever pivotally mounted near the post, a rack upon the long end of said connecting-lever in mesh with said gear, vehicle-levers connected at their outer ends to the track-rails, with their inner ends resting upon the short end of said connecting-lever, so that as a car approaches the gate, the car-wheels will engage the vehicle-levers and open the gate, a weight upon the long end of said lever to counterbalance the gate, substantially as specified.

6. A gate comprising a post rigidly mounted beside a railroad-track, a lazy-tong gate attached to the post, a rock-shaft mounted near the post, a segmental gear upon the rock-shaft, an arm extending from the segmental gear, a connecting-rod attached to the gate and to the free end of said arm, a connecting-lever pivotally mounted near the post, a rack upon the long end of said connecting-lever in mesh with said gear, vehicle-levers connected at their

outer ends to the track-rails, with their inner
ends resting upon the short end of said con-
necting-lever, so that as a car approaches the
gate, the car-wheels will engage the vehicle-
levers and open the gate, and a means of coun-
5 terbalancing the gate, substantially as speci-
fied.

In testimony whereof I have signed my name
to this specification in presence of two sub-
scribing witnesses.

JOHN ASHTON.

Witnesses:

ALFRED A. EICKS,
EDW. N. HARRINGTON.