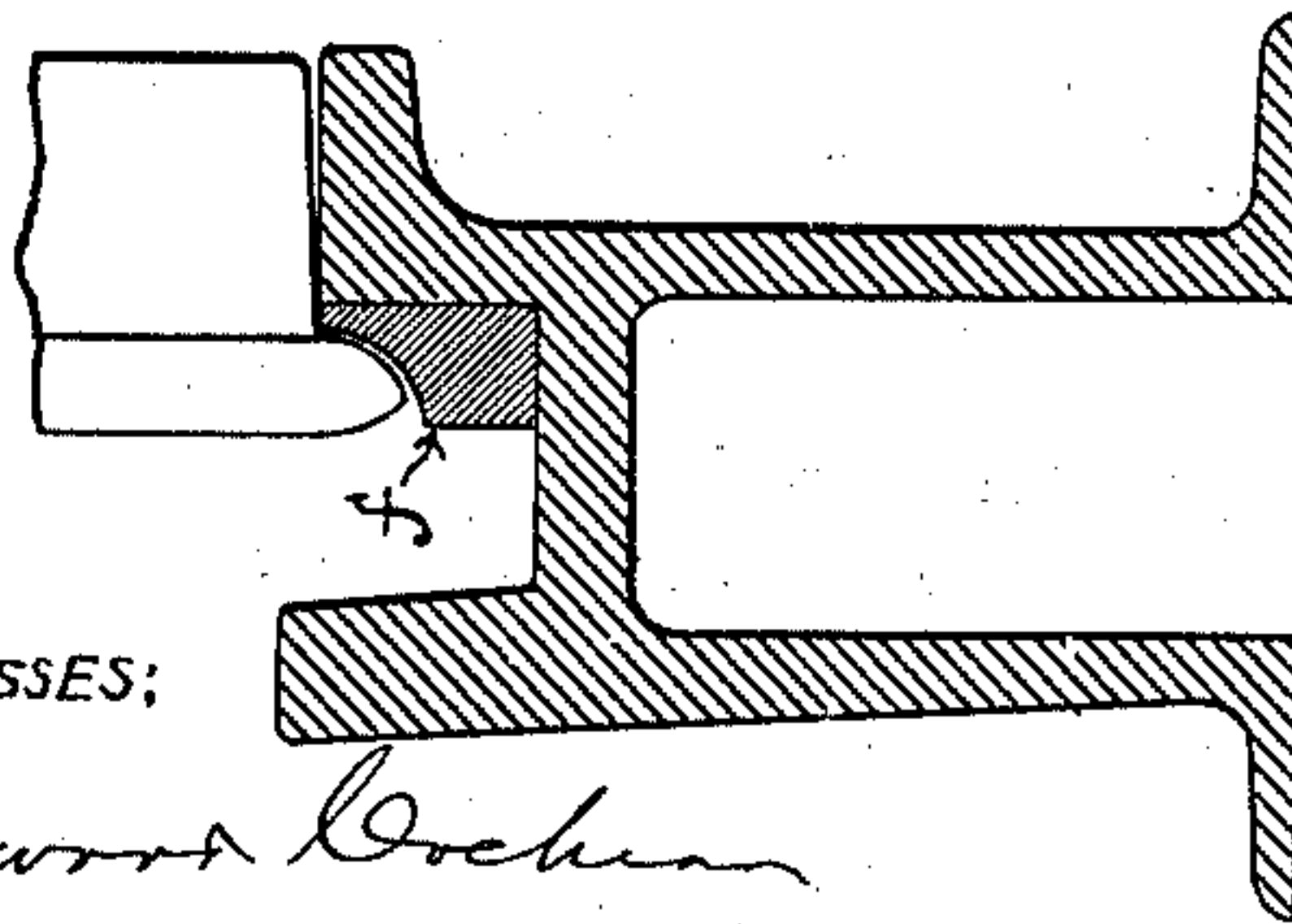
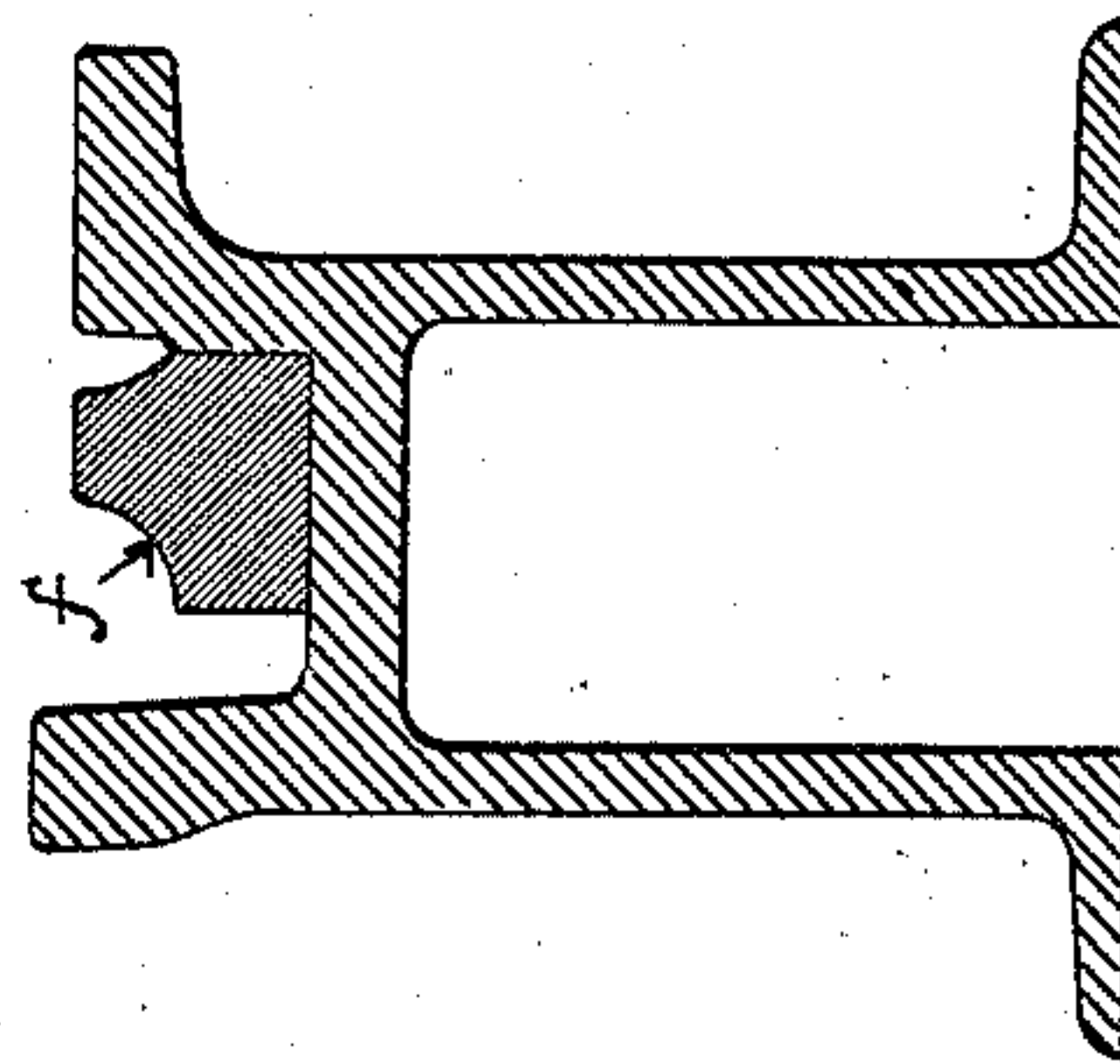
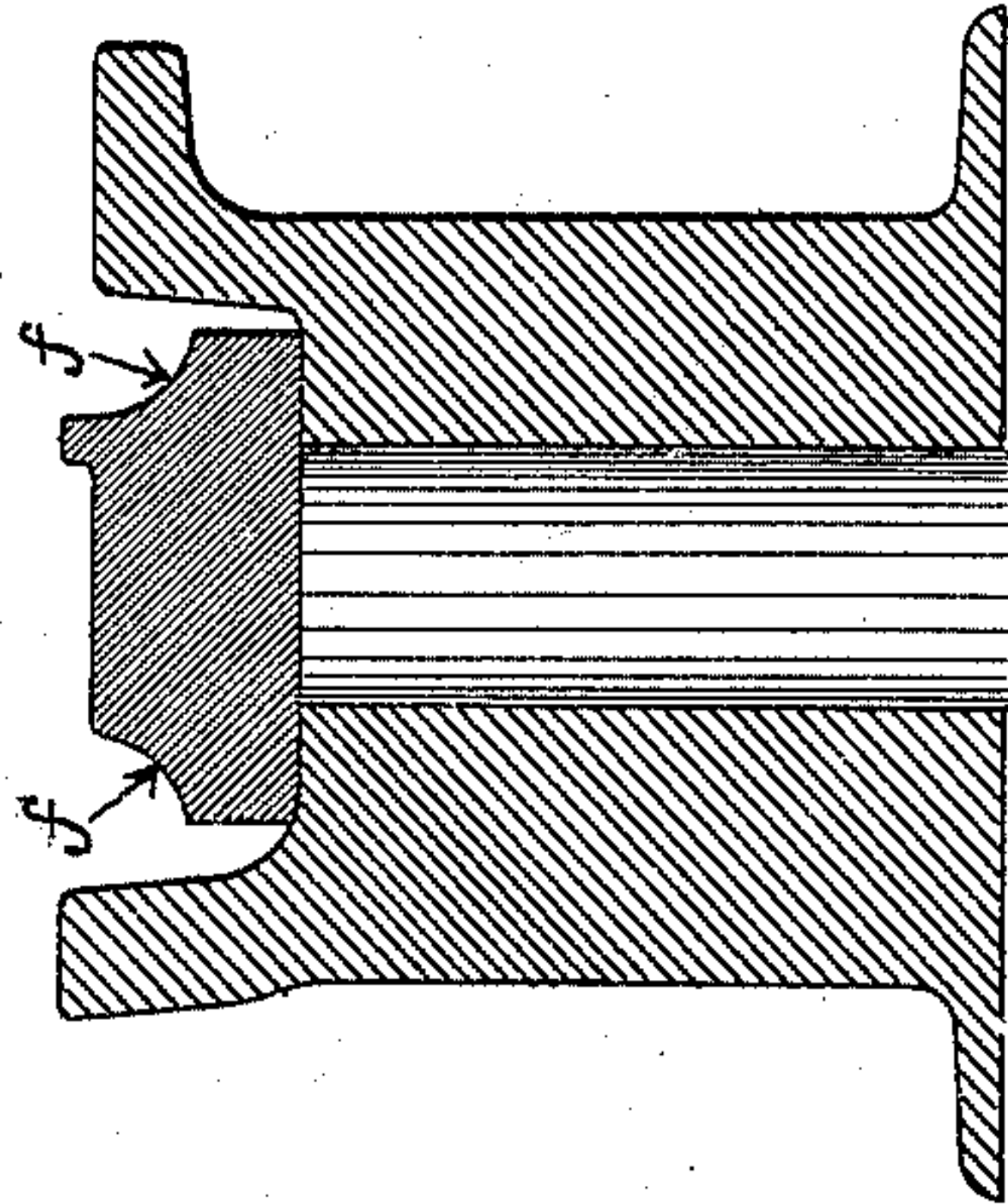
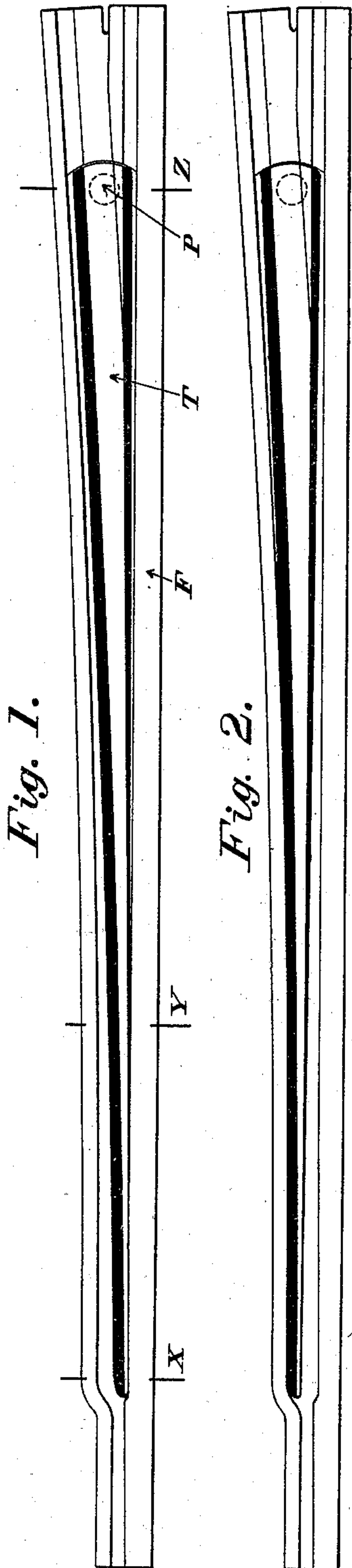


(No Model.)

E. B. ENTWISLE.
RAILWAY SWITCH.

No. 558,791.

Patented Apr. 21, 1896.



WITNESSES:

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EDWARD B. ENTWISLE, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO
THE JOHNSON COMPANY, OF LORAIN, OHIO.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 558,791, dated April 21, 1896.

Application filed February 26, 1896. Serial No. 580,888. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. ENTWISLE, of Johnstown, county of Cambria, State of Pennsylvania, have invented a new and
5 useful Improvement in Railway-Switches, of which the following specification is a true and exact description, due reference being had to the accompanying drawings.

My invention relates to certain improve-
10 ments in railway-switches, more especially to those used in street-railways, and has for its object to provide a switch of greater radius than it has been heretofore practical to construct and to provide a switch having other
15 advantages that will be hereinafter pointed out.

As heretofore constructed, it has been customary to place the switches on the inside rail of the curve. Switches have been put on the
20 outside, but the custom has been the other way. The tongues have usually been formed with vertical or substantially vertical sides, and when the bottom of the tongue has been substantially widened this widening has not
25 been carried to the point, but has always terminated at a point somewhere about midway in the length of the tongue. As the point end of the tongue has always been rectangular, it has been necessary to cut it off at a point
30 where it should not be much less than one inch wide in order that it might be sufficiently stiff. The reason for thus always forming the point of the tongue rectangular is easily seen. Placed as they usually are on the outside of
35 the curve the wheel, when running upon the straight track, rolls upon the tongue, and consequently that side adjoining the curved rail-head must fit closely to that, so as to provide as substantial a track as possible. When
40 the tongue is thrown to deflect a car to the curve-track, it acts as a guard, the wheel striking it on the upper corner. Were this thin point to have a base-flange on the opposite side there would be no support against this
45 high thrust of the car-wheel, which thrust, as the car-wheel first strikes the tongue, is a very considerable blow. Thus we see why the tongues have always been made for a very considerable portion of their lengths fitting
50 closely against the side wall of the pocket in

which they are placed. By my invention I am enabled to carry the point of the tongue very much nearer the tangent point and at the same time employ a larger radius than has heretofore been common.

Referring to the drawings, Figure 1 represents a top view of a switch embodying my invention, the tongue being set for the curve-track. Fig. 2 is a similar view with the tongue set for the main track. Figs. 3, 4, and 5 represent, respectively, sections on lines X, Y, and Z, these sections being to a larger scale.

F is the frame of the switch, and T the tongue, pivoted at P. It will be seen that this switch is arranged for the outside rail of the
65 curve, and aside from this I form the tongue in a peculiar manner. On each side of the rear end I provide an outwardly-projecting flange *f*, as shown in Fig. 5. This flange on the curve side is carried of substantially the
70 same width to the extreme point, as will be seen, but that on the straight side gradually dies out as the top approaches the head. As before said, I am enabled to continue this
75 curved flange uninterruptedly to the point on account of the switch being on the outside of the curve, and having this flange to act as a stiffener I can greatly prolong the tongue beyond the point where it was before safe to
80 go. In practice I am enabled to carry the point to where it is not over one-quarter of an inch wide at the top. When it is in the position of Fig. 1, it is securely supported throughout its length against the first blow of the wheel-flange, and not only that, but it has the weight
85 of the wheel upon it to hold it down and prevent any twisting. When it is thrown to the position of Fig. 2, the track is straight and it receives no thrust.

Having thus described my invention, what I claim, and desire to protect by Letters Patent, is—

1. A tongue-switch for railways, comprising a body portion having a straight track-rail head continuous throughout its length, a portion of a curved track-head at one end, a pivoted tongue abutting said curved rail-head, said tongue having a base-flange extending throughout a portion of the length of the tongue on the straight side and a base-
100

flange extending throughout the whole length of the curved side.

2. A tongue-switch for railways, comprising a body portion having a straight track-
5 rail head continuous throughout its length, a portion of a curved track-head at one end, a pivoted tongue abutting said curved rail-head, said tongue having a base-flange ex-

tending throughout the whole length of the curved side. 10

In testimony whereof I have affixed my signature in presence of two witnesses.

EDWARD B. ENTWISLE.

Witnesses:

L. G. BOREN,

JOHN H. KENNEDY.