(No Model.) 3 Sheets—Sheet 1.

L. HARRIS.

RAILROAD CROSSING GATE.

No. 590,757. Patented Sept. 28, 1897.

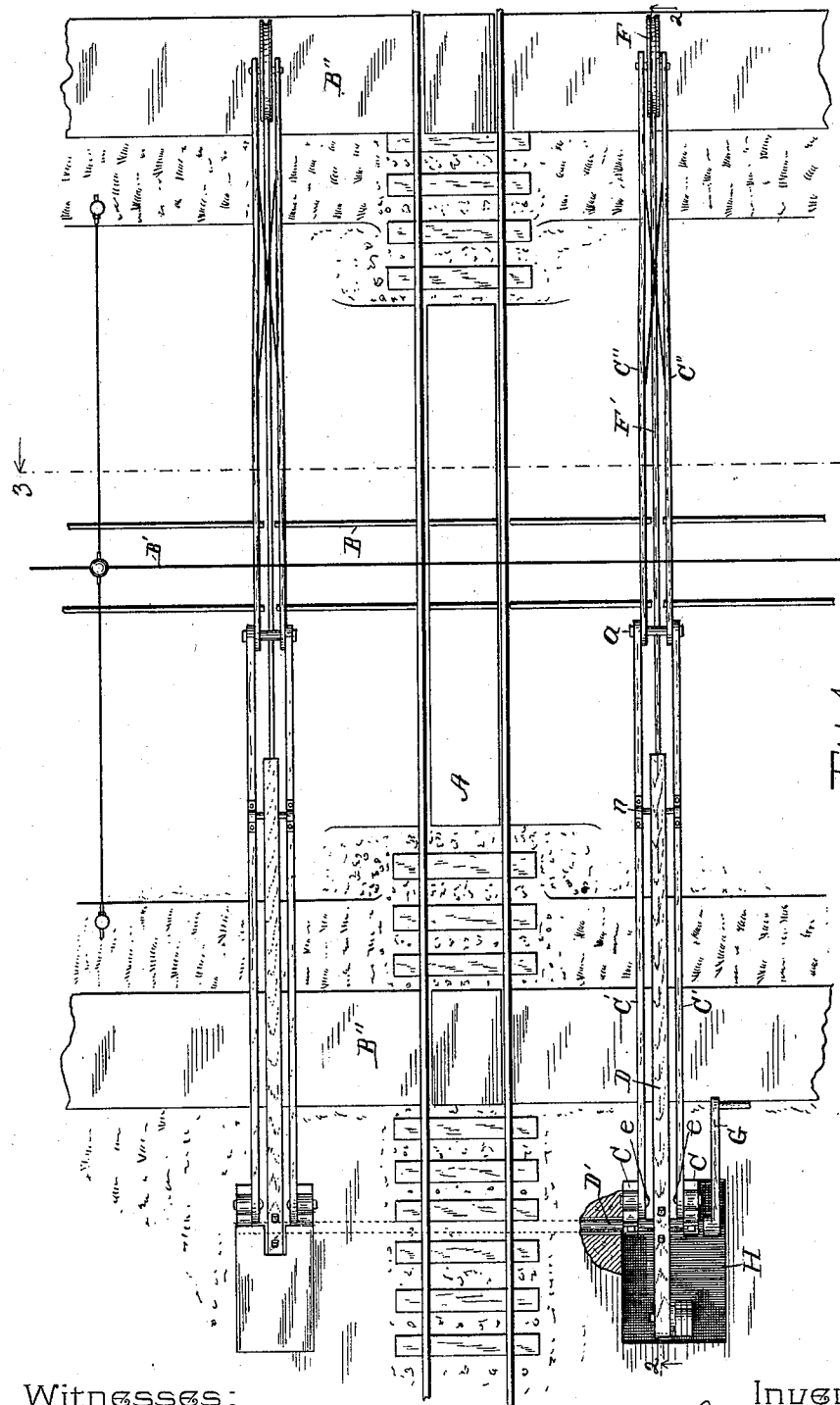

Fig. 1.

Witnesses:
Walter S. Wood
Vene E. Chappell

Inventor,
Levi Harris
By Fred L. Chappell
Att'y.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.)

3 Sheets—Sheet 2.

L. HARRIS.

RAILROAD CROSSING GATE.

No. 590,757. Patented Sept. 28, 1897.

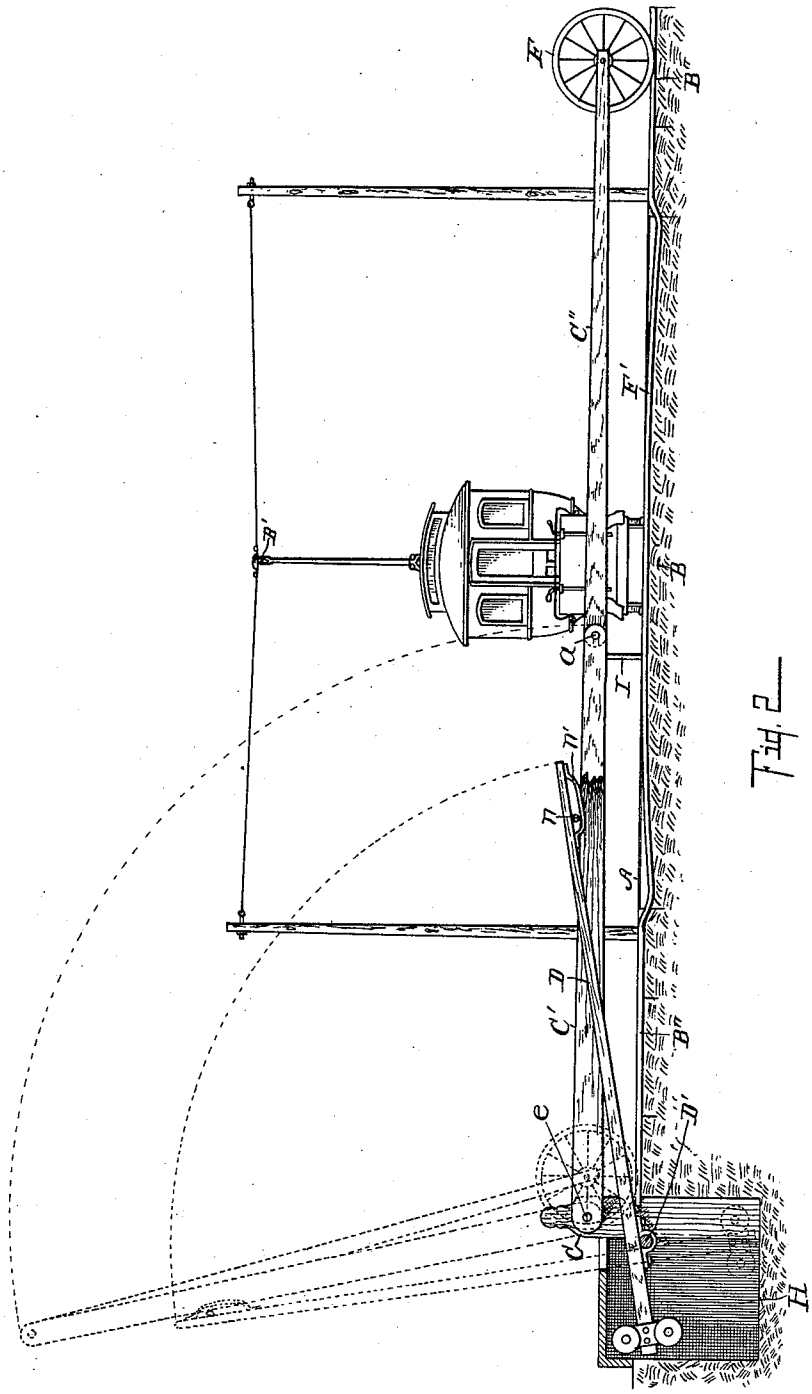

Fig. 2.

Witnesses:
Walter S. Wood
Jesse E. Chappell

Inventor,
Levi Harris
By Fred L. Chappell
Att'y.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 3.

L. HARRIS.

RAILROAD CROSSING GATE.

No. 590,757. Patented Sept. 28, 1897.

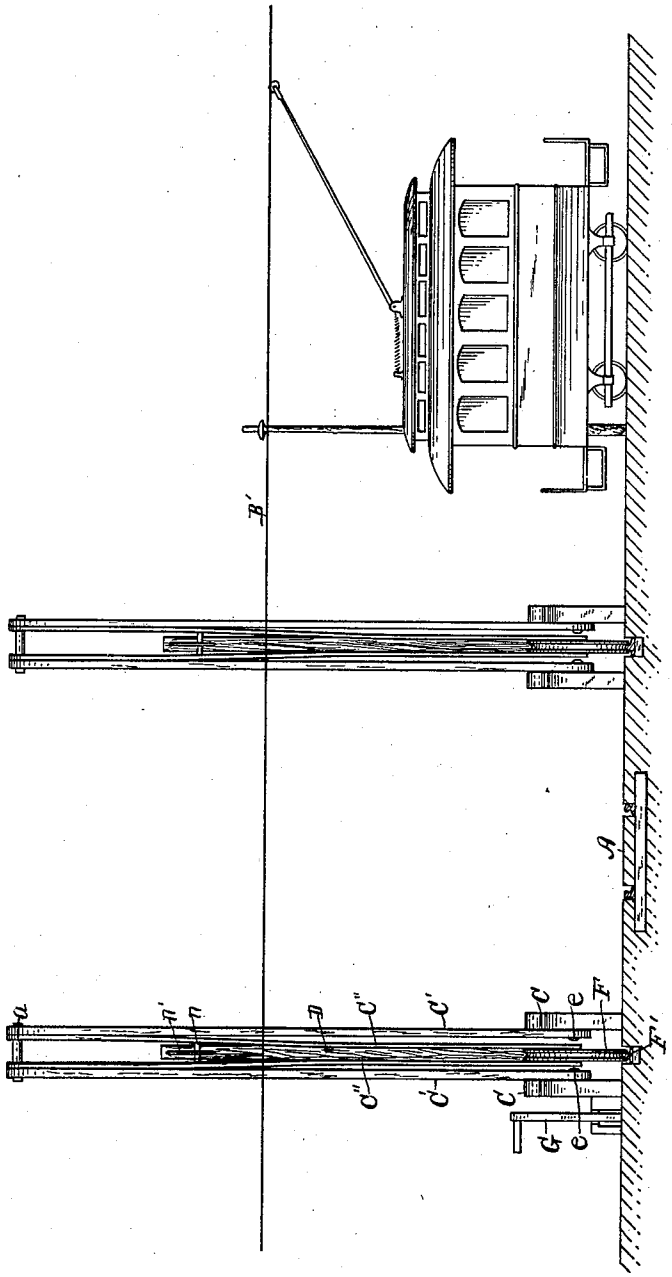

FIG. 1.

Witnesses:
Walter S. Ward
Vene E. Chappell.

Inventor,
Levi Harris
By Fred L. Chappell
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LEVI HARRIS, OF KALAMAZOO, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO HORACE B. PECK AND OSCAR M. ALLEN, OF SAME PLACE.

RAILROAD-CROSSING GATE.

SPECIFICATION forming part of Letters Patent No. 590,757, dated September 28, 1897.

Application filed March 25, 1896. Serial No. 584,833. (No model.)

To all whom it may concern:

Be it known that I, LEVI HARRIS, a citizen of the United States, residing at the city of Kalamazoo, in the county of Kalamazoo, in the State of Michigan, have invented a certain new and useful Railroad-Crossing Gate, of which the following is a specification.

My invention relates to improvements in railway-crossing gates. As heretofore constructed, to properly manipulate these gates where a street-railway trolley-wire crosses the track, it has been necessary to provide double gates which would shut down over the highway from opposite sides.

The objects of my invention are to provide an improved folding gate, which will not be obstructed by the trolley, of such a construction that a pair of them on opposite sides of the track may be connected and operated by a single lever and that the weights and operating means may be principally below the surface.

Further objects will appear definitely in the detailed description.

I accomplish these objects of my invention by the devices, mechanism, and means described in the following specification and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of a pair of my improved railway-gates in position, the planking over one of the pits being broken away to show the arrangement of parts. Fig. 2 is a vertical sectional elevation view on line 2 2 of Fig. 1, looking in the direction of the little arrows at the end of the section-line, the folded position of the gate being indicated by the dotted lines. Fig. 3 is a sectional elevation view on line 3 3 of Fig. 1, showing the gates in the folded position or in the position they assume when the gate is open.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A represents a line of steam-railway track.

B represents a line of street-railway.

B′ represents the trolley-wire above the same.

B″ B″ indicate the sidewalks on each side.

At each side of the steam-railway track my improved gates are situated. A pair of strong posts C is set down on each side of the track at one side of the highway beyond the walk. Arms or levers C′ are pivoted to the inside of these posts on the pivots *e*. Between the outer ends of the arms C′ C′ are pivoted the arms C″ C″ on the bolt *a*. Between the outer ends of the arms C″ C″ is carried a wheel F, which revolves on its axle between the ends of the arms. A light straight track F′ is provided over which the wheel F travels. A small support or post I is carried at the outer ends of the arms C′. Below and at the rear side of the post C is supported a rock-shaft D′, which extends across under the railway and forms connecting means between the two gates. Rigidly secured to this shaft D′ are the arms or levers D, which project outwardly in the same general direction as the arms C′. The levers D extend to the rear of the shaft D′ and are there suitably weighted. A suitable boxing or housing H, in which the weights swing, is formed below the lever of the highway in a suitable pit. On the outer end of the lever D is an elongated longitudinal loop *n′*, and on the arms or levers C′ is a transverse pin *n*, which plays in the loop *n′*. A lever G is secured to the rock-shaft D′ to rock it back and forth to operate the gate by actuating the levers D. When the gate is in the closed position, as indicated in Fig. 2, tipping the lever G back actuates the levers D, which, through the loop *n′*, lift the pins *n*, raise the arms C′ of the gates, and swing them back in the direction indicated by the dotted lines. As the arms C″ are pivotally connected at *a* to the arms C′, they fold down and drag the wheel F back over its track F′ to the side of the highway, as indicated. When it is desired to close the gate, the motion is reversed, the wheel on the end of the arm C″ relieving the friction and carrying the end of the same freely out across the highway in the reverse direction from that above indicated. It will be readily understood that in this movement, as indicated by the dotted lines in Fig. 2, the gate will not interfere in the least with the trolley-wire B′ above.

Having thus described my improved gate definitely in all details, I desire to state that it is capable of very considerable variation

without departing from my invention. The gates could be connected in a different manner than by the shaft D′, as above indicated, though that is the best means for the purpose. Instead of the arms or levers of the gate being double they might be single with joints at the points, as I have indicated. Where the highway is smooth or the wheel is very large, no track F′ will be necessary for the carrying-wheel at the outer end of the gate. Where a track is provided, it should be planked to make it level. Planks or paving can be laid for the wheel to travel on instead of a track. Under favorable conditions the size of the wheel F can be greatly reduced by providing a bracket on the under side of the outer end of the gate or by bending the arm downward. The main arms of the gate could be pivoted together, as indicated, with a wheel to carry the outer end, and other means might be provided for folding the same and applying a weight to counterbalance it. The gate, however, constructed as I have indicated will be found to be the most satisfactory and efficient.

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

1. In a railroad-crossing gate the combination of the pairs of supporting-posts C, on each side of the railway-track; arms C′, C′, pivoted to each of said posts; supports I, at the outer ends of the arms C′; transverse pins n, connecting the arms C′, of each pair together; arms or bars C″, C″, pivoted to the outer ends of the arms C′; carrying-wheels F, at the outer ends of the arms C″; a suitable track F′, for each of said wheels; a rock-shaft D′, supported on the post C, and extending under the railway-track; arms D, secured to said rock-shaft D′, and extending outwardly in the direction of said gates and rearwardly into pits H, where they are weighted to counterbalance the gates; elongated loops n', on said arms to engage the pins n, to actuate the said gates; and an operating-lever G, secured to the rock-shaft D′, to operate the said gates together all coacting for the purpose specified.

2. In a railroad-crossing gate, the combination of the pairs of supporting-posts C, at each side of the railway-track; arms C′, C′, pivoted to each of said posts; supports I, at the outer ends of the arms C′; transverse pins n, connecting the arms C′, of each pair together; arms or bars C″, C″, pivoted to the outer ends of arms C′; carrying-wheels F, at the outer ends of the arms C′; a rock-shaft D′, supported on the posts C, and extending under the railway-track; arms D, secured to the rock-shaft D′, and extending outwardly in the direction of said gates and rearwardly into the pits H, where they are weighted to counterbalance the gates; elongated loops n', on said arms to engage the pins n, to actuate the said gates and an operating-lever G, secured to the rock-shaft G′ to operate the said gates together all coacting for the purpose specified.

3. In a railroad-crossing gate the combination of a pair of supporting-posts C; arms C′, C′, pivoted to said posts; supports I, at the outer ends of arms C′ transverse pin n, connecting the arms C′, together; arms or bars C″ C″, pivoted to the outer ends of the arms C′; carrying-wheel F, at the outer end of the arms C″, a rock-shaft D′, supported on the posts C; arm D, secured to said rock-shaft D′, and extending outwardly in the direction of said gate and rearwardly into pit H, where it is weighted to counterbalance the gate; elongated loop n', on said arm to engage the pin n, to actuate the said gate and an operating-lever G, secured to the rock-shaft D′, to operate the said gate all coacting for the purpose specified.

4. In a railroad-crossing gate the combination of a pair of supporting-posts C; arms C′, C′, pivoted to said posts; a support I, at the outer end of arms C′; arms or bars C″ C″, pivoted to the arms C′, C′; the carrying-wheel F, at the outer ends of arms C″; and means for actuating said arms C″, C″, to fold the gate together for the purpose specified.

5. In a railway-crossing gate the combination of a suitable support at one side of the highway; a gate pivoted to said support having a flexible joint intermediate of its length; and a carrying-wheel at the outer end of said gate so that when the gate is opened it will fold upon itself and the carrying-wheel will support the same as specified.

6. In a railway-crossing gate the combination of a suitable support on one side of the highway; a gate pivoted to said support having a joint intermediate of its length; a carrying-wheel at the outer end of the said gate; and a track for said wheel; coacting so that when the gate is opened it will fold upon itself and the carrying-wheel will support the same as specified.

7. In a railroad-crossing gate the combination of suitable supports at each side of the track; gates pivoted thereto; a rock-shaft carried on said supports and extending underneath the track; arms projecting from said rock-shaft in the direction of said gate; counterbalanced weights on said arms; a connection between said arms and the gate to lift the gate; and a lever connected to said rock-shaft to actuate both gates together as specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

LEVI HARRIS. [L. S.]

Witnesses:
WALTER S. WOOD,
MRS. FRED L. CHAPPELL.