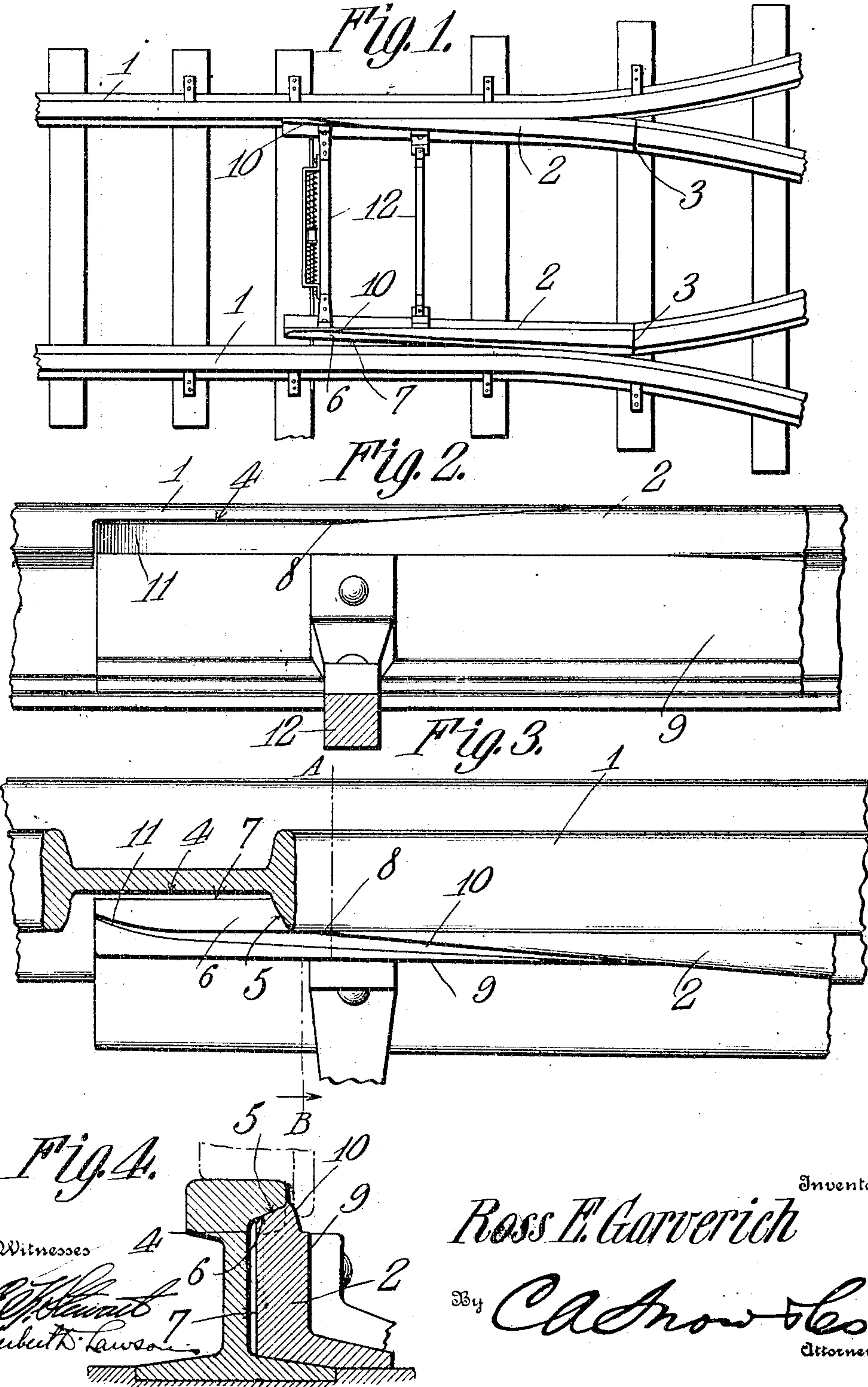


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RAILWAY SWITCH.  
APPLICATION FILED JUNE 18, 1909.

950,532.

Patented Mar. 1, 1910.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## RAILWAY-SWITCH.

950,532.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed June 18, 1909. Serial No. 502,975.

*To all whom it may concern:*

Be it known that I, ROSS E. GARVERICH, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented a new and useful Railway-Switch, of which the following is a specification.

This invention relates to railway switches, its object being to provide a switch the points or tongues of which are so shaped at their toes as to positively prevent wheel flanges from working between the main or stock rail and the tongue, if, from any cause, said toes should not lie firmly against the rail.

Another object is to provide a switch tongue, the toe of which is designed to gradually shift the wheels laterally from the stock or main rail and on to the tongue, or vice versa, the tread of the tongue being inclined downwardly toward the toe so as to gradually come into contact with the flange of the wheel passing over the switch.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a plan view of a railway switch embodying the present improvements. Fig. 2 is a side elevation, on an enlarged scale, of the toe portion of the switch tongue and of the adjoining portion of the rail, one of the connecting bars being shown in section. Fig. 3 is an enlarged plan view of the toe portion of the switch tongue, the adjoining rail being broken away. Fig. 4 is a section on line A—B Fig. 3, a portion of a car wheel being indicated upon the rail and tongue.

Referring to the figures by characters of reference 1, 1 designate the main or stock rails located at the switch and interposed between these rails are the pivoted tongues 2, each of which has the usual form of heel 3.

The invention in the present case resides in the peculiar form of the toe portion of each tongue and in the construction of the adjoining portions of the main rails 1.

By referring to Fig. 2 it will be noted that the main rail 1 has its head provided in its inner face with a longitudinal recess 4, arranged within the bottom portion of the

head, the upper wall of the recess being inclined as indicated at 5 in Fig. 4 so as to constitute a seat for the inclined upper face 6 of a longitudinally extending projection or "bulge" 7 formed upon the rail-engaging face of the tongue 2. This bulge is so proportioned that when the tongue is shifted against the rail 1 said bulge will completely fill the space between the head and base flange of the rail 1 and will also project into and fill the recess 4.

As shown particularly in Fig. 2 the upper face of the toe portion of the tongue is inclined downwardly toward the free end of said tongue and vanishes at a point 8, where it projects into the recess 4, this vanishing point being disposed below the level of the tread of rail 1. The web 9 of the switch tongue is of uniform thickness, except where the bulge 7 is located, and, as shown in Fig. 3, said web projects beyond one of the upstanding faces of the tongue, said upstanding face being inclined or beveled as at 10, the said face being also curved toward the rail 1 at the free end of the tongue, as shown at 11. This inclined face 10, which may be termed the guiding face of the switch-tongue, thus projects at its curved end 11 back into the recess 4, and it will be apparent therefore that, should the tongue, from any cause, not be shifted firmly against the rail 1, the curved portion 11 of the guiding face will prevent the flanges of the car-wheels from passing between the tongue and the rail 1. The inclined guiding face 10 gradually merges into the tread of the switch tongue.

It is of course to be understood that both of the tongues 2 are similar in construction, the two tongues being connected by bars 12, as ordinarily, and designed to be shifted alternately against the respective rails 1. When the switch is shifted against one of the rails 1 the bulge 7 upon the adjoining tongue 2 becomes seated between the base flange and the head of the rail 1 and also within the longitudinal recess 4, the inclined faces 5 and 6 of the recess and bulge contacting throughout their extent. The curved end 11 of the guide face 10 projects between the head and base flange. When a car approaches the switch the flange of its first wheel will first move against the inclined guiding face 10 of the switch tongue at some point along the curved portion 11 of the said face, and said flange will ride upwardly



to a certain extent upon said inclined face, and thus be shifted laterally away from the rail 1, such shifting action being of course very gradual. When the wheel reaches the point indicated by the numeral 8 its tire first comes into contact with the upper face or point of the switch tongue, and thereafter the wheel travels along the upper face of the tongue and off of the tread of the rail 1. It will thus be seen that the transposition of the wheel from the main rail 1 to the switch tongue is very gradual and totally devoid of all jolting or pounding and without danger of the flange of the wheel becoming wedged between the main rail and the tongue. Importance is attached to the fact that the initial gradual lateral shifting of the wheel is obtained by the movement of the wheel flange against the inclined guiding face 10, and to the further fact that the contact of the wheel-tire with the switch tongue is very gradual.

Obviously, various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. A railway switch including a recessed main rail, and a movable tongue having its tread brought to a point remote from the free end of the tongue, the upper surface of the tongue being inclined downwardly from said point toward the free end, that portion of the tongue between the point and free end being shiftable into the recess.

2. A switch including a recessed main rail, and a movable tongue, the tread of which is brought to a point located between the ends of the tongue, that portion of the tongue between the point and the free end of the tongue being inclined downwardly

toward said end and shiftable into the recess, said tongue having an inclined guiding face extending from its free end and past the point of the tread.

3. A railway switch including a recessed main rail, and a movable tongue having a tread forming a point remote from the free end of the tongue, the upper surface of that portion of the tongue between the point and free end being inclined downwardly toward said end, one side of the tongue being inclined for a portion of its length to constitute a guiding face, said guiding face having a convex terminal portion.

4. A railway switch including a main rail having a longitudinal recess in the bottom portion of the head thereof, and a movable switch tongue having its tread brought to a point located at a distance from the free end of the tongue, that portion of the tongue between the point and the said end being inclined downwardly, there being an inclined guiding face upon the tongue and terminating at one end in a laterally curved portion, the free end of said tongue and a portion of its curved guiding face being shiftable into the recess.

5. A railway switch including a recessed main rail, and a tongue having its toe portion shiftable into the recess, said tongue having means for successively engaging the flange and the tread of a wheel passing over the switch.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROSS E. GARVERICH.

Witnesses:

A. M. LANDIS.

SUE G. LANDIS.