

D. D. SAMAIA.
 SPRING SWITCH.

APPLICATION FILED SEPT. 29, 1910.

1,004,086.

Patented Sept. 26, 1911.

Fig. 1.

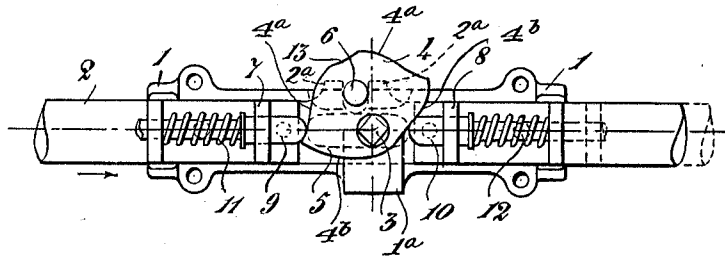


Fig. 2.

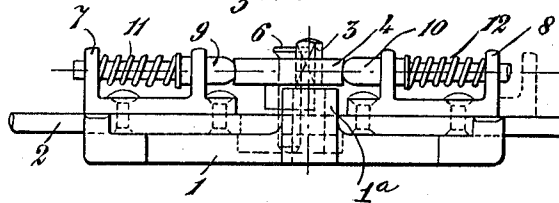
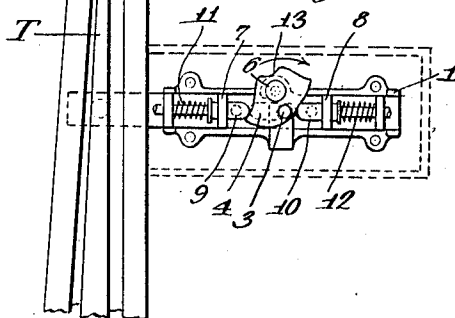


Fig. 3.



Witnesses:-

H. Kasper.
 J. Smith

Inventor:
 Dino Davide Samaia,

by B. Singer
 atty.

UNITED STATES PATENT OFFICE.

DINO DAVIDE SAMAIA, OF VICENZA, ITALY.

SPRING-SWITCH.

1,004,086.

Specification of Letters Patent.

Patented Sept. 26, 1911.

Application filed September 29, 1910. Serial No. 584,540.

To all whom it may concern:

Be it known that I, DINO DAVIDE SAMAIA, a subject of the King of Italy, and a resident of Vicenza, Italy, have invented certain new and useful Improvements in Spring-Switches, of which the following is a specification.

This invention relates to a mechanism by means of which the points can be kept constantly displaced to one side, while these points remain capable of being operated either by hand or automatically. When their displacement has been effected, the points are kept pressed against the rails by means of an elastic pressure.

In the accompanying drawing, Figure 1 is a plan view of the mechanism, and Fig. 2 is a side elevation. Fig. 3 is a plan view showing the application of my device for actuating the tongue of a railway switch.

The actuating mechanism comprises a base 1 upon which is slidably mounted a draw-bar 2 adapted to be connected to the point or points to be displaced. As shown in Fig. 3, the draw-bar is connected to a laterally movable tongue T of switch mechanism S, which comprises a main rail M and a guide rail G, and in connection with which the application of my device will be described. Pivoted to the support, by means of the pivot pin 3, is a cam 4 having substantially similar curved cam surfaces 4^a and 4^b at either side of the axis of symmetry, and a concave surface 13, the center of which is located in the axis of symmetry. The pivot pin is rigidly secured to the cam and is provided with a head facilitating the turning of the cam by means of a tool having a coating member to fit the head. The draw-bar is slotted as shown at 5 allowing the pivot pin to have bearing in the plate 1, the cam being disposed above the draw-bar and resting on an L-shaped projection 1^a of the support 1. The draw-bar is provided with laterally extending lugs 2^a between which is adapted to fit a detachable stud 6 carried by the cam 4. The draw-bar has secured to its upper surface supports 7 and 8, which serve as guides for plungers 9 and 10 respectively, which plungers are forced in the direction of the cam by means of springs 11 and 12 respectively.

The operation of the device is as follows:—When it is desired that the switch tongue, moved by the flange of the car wheel

running upon the rail, remain in alternative position with the main rail or guide rail, the stud 6 is placed in a cam extending between the lugs 2^a of the draw-bar 2 as shown in Fig. 1. In this position, (Fig. 1), the tongue of the switching mechanism is located to the extreme left against the rail. When spread by the flange of the car wheel the draw-bar 2 moves in the direction of the arrow, which through the stud 6 rotates the cam 4 to the right, the plunger leaving the cam surface 4^a rides upon the surface 4^b, simultaneously the plunger 10 leaves the surface 4^b and rides the surface 4^a, and the plungers, actuated by the tension springs 11 and 12, cause a positive movement of the switch, to the right, holding it there until the tongue is again actuated by a car wheel flange, or the cam actuated manually through the pivot head 3, whereupon the tongue turns to the left. When it is desired that the switch tongue remain in operative relation to either the guide rail or main rail and not alternate from one to the other, and yet provide means allowing movement of the tongue to accommodate the wheel flange of cars moving in the opposite direction to the switch point, the stud 6 is removed and the cam turned by means of the pivot pin until either plunger is located in the concave surface 13 of the cam with the longitudinal C/L of the plungers in line with the axis of symmetry of the cam, according to the desired position of the switch tongue. As an example, with reference to Fig. 3, if it is desired that the switch locate next to the main rail, the cam is turned in the direction of the arrow until the plunger 10 locates in the concave portion 13 of the cam, whereupon the plunger 9, through the spring action and support 7, throws the draw-bar to the right carrying with it the switch tongue, but allowing it to accommodate the wheel flange through the resiliency of the spring 12.

I claim:—

1. The combination with a switch structure having a movable tongue, of switch actuating mechanism comprising, a support, a draw-bar movable thereon and operatively connected to said tongue, a cam pivoted at a fixed point, and plungers carried by said draw-bar pressing against said cam to yieldably hold the switch tongue in operative

relation to the switch structure for switching purposes.

2. The combination with a switch structure having rails and a switch point, of
5 switch actuating mechanism comprising, a support, a draw-bar movable thereon and operatively connected to said switch point, an eccentric cam pivoted to said support,
10 spring actuated plungers disposed longitudinally on said draw-bar pressing against said cam, means oscillating said cam to change the switch point contact with the rails.

3. The combination with a switch structure having rails and a switch point, of
15 means for alternately changing the contact of the switch point with the rails comprising, a base, a draw-bar movable thereon and operatively connected to said switch point,
20 a cam pivoted to said base, spring actuated plungers carried by said draw-bar pressing against said cam, and means actuating said cam upon movement of the draw-bar to shift the eccentricity of the cam with relation to

the plungers, substantially as described and 25 for the purpose set forth.

4. The combination with a switch structure having rails and a switch point, of means for alternately changing the contact with the switch point with the rails comprising, a base, a draw-bar, having laterally
30 extending lugs, movable thereon and operatively connected to said switch point, a cam pivoted to said base, plungers carried by said draw-bar pressing against said cam,
35 and a stud carried by said cam and projecting between the lugs of said draw-bar, transmitting movement of the draw-bar to the cam and shifting its eccentricity with relation to the plungers, substantially as
40 described and for the purpose set forth.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

DINO DAVIDE SAMAIA.

Witnesses:

FERDINANDO GIRIESI,
GIUSEPPE GRIFF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."