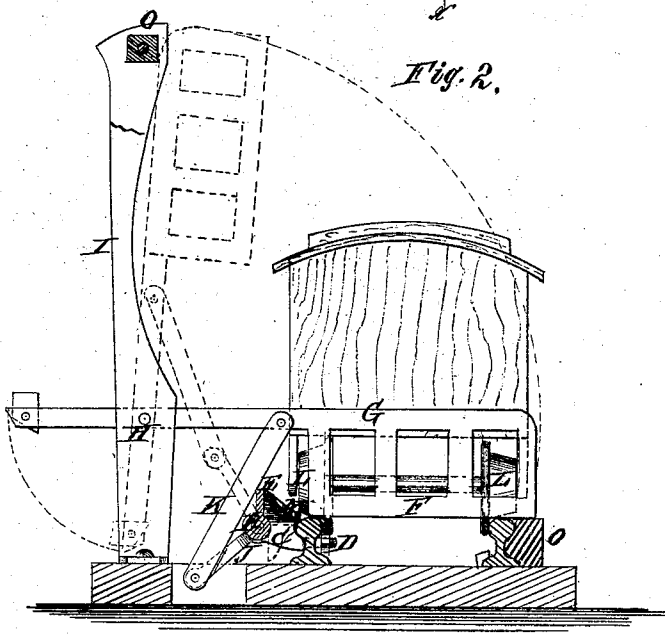
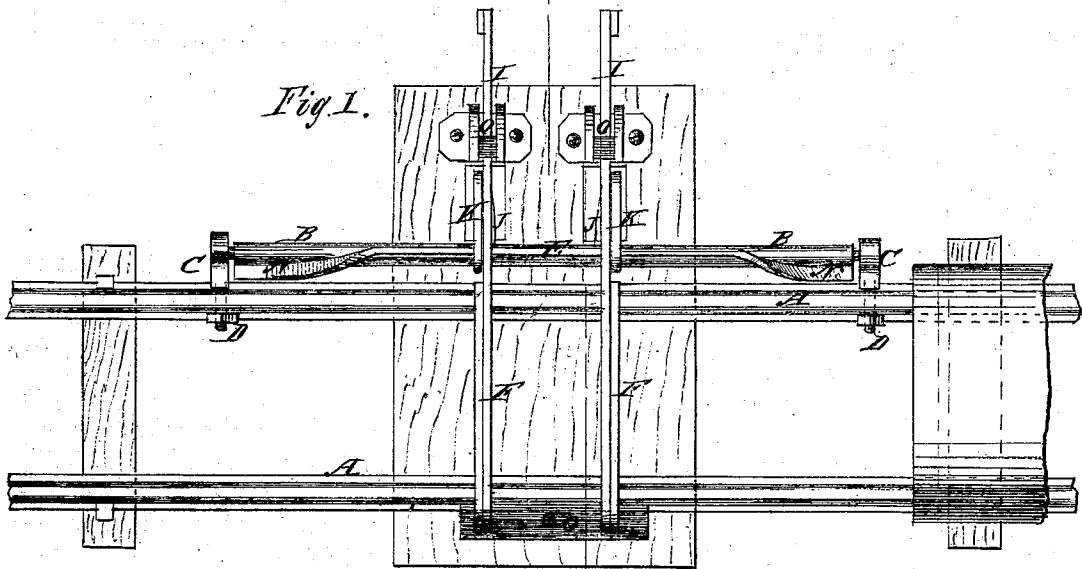


GEORGE A. KRISTIE & SAMUEL HORN.  
Improvement in Railway-Gates.

No. 127,775.

Patented June 11, 1872.



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# UNITED STATES PATENT OFFICE.

GEORGE A. KRISTIE AND SAMUEL HORN, OF FORT SENECA, OHIO.

## IMPROVEMENT IN RAILWAY GATES.

Specification forming part of Letters Patent No. 127,775, dated June 11, 1872.

Specification describing a new and useful Improvement in Automatic Gates, invented by GEORGE A. KRISTIE and SAMUEL HORN, of Fort Seneca, in the county of Seneca and State of Ohio.

Our invention is an improvement in the class of railroad gates designed to be operated automatically by means of a spirally-grooved or flanged roller, so arranged as to be acted on by the wheels of the locomotive. We place the roller outside the track or rail, but secure it thereto, and connect it and the pivoted gate by a link or bar, which, when the gate is closed, is either vertical or inclined over the flanged roller, whereby we secure the greatest leverage on the gate and thus enable it to be raised instantly and without liability to injury, as in the case of railroad gates ordinarily used.

In the accompanying drawing, Figure 1 represents a top or plan view. Fig. 2 is vertical cross-section of Fig. 1 taken on the line *xx*.

Similar letters of reference indicate corresponding parts.

A A are the rails of a railroad track. B is a roller which is supported on journals or pivots in the brackets C C. These brackets are secured through the rails by screw-nuts D, as seen in the drawing. E is the flange or web rigidly attached to the roller or forming a part thereof. F represents a gate bar or barrier of one or more sections, the rail G of which extends back from the track and roller, and is connected, by a joint-pin, H, to an upright, I. This upright is made double or in two parts, and the rail G is confined between them by the pin H. J is an arm attached to the roller B. K is a bar which connects the arm J with the rail G of the gate. L represents the car-wheels.

As seen in the drawing the gate is closed and resting on the rails. The object is to raise the gate so that the car can pass, and to have the gate close directly after the car passes. The former operation is performed by the wheels of the car passing over the curved flange or web E; the latter is done by gravity

or weight of the gate. When the gate is closed the ends N N of the flange E are horizontal or lie flat, and on the same plane as the top of the rail, but the flange curves upward from the ends so that the central portion of the flange is on the top of the roller, thus curving over one-fourth of the diameter of the roller, and sufficiently to throw the middle portion of the flange from a vertical to a horizontal position, as the car-wheel passes over it. This turns the roller one-fourth of a revolution and throws up the arm J, the connecting-bar K, and the gate into the position seen in dotted lines, the latter being in nearly a vertical position, as seen, but having its center of gravity toward the roller, so that when the pressure is moved from the flange the gate descends by its own gravity and closes the track, as seen in the drawing.

O O are cushions of rubber or other elastic material, which the gate strikes when it is raised, and also when it falls, to relieve the concussion.

In this example of our invention we operate a double gate and apply the invention to the track of a railroad, but we do not confine ourselves to this arrangement, nor to this particular application, as the roller and curved flange or web may be used in operating signals and switches, as well as gates on ordinary roads.

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

The arrangement of the link or bar K with the gate G F pivoted to the uprights I, and with the arm J of the flanged-roller B, located outside the track or rail, as shown and described, whereby the said bar will assume a vertical or inclined position over the roller, when the gate is closed, for the purpose specified.

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