(No Model.)

E. SAMUEL.

TONGUE SWITCH.

No. 503,807. Patented Aug. 22, 1893.

FIG. 1.

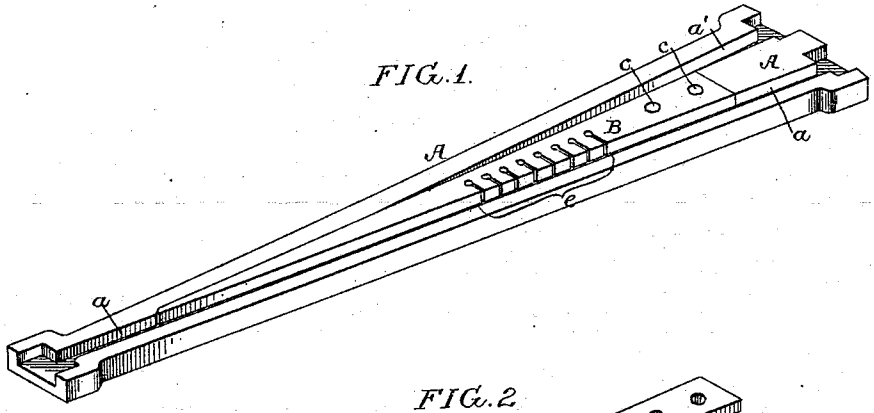


FIG. 2.

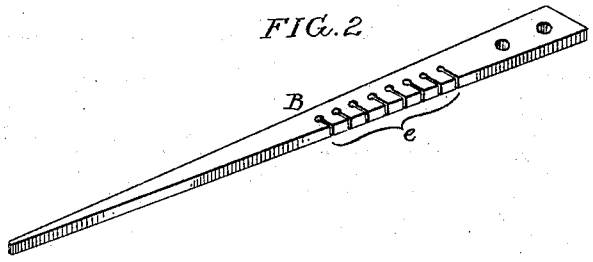


FIG. 3.

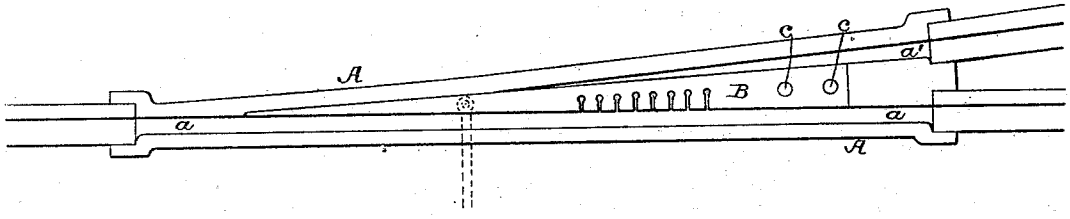


FIG. 5

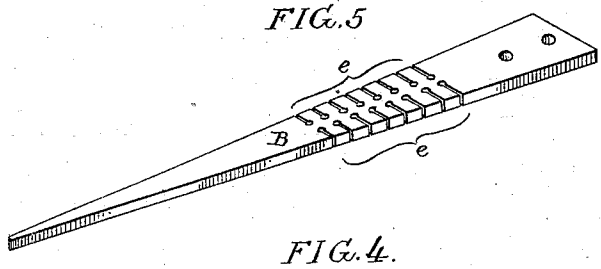
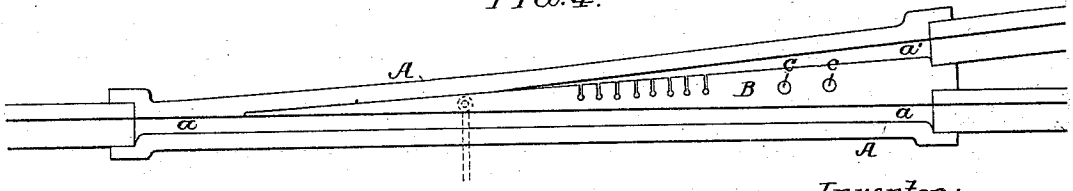


FIG. 4.



Witnesses:
Alex. Barkoff
A. Schleicher.

Inventor:
Edward Samuel
by his Attorneys
Howson & Howson

UNITED STATES PATENT OFFICE.

EDWARD SAMUEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF SAME PLACE.

TONGUE-SWITCH.

SPECIFICATION forming part of Letters Patent No. 503,807, dated August 22, 1893.

Application filed February 20, 1893. Serial No. 463,080. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SAMUEL, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Tongue-Switches, of which the following is a specification.

My invention relates to railway switches in which spring tongues are used, so that the switch is always set, for instance for the main track, but a car coming from a siding or turn-out can open the switch and be directed onto the main track.

The object of my invention is to so construct the tongue that it will be broad and substantial, and at the same time will readily yield at the point desired to allow the wheels of a car coming from a siding or turn-out to be directed onto the main track. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1, is a perspective view of my improved switch. Fig. 2, is a detached perspective view of the tongue. Fig. 3, is a plan view of the switch showing the serrations on the outer side of the tongue. Fig. 4, is a plan view showing the serrations on the inner side of the tongue; and Fig. 5, is a perspective view of a modification of the tongue.

Spring tongue switches as ordinarily made have very long and narrow tongues which have to be made of the finest grade of spring steel in order to yield sufficiently, and at the same time withstand the jars and strain incident to the travel upon the rails of the railway.

While my invention is especially applicable to street railway switches, it will be understood that when necessary it can be used on steam roads as well.

In the present instance A is the switch structure, having the main track *a* and the siding or turn-out groove *a'*, which merges into the main track groove.

B is the tongue of the switch secured to the switch structure A in the present instance by bolts or rivets *c*. This tongue is as wide as the ordinary pivoted tongue used in street railway switches, thus giving it a broad bearing, and also providing a broad surface for the wheels of a car, or for wagons or trucks which would traverse over the switch, and in order to allow this broad switch tongue to yield by the action of a wheel traversing the siding grooves *a'*, I make a series of serrations or cuts *e* in one side of the tongue of a sufficient depth to allow the metal of the tongue to spring the required distance, so that the wheel can be directed onto the main track. These serrations may be cut in the outer side of the tongue, as shown in Fig. 3, near the point where the tongue is secured to the switch structure; thus I do not weaken the tongue at the point where the strength is required, but it will be understood that the serrations may extend the full length of the switch, or may be near the point, without departing from my invention, or the serrations or cuts may be on the inner side of the tongue as shown in Fig. 4, and when the tongue is moved in this instance, the serrations open instead of close as in Fig. 3.

In making the cuts in the tongue, I prefer to drill a series of holes at the points where I wish to terminate the cuts, and then saw into the tongue terminating at the hole, thus preventing to a great extent the tendency of the tongue to crack beyond the terminus of the saw kerfs.

In Fig. 5, I have shown a tongue serrated on both edges, and in this instance the spring portion is at the center instead of at one edge, as shown in Fig. 2.

It will be understood that my invention can also be used as the spring tongue used upon electrical or cable conduits, when required, and the tongue can be operated by a hand lever or a switch mate, or by a movable guard rail by connecting the point to a rod shown by dotted lines in Fig. 3, or to any other operating mechanism.

I claim as my invention—

1. A spring tongue of a railway switch having one or both edges serrated allowing the tongue to yield, substantially as described.

2. The combination in a railway switch, of the switch structure, tongue attached to said structure at its root and permanently set to one side, said tongue having serrations in one or both edges, whereby the tongue can be sprung from one side to the other, substantially as described.

3. The combination in a railway switch

structure having the main track and siding or turn-out grooves, a switch tongue secured to the structure at its root, and having a series of serrations in one or both sides near the root, so as to give full strength to the tongue at its point at the same time allowing it to yield sufficiently, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD SAMUEL.

Witnesses:
WILLIAM D. CONNER,
JOSEPH H. KLEIN.