

J. F. LINTHICUM.
Railroad Switches.

No. 139,589.

Patented June 3, 1873.

Fig. 1.

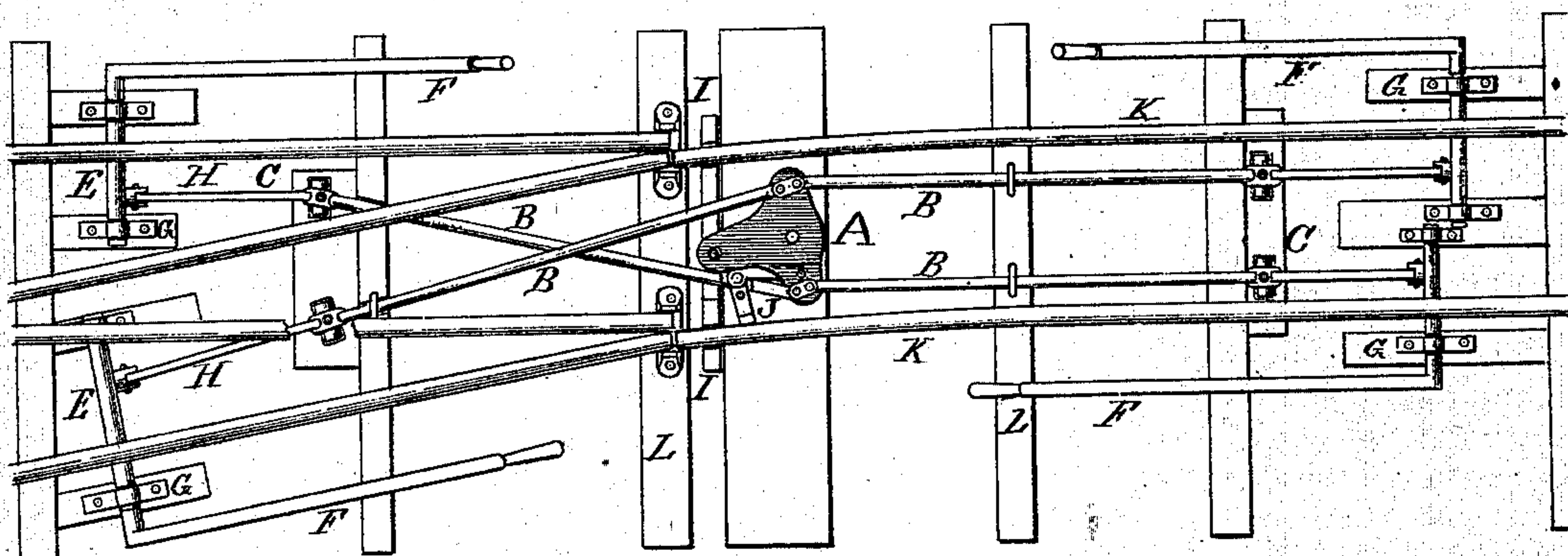
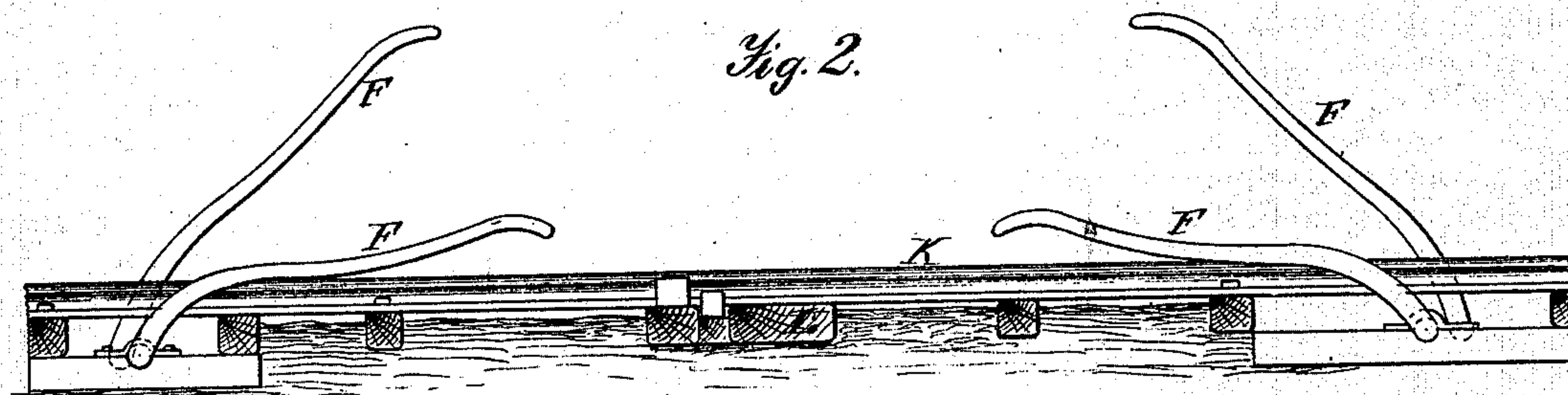


Fig. 2.



Witnesses:

A. Ruppert.

R. H. Hoover

Inventor:

John F. Lenthicum
his attorney

by his attorneys

Box, Box

UNITED STATES PATENT OFFICE.

JOHN F. LINTHICUM, OF VALLEJO, CALIFORNIA, ASSIGNOR OF ONE-FOURTH
HIS RIGHT TO IRA GILCHRIST, OF SAME PLACE.

IMPROVEMENT IN RAILROAD SWITCHES.

Specification forming part of Letters Patent No. **139,589**, dated June 3, 1873; application filed
December 12, 1872.

To all whom it may concern:

Be it known that I, JOHN F. LINTHICUM, of the city of Vallejo, county of Solano, State of California, have invented a new Railroad Switch, of which the following is a specification:

The purpose of the invention is to operate switches on railroads; and its general nature consists in providing an attachment plate of peculiar construction connected with a chock and bar, and operated by rods and levers, so that the attachment plate and its connections co-operate to move the switch-rails and hold them in position when moved. The shafts and levers can be placed at any distance on the track from the switch either way, and operated by one or more arms under the control of the engineer in the engine-room.

Figure 1 is a top view of my machine, applied to a straight track, having one side track. Fig 2 is a side view of the switch.

The letter A represents a view of the attachment plate. The letters B B are the iron rods, and C C are swivels. E E are the shafts, and F F the levers. G G represent the plunger-blocks; H H, the arms supporting joints in the rods; I, the iron bar connecting the switch-rails, and to which the attachment plate is connected; and J the chock to hold the switch-rails in their places. The rails are indicated by K K, and the ties by L. The attachment plate consists of an iron plate of the general form shown. This plate swings on a pivot secured to a tie between the rails, and is attached to the bar I connecting the switch-tongues. The chock is attached to a tie and is moved by the attachment plate, and is intended to hold the switch-rails in position when moved by the levers. The switch is operated by an arm projecting outward from the head of the cylinder of a locomotive, which, coming in contact with the levers and passing over them, gradually swings the switch-rails from one side to the other of the track. The levers are slightly curved to give a gentler motion when first pressed upon by the arm and afterward move with accelerated speed. The levers are attached to the shafts in any manner that may be desirable, so as to

give them strength and durability. Underneath the shafts are arms of the necessary length to give the switch-rails sufficient play, and to these arms are attached the rods connected with the attachment plate. At H H are joints in the rods supported and moving upon a pivot-arm. C C are swivels by which the length of the rods may be increased or decreased as occasion may require. The rods are connected with the attachment plate as indicated in the drawing, or in any other manner that will make them secure and give the desired movement. The attachment plate is connected with the bar I by a wrist passing through a slot near the point of the plate, as indicated in the drawing. The bar I is firmly and securely attached to the switch-rails on each side, so that the movement of the attachment plate to either side will carry the switch-rails with it. The chock consists of two short iron bars, connected to each other near their inner ends and at right angles, but working loosely on a rivet, one arm playing upon a pivot, as indicated in the drawing.

The chock is moved by the attachment plate so as to catch the switch-rail when moved into position and hold it securely until its position is changed by the levers.

But one chock is shown in the drawing, but another may be placed on the opposite side of the attachment plate, if deemed desirable, and operated in the same manner.

On the side of the switch on which the double track is located the iron rods pass under the rails and cross each other so as to secure the desired movement. With these exceptions they are similar in all essential particulars to the rods on the opposite side.

The levers may be placed at any required distance from the switch-rails, so as to give ample room for the passage of trains of cars backward and forward, and admit of the operation of the switch. When the levers are placed at a considerable distance from the switch the iron rods may be supported by passing through sheaves and resting upon rollers which will hold them in position and at the same time reduce the friction.

In operating the switch, when a lever is

pressed down by the arm the corresponding lever on the same side of the track will be lowered in like manner, while both the levers on the opposite side of the track will be raised; so that the switch may be operated with perfect safety, and a misplaced switch is impossible if the engineer attends to his duty.

Should the switch at any time get out of order and become unmanageable, the switch-rails may be easily detached from the attachment plate and operated by hand by connecting with the bar I on the outside of the rails.

The entire machinery may be securely protected from the weather by coverings of sheet iron, except the levers and the space occupied

by the movement of the switch-tongues. An arm is to be attached to the slides of the head of the cylinder of the engine and operated by a lever from the engine-room, so that it can be moved to either side at the discretion of the engineer.

I claim—

The attachment plate, in connection with the chock and bar, for moving the switch-rails and holding them in position.

JOHN FLOYD LINTHICUM.

Witnesses:

H. A. PEABODY,
J. FOURRIER LECLERC.