

No. 752,892.

PATENTED FEB. 23, 1904.

G. M. ERVIN.
TONGUE SWITCH.

APPLICATION FILED JUNE 17, 1903.

NO MODEL.

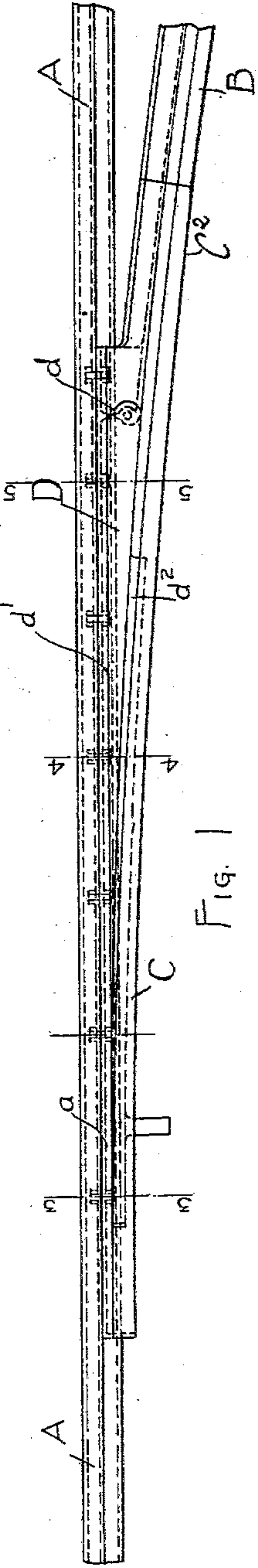


Fig. 1

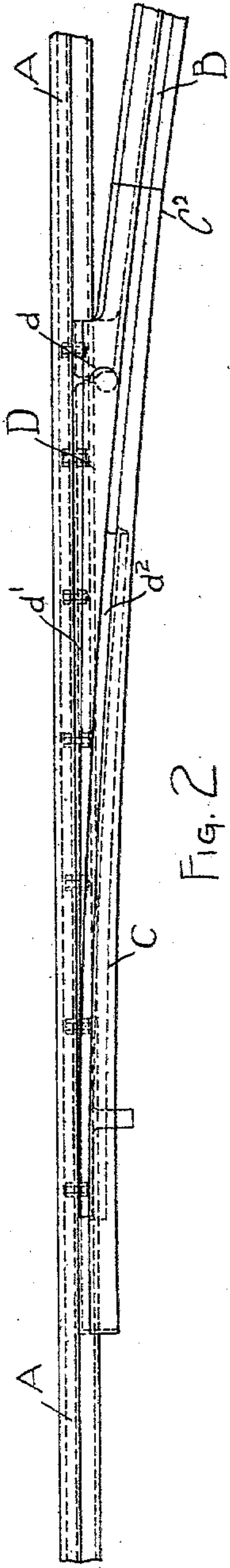


Fig. 2

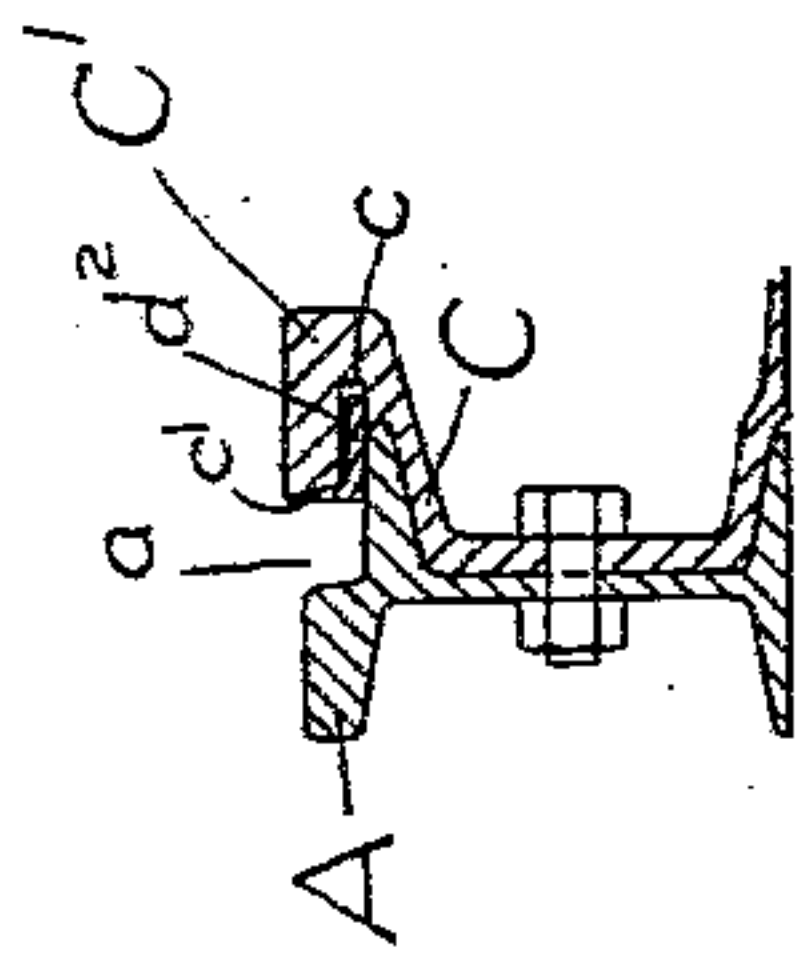


Fig. 3

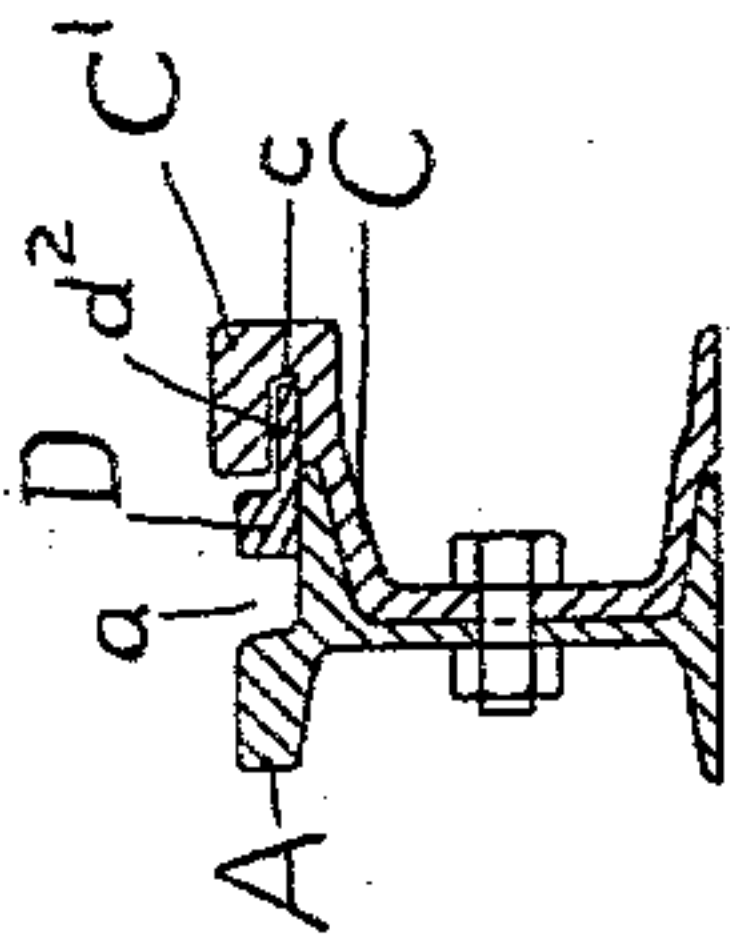


Fig. 4

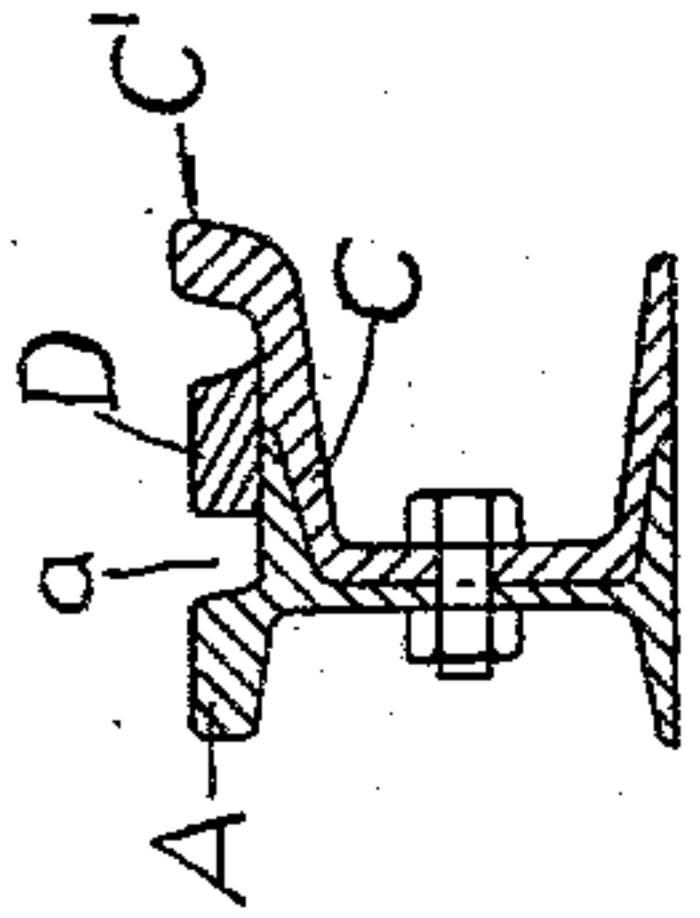


Fig. 5

WITNESSES:
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UNITED STATES PATENT OFFICE.

GEORGE M. ERVIN, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO THE
LORAIN STEEL COMPANY, A CORPORATION OF PENNSYLVANIA.

TONGUE-SWITCH.

SPECIFICATION forming part of Letters Patent No. 752,892, dated February 23, 1904.

Application filed June 17, 1903. Serial No. 161,866. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. ERVIN, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Tongue-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to certain new and useful improvements in tongue-switches, and more particularly to outside tongue-switches, or those used on the outer curves of turnouts or branching tracks.

The objects of my invention are to provide a tongue-switch of this character which will permit the main-track rail to remain entirely unbroken and uncut, which can be applied to the main-track rail at any point at which it may be desired to construct a branch or turnout without disturbing the main rail, which will present but little obstruction in the street and when in its normal position will leave the wheel-groove or flangeway of the main track its full normal width, and which has its tongue so constructed and arranged that it will not injure or be injured by ordinary street traffic.

With these objects in view my invention consists in the novel construction, arrangement, and combination of parts, all substantially as hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a tongue-switch embodying my invention with the tongue set for the main line; Fig. 2, a similar view with the tongue set for the branch track or turnout; and Figs. 3, 4, and 5, sections taken on the lines 33, 44, and 55, respectively, of Fig. 1.

The letter A designates the continuous main-track or through rail, and B a portion of the outer rail of a branch track or turnout.

C is a casting which is shaped to fit the web and tread of the rail A, as shown in the sectional views, and having the upwardly-projecting guard portion C' and the arm C² adapted for connection to the rail B by means of the usual splice-bar joint.

D is the movable switch-tongue, pivoted to the casting C at d. The bed for this tongue

is formed in part by the said casting and in part by the tram of the rail A. Its straight edge d' is so shaped that when the tongue is set for the main line, as shown in Fig. 1, said edge is parallel with the gage-line of the head of the rail A and sufficiently distant from said line to give the full unobstructed width of the flangeway a through the switch. This necessarily makes the tongue slender toward its point, and to reinforce and stiffen it it is formed on its curved edge with a base-flange d², which extends back as far from the point as may be necessary and depending upon the radius of the curve. To receive this flange, the guard portion C' of the casting C is undercut, as shown at c. The point portion of the tongue is also protected by the undercut wall c' of the inner edge of said guard portion.

To set this switch in position, all that is necessary is to make the required excavation at the inner side of the main rail A and form in the web of the latter holes for the bolts F, by which the casting C is secured to the main rail. Except for these holes in the web the said main rail is entirely unbroken and uncut. The casting C can be moved ahead or back on the main rail, as may be necessary, to give the proper gage for the inner edge of the switch-tongue, thus permitting the gage at the switch to be readily widened to any desired extent.

Owing to the fact that the flangeway a is presented full width and that the edge d' of the tongue when set for the main track is parallel with the gage-line of the rail A, there is no opportunity presented for a vehicle-wheel to become wedged in this flangeway to its injury or to the injury of the tongue.

In the drawings the rail A is shown as of the usual side-bearing girder-section. To apply the switch to a track using a grooved or guard section, it is necessary to plane away the guard-flange and to change the shape of the casting C to fit the particular rail-section, or a short length of side-bearing section may be furnished with the switch for insertion on the main line.

I do not wish to limit myself to the exact construction and arrangement which I have

herein shown and described, as the details may be changed somewhat without departing from my invention as defined in and by the following claims.

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

10 1. In an outside tongue-switch, the casting fitted to the inner side of the main rail and adapted for connection to the outer rail of a branch or turnout track, said casting having a guard-flange and a seat for a movable tongue.

15 2. In an outside tongue-switch, the casting fitted to the inner side of the main rail and forming a part of the outer rail of a branch or turnout track, said casting having an undercut guard-flange.

20 3. The combination with a continuous and uncut main rail, of a casting secured to the inner side thereof and forming a part of a turnout or branch track, and a switch-tongue pivoted to the said casting and resting partly on the same and partly on the tram of the main rail.

25 4. The combination with the continuous main rail, of a casting secured to the inner side thereof and forming a part of a turnout or branch track, said casting having an undercut and recessed guard portion, and a switch-
30 tongue pivoted to the casting and having a

base-flange which engages the said recessed guard portion.

35 5. In an outside tongue-switch, the casting secured to the inner side of the main rail, and the switch-tongue pivoted to said casting and having its outer straight edge parallel with the gage-line of the main rail, when the tongue is set for the main track.

40 6. In an outside tongue-switch, the casting secured to the inner side of the main rail, and a switch-tongue pivoted to the said casting and seated partly on the casting and partly on the tram of the main rail, said tongue being shaped and set to give a straight unobstructed main-track flangeway.

45 7. In an outside tongue-switch, the casting secured to the inner side of the main rail and having the undercut recessed guard portion, and a slender tongue pivoted to said casting and having its point portion shaped to lie in the undercut of said guard portion, and reinforced by a base-flange at its curved side which fits the recess of the said guard portion.

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

GEO. M. ERVIN.

Witnesses:

LORETTO O'CONNELL,
H. W. SMITH.