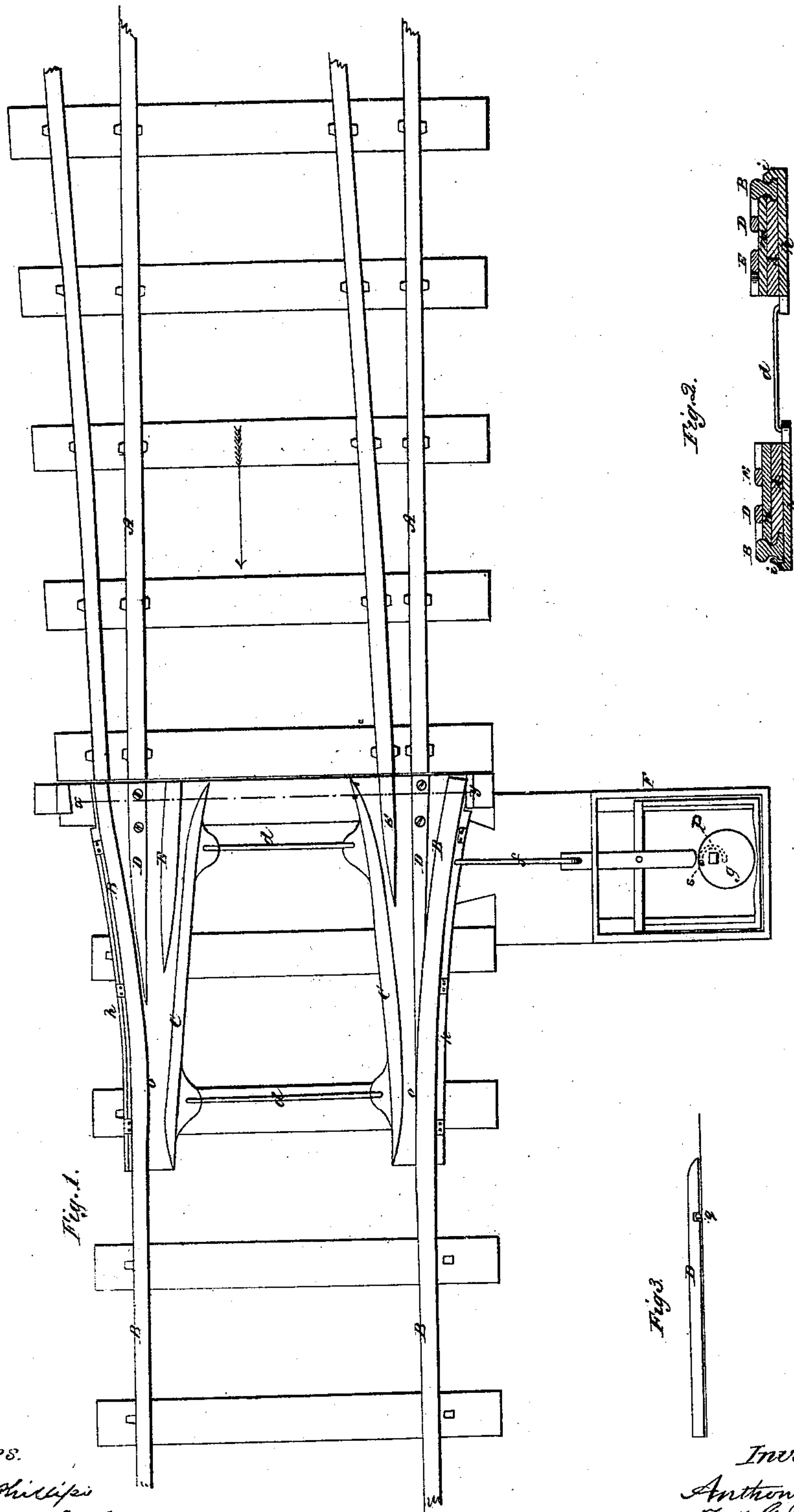


Conarro & Gemmill
R. R. Switch.

Nº 93,177.

Patented Aug. 3, 1869.



Witnesses.

J. N. Phillips
Geo. C. Lambright

Inventors.

Anthony Conarro
John Gemmill.

United States Patent Office.

ANTHONY CONARRO, AND ZAK. GEMMILL, OF WARREN, PENNSYLVANIA.

Letters Patent No. 93,177, dated August 3, 1869.

IMPROVED SAFETY-SWITCH FOR RAILWAYS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, ANTHONY CONARRO and ZAK. GEMMILL, of Warren, county of Warren, and State of Pennsylvania, have invented a new and improved "Combination Safety-Switch" for Railroads; and we do hereby declare the following a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 represents a plan of the switch, with main and side rails, and of the switch-stand, hereinafter described;

Figure 2, a sectional view of the switch at $x-y$ of fig. 1; and

Figure 3, a side elevation of spring-rail, showing groove, for the object hereinafter specified.

The nature of our invention consists in the devices hereinafter described, for preventing a train from leaving the rail, and securing its entire safety in passing over the switch, in case it is open, in one direction, and, in the opposite one, its taking the siding, as intended by the switch. It also greatly facilitates the switching of cars, being so constructed that it is only necessary to open the switch to get on the siding; then, being thrown back, is righted for the main rail, in which position trains may pass in safety without opening the switch.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A A are rails of the main track.

B B, curved rails, which, together with the guards C, spring-rails D, and guard-rails E, united by rods d , are simultaneously operated by the rod f , at the will of the switchman.

When the switch is open, a train advancing in the direction of the arrow will pass over said switch in the line of main rail, by means of the spring-rails D, which perform the functions of part of a continuous rail.

The switch may be so constructed as to be permanently fixed or stationary, and thus perform simply the function of a frog and chair, and the connecting-rails used as switch-rails.

The chair h , to which the curved rail is fastened, is

made of iron or steel with an outside lip, i , to receive the rail, and extends back, as a foundation for the inside rails and guards.

Upon this chair we now place a section of wood, k , as seen in fig. 2, for the purpose of giving elasticity, and thereby preventing its liability otherwise to break, said wood also serving as an inside fastening for the curved rails.

Upon this section of wood we place a top plate, m , of iron or steel, to which the spring-rails, guard-rails, and guards are attached, and the whole firmly fastened together.

Under the spring-rail is a stop, q , attached to the plate m , which operates in a groove in the lower surface of the spring rail, effectually preventing said rail getting outside of the line of the main rail.

In order to prevent the flange of a wheel coming in contact with the point of the spring-rail, a slight swell is given to the curved rail beyond the point of spring-rail.

The switch-stand F is composed of the eccentric g , working within a sliding yoke; and to prevent its going beyond the centre of the same, it is provided with a stop, s , working in a semicircular groove, t , on its under side.

Having thus fully described our invention, we wish it to be understood that we do not claim a safety-rail, actuated by an independent spring, as shown in N. Eaton's patent of September 3, 1840; but

What we claim as new, and desire to secure by Letters Patent of the United States, is—

1. The spring-rails D D, operating by their own elasticity, and controlled in their range of motion by the stops q , when said rails are used in combination with switch-mechanism, constructed, arranged, and operating as described and shown.

2. The combination and arrangement of the lipped metallic chair, or bed-plate h , wooden plate k , and top metallic plate m , in the manner and for the purpose specified.

A. CONARRO.
ZAK. GEMMILL.

Witnesses:

JOHN S. HOLLINGSHEAD,
JOHN S. HOLLINGSHEAD, Jr.