

A. FOX, L. & J. VORWALD.

RAILROAD-GATE.

No. 189,447.

Patented April 10, 1877.

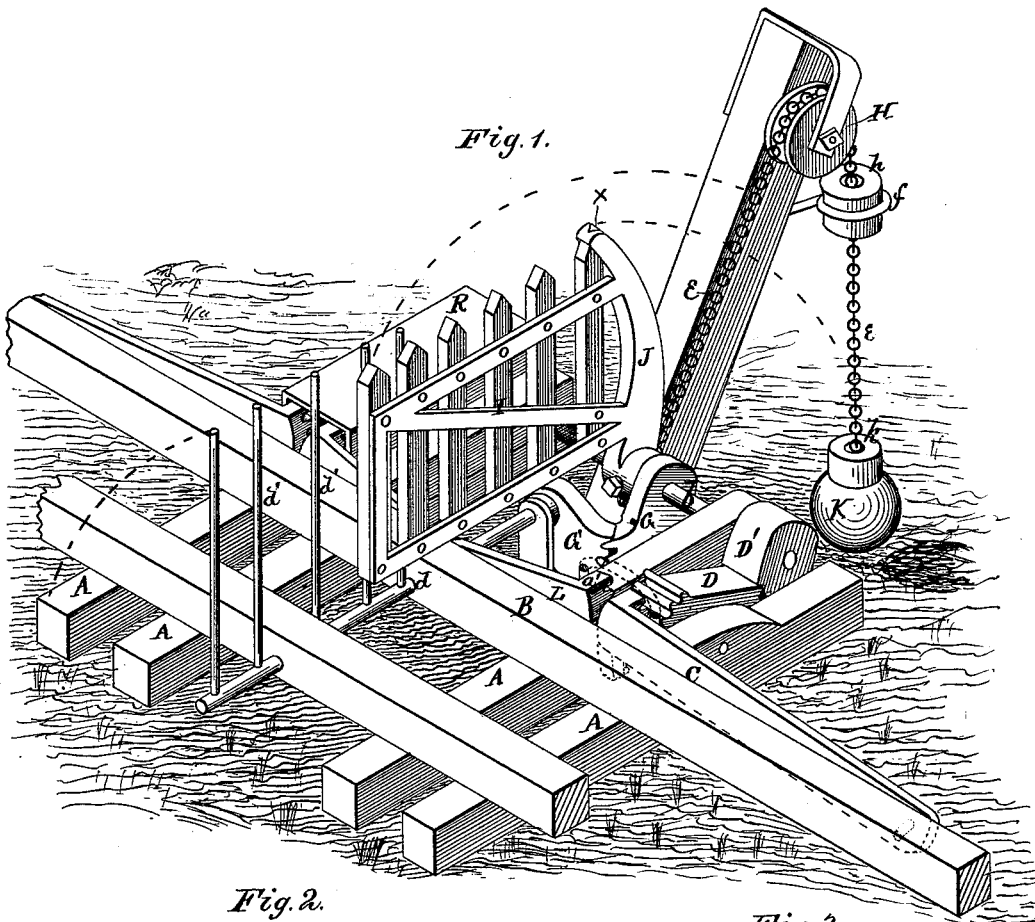


Fig. 2.

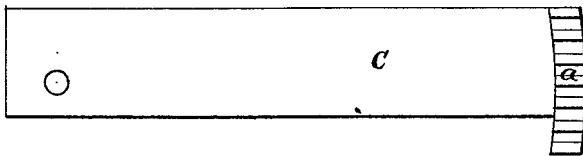
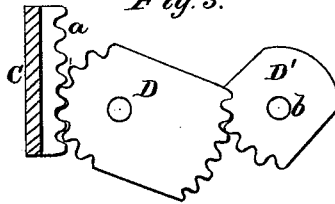


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN RAILROAD-GATES.

Specification forming part of Letters Patent No. 189,447, dated April 10, 1877; application filed February 26, 1877.

To all whom it may concern:

Be it known that we, ALBERT FOX, LEWIS VORWALD, and JOHN VORWALD, of Columbus, in the county of Bartholomew and in the State of Indiana, have invented certain new and useful Improvements in Railroad-Gates; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a railroad-gate, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view, showing one line of rails of a railroad-track with the center gate, one side gate, and the mechanism for operating the same. Figs. 2 and 3 are detailed views of certain parts thereof.

A A represent the ordinary railroad-ties, on which the railroad-rails are fastened in the usual manner. B represents the rails along one side of the track, or it may represent a line of wooden beams laid alongside the rails at one side of the track, in such a manner that certain levers pivoted to such beams will be acted upon by the wheels of the cars passing over the rails.

A suitable distance from the point where the gate or gates are to cross the railroad-track, and on each side thereof, to the outer side of the rail or beam B, is pivoted a lever, C.

This lever is pivoted at its outer end, and at its inner end on the outside it is formed or provided with a cogged segment, *a*, which meshes with the small end of a cogged lever, D, pivoted in suitable boxes on two adjacent ties.

The outer long end of the lever D is also cogged, and meshes with a cogged lever, D', secured on a shaft, *b*. This shaft is of such length that the corresponding cogged lever D on the other side of the gate is also secured thereon.

On the shaft *b* is secured an arm, G, having beveled cogs at its outer end, which gear

or mesh with similar cogs on an arm, G', secured on a shaft, *d*, that passes across the track below the rails. This shaft *d* is provided with a series of teeth, *d' d'*, which stand normally in vertical position, and form the center gate.

On the shaft *b* is further secured a curved arm, J, which forms the head of the side gate I, as shown in Fig. 1. The outer edge of the curved arm or head J has a groove, *x*, extending its entire length, and at the lower end of said arm is secured a chain, *e*, which passes upward over an elevated pulley, H, and has a weight, K, attached to its end. The chain *e*, after passing over the pulley H, goes through a rubber bumper, *h*, held in a guide, *f*, and also through a rubber bumper, *k*, placed on or attached to the weight K.

Near the point where the gates cross the track to the outside of the beam B are pivoted two levers, L L, which extend in opposite directions, and their outer ends provided on the outer side with cogged segments *a'*, which mesh with the cogs on the inner smaller ends of the levers D D.

The gearing D D' C L is covered by a case, R, which also forms a stop for the upward movement of the adjacent ends of the levers L and C.

When a train approaches the railroad-gate thus constructed the first wheels of the locomotive come in contact with the levers C on each side of the track, and press their inner ends downward. This rocks or turns the double-cogged levers D in such a manner as to raise the cogged levers D', and turn the shafts *b* with the gates I J attached thereto, until said side gates are raised to a perpendicular position away from the track. By this movement of each gate I J the chain *e* is drawn up and lies in the groove *x* on the head until the bumpers *k* and *h* come in contact with each other, and relieve the shock that would be occasioned otherwise as the gate falls to the side. While the shaft *b* turns in its bearings the cogged arms G G' turn down the center gate *d d'* to a horizontal position.

The gates remain in this position while the train is passing through, or as long as any wheels remain upon any of the levers. As soon as the last wheels pass off from the levers C on the other side of the gate the weight

K returns all the parts to their original position.

This movement is caused by the action of the weight through the chain on the curved head J. By means of this curved head the power or leverage for opening and shutting the gates is increased and decreased just as required during the movement.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the levers C L, having cogged segments *a a'* upon their adjacent ends, the double-cogged lever D, and the single-cogged lever D' on the shaft *b*, carrying the side gate I J, substantially as and for the purposes herein set forth.

2. The combination, with the gate I, of the curved arm or head J, having exterior longitudinal groove *x*, the chain *e*, elevated pulley

H, chain K, and rubber bumpers *h k*, all substantially as and for the purpose herein set forth.

3. The combination, with the gate I J, secured to the rock-shaft *b*, and operated by the levers C L, having cogged ends and levers D D', with the central gate *d d'* and cogged arms G G, whereby both gates are operated simultaneously by the action of the cars on the levers, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 3d day of February, 1877.

ALBERT FOX.
LEWIS VORWALD.
JOHN VORWALD.

Witnesses:

F. G. SCHWARTZKOFF,
W. P. ALDEN.