

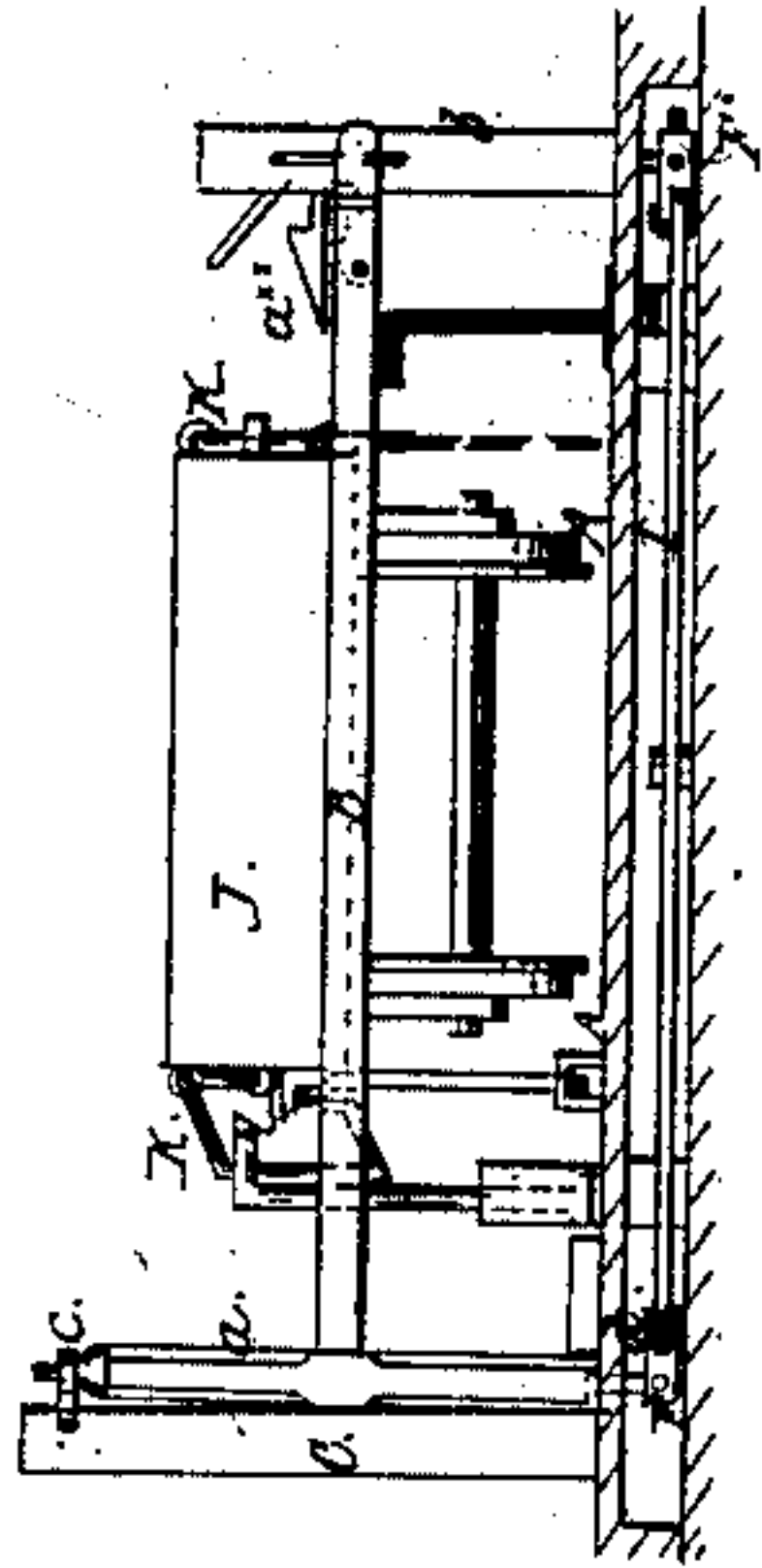
*R. W. Jenks Jr,*

*Railroad Gate,*

*N<sup>o</sup> 27,055.*

*Patented Feb. 7, 1860.*

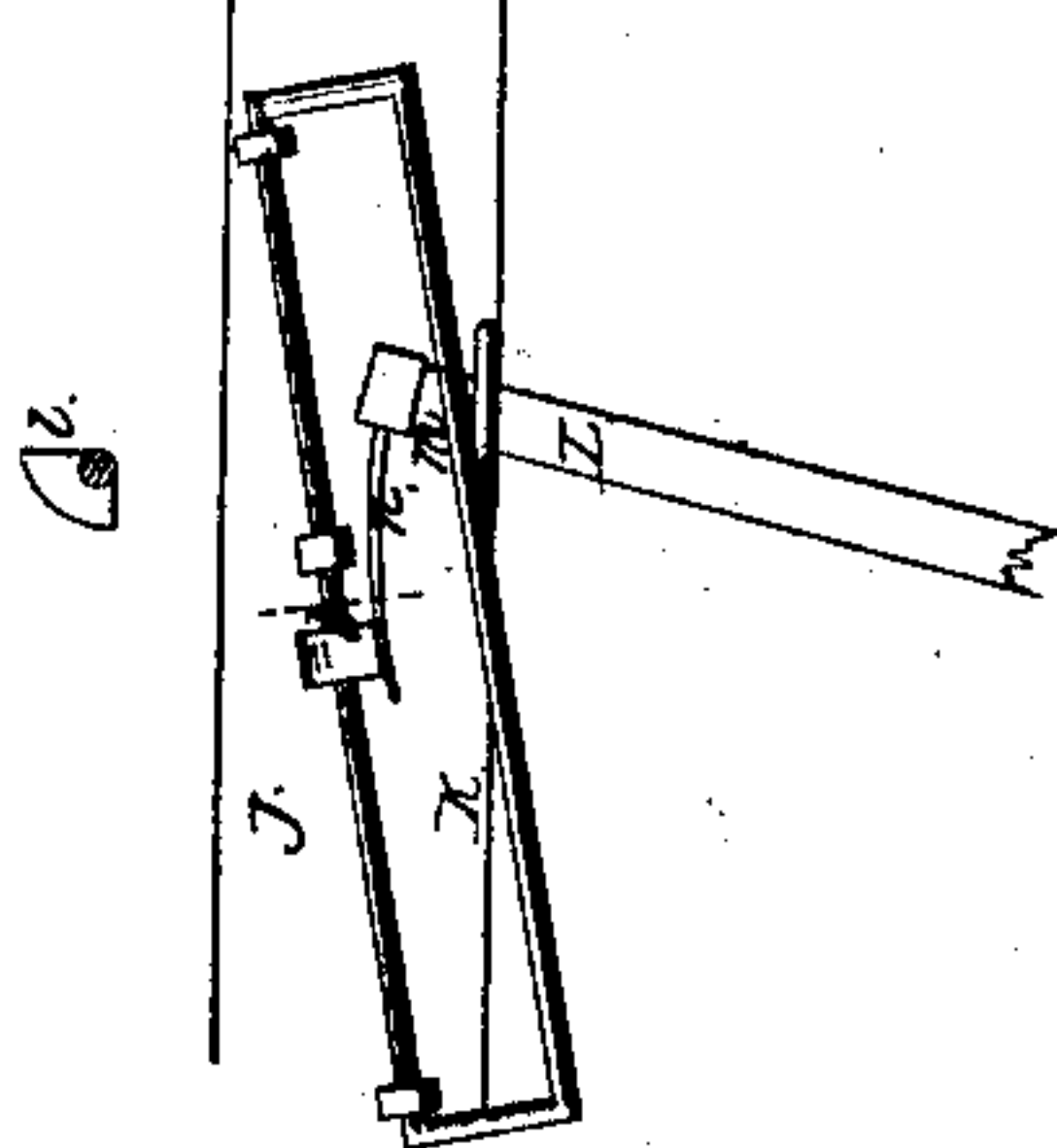
*Fig. 2.*



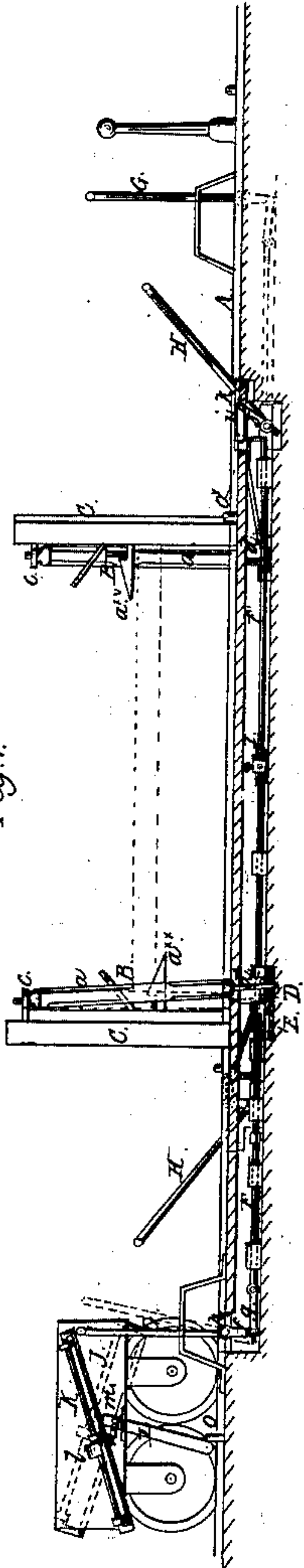
*Fig. 4.*



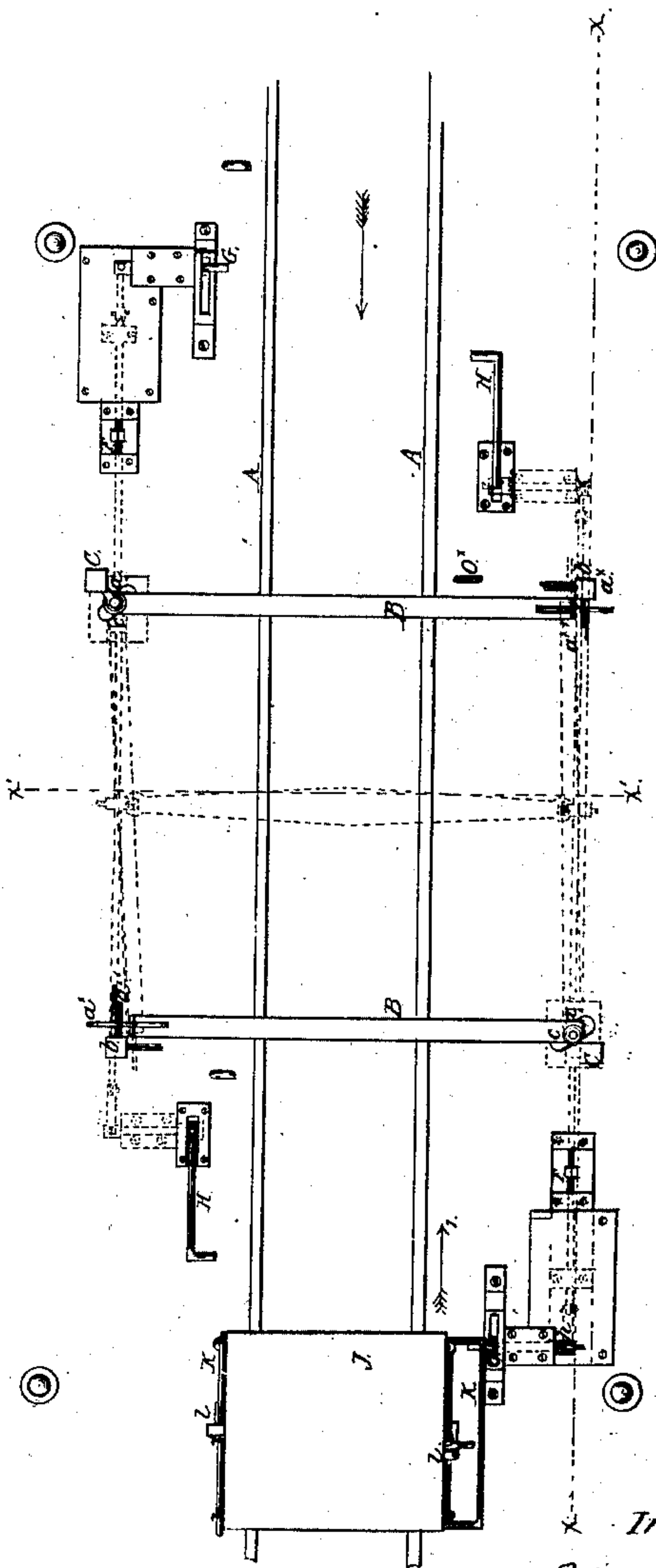
*Fig. 5.*



*Fig. 1.*



*Fig. 3.*



*Witnesses:*

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# UNITED STATES PATENT OFFICE.

ROBERT W. JENKS, JR., OF PROVIDENCE, RHODE ISLAND.

## RAILROAD-GATE.

Specification of Letters Patent No. 27,055, dated February 7, 1860.

*To all whom it may concern:*

Be it known that I, R. W. JENKS, Jr., of Providence, in the county of Providence and State of Rhode Island, have invented a new and Improved Automatic Rail-Road 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 side sectional view of my invention, taken in the line  $x, x$ , Fig. 3. Fig. 2, a transverse vertical section of ditto, taken in the line  $x', x'$  Fig. 3. Fig. 3, a plan on top view of ditto. Fig. 4, a detached plan or top view of a pair of the stationary and sliding obliquely slotted plates by which the gate-posts are actuated. Fig. 5, a view of the mechanism attached to the locomotive for actuating the gates.

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

This invention relates to an improved arrangement of means for opening and closing rail-road gates through the medium of the locomotive, as the latter passes along, the gates shutting off the highway, some time previous to the arrival of the locomotive thereat so that vehicles on the highway will not be liable to be brought in collision with the locomotive, the latter also opening the gate after it and the train have passed the highway.

The invention consists in opening and closing the gates by shifting the position of their hinged posts by mechanism hereinafter described.

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

A, A, represents the two rails of a railroad track, and B, B, are two gates, the hinged or turning posts  $a$  of which are placed at either side of the track at such a distance as to allow the gates, when swinging in one position to crop the track, and leave the highway open across the track, as shown in Fig. 3, and when swinging in the other position to cross the highway and shut off the same from the rail-road track, the two gates being parallel with each other in either position. The gates are retained in both an open and closed state; by means of latches  $a^*$  which engage with catches  $a^{**}$  on posts  $b$  at either side of the track.

The hinge or turning posts  $a$  of the gates

have journals at their upper ends which journals are fitted in bearings  $c$ , at the upper parts of posts C, the lower end of the post  $a$  of each gate is provided with a journal  $d$  which is fitted in oblique slots  $e, e'$ , made respectively in a sliding plate D, and stationary plate E. These slots have the same degree of obliquity but they have a reverse position relatively with each other as shown clearly in Fig. 4, the slot  $e'$  being shown by dotted lines.

The plates D, E, of each gate post  $a$  are fitted in suitable boxes or pits beneath the surface of the ground and rods F, F', are attached one to each end of each sliding plate D. These rods F, F', extend along below the surface of the ground a suitable distance from each side of the highway, and the outer end of one rod F, is attached by a crank  $f$  and link  $g$ , to a shaft  $h$  having a bar G, secured to it at right angles. The other rod F', of the same sliding plate is bent upward at right angles and is connected by a link  $i$  to a crank  $j$  of a shaft  $k$  to which a bar H is attached. This bent end of the rod F', permits of a reverse or nearly reverse position of crank  $j$ , to the crank  $f$ , of rod F, and consequently when the bar G is erect or in a vertical position, the bar H will be inclined, as shown in Fig. 1.

The part  $a$  of one gate is placed in a reverse position to that of the other at the opposite side of the track, and the rod F, of one sliding plate D, is connected to the rod F', of the other by a lever I, the fulcrum of which passes through its center, see Fig. 2, and dotted lines in Fig. 3. This connection of the rods F, F', by the lever I, causes a simultaneous operation of the two sliding plates D, D.

J is a locomotive or a tender to the sides of which inclined swinging frames K are attached, one frame to each side of the locomotive or tender. These frames are inclined in opposite positions, and they may be formed of bars arranged in quadrelateral form as shown clearly in Fig. 5. The back part of each frame K, has a projection  $l$ , attached and to each side of the locomotive or tender a lever L, is attached by a pivot  $m$ . The upper end of each lever L has a spring  $n$ , connected to it, said springs extending underneath the projections  $l, l$ .

The operation is as follows. Suppose for instance that the locomotive or tender J, be moving in the direction indicated by the



arrow 1, Fig. 3, the gates B being across the track. The frame K at the right hand side of the locomotive or tender will be raised just before the latter arrives at the bar G, in consequence of the lower part of the lever L, striking a projection *o* which causes the spring *n* to throw up the frame K, and the latter then strikes the bar G and actuates the rods F, F', shifting the plate D which in consequence of the oblique slots *e e'*, throws the hinge post *a* of the gates B, B, in an inclined position, it being understood that in consequence of the connection formed between the rods F, F', at each side of the track by the lever I, both plates D, are moved simultaneously. The elevated frame K throws the bar G forward and the posts *a* being thrown in an inclined position their latches *a<sup>x</sup>* are raised out of their catches *a<sup>xx</sup>* on posts *b*, and the gates will by their own gravity swing from their position across the track to a position across the highway as shown in red Fig. 3. And when the train has passed across the highway the frame K at the right hand side of the tender will be again elevated in consequence of striking another projection *o<sup>x</sup>*, and said frame will actuate the bar H and throw the posts *a*, in consequence of the moving of the sliding plates D in a reverse direction, in an inclined position reverse to their former position, and thereby cause the gates to swing back across the track. When a train is moving in the other direction as indicated by arrow 2, the operation is precisely the same

the frame K at the opposite side of the tender actuating the bars at the other side of the track. It will of course be seen that the frames K drop by their own gravity as soon as they pass the bars they actuate, and this is necessary in order that no improper action of the frames on the bars may occur.

I am aware that gates have been opened and closed by moving their hinge posts *a* out of a vertical line and I therefore do not claim broadly such movement, irrespective of the means employed for effecting it, but

I do claim as new and desire to secure by Letters Patent:

1. The employment or use of the sliding and stationary plates D, E, slotted obliquely as shown, and having the journals *d* of the posts *a* fitted in the slots, substantially as and for the purpose set forth.

2. I further claim the means employed for operating automatically the sliding plates D to wit: the rods F, F', attached respectively to the bars G, H, the rods at either side of the track being connected by the lever I, when said posts are used in connection with the swinging frames K, attached to the sides of the locomotive or tender, and elevated by the levers L, and projections *l*, of the frames and the projections *o*, *o<sup>x</sup>*, at the side of the track as set forth.

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Witnesses:

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