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TONGUE SWITCH

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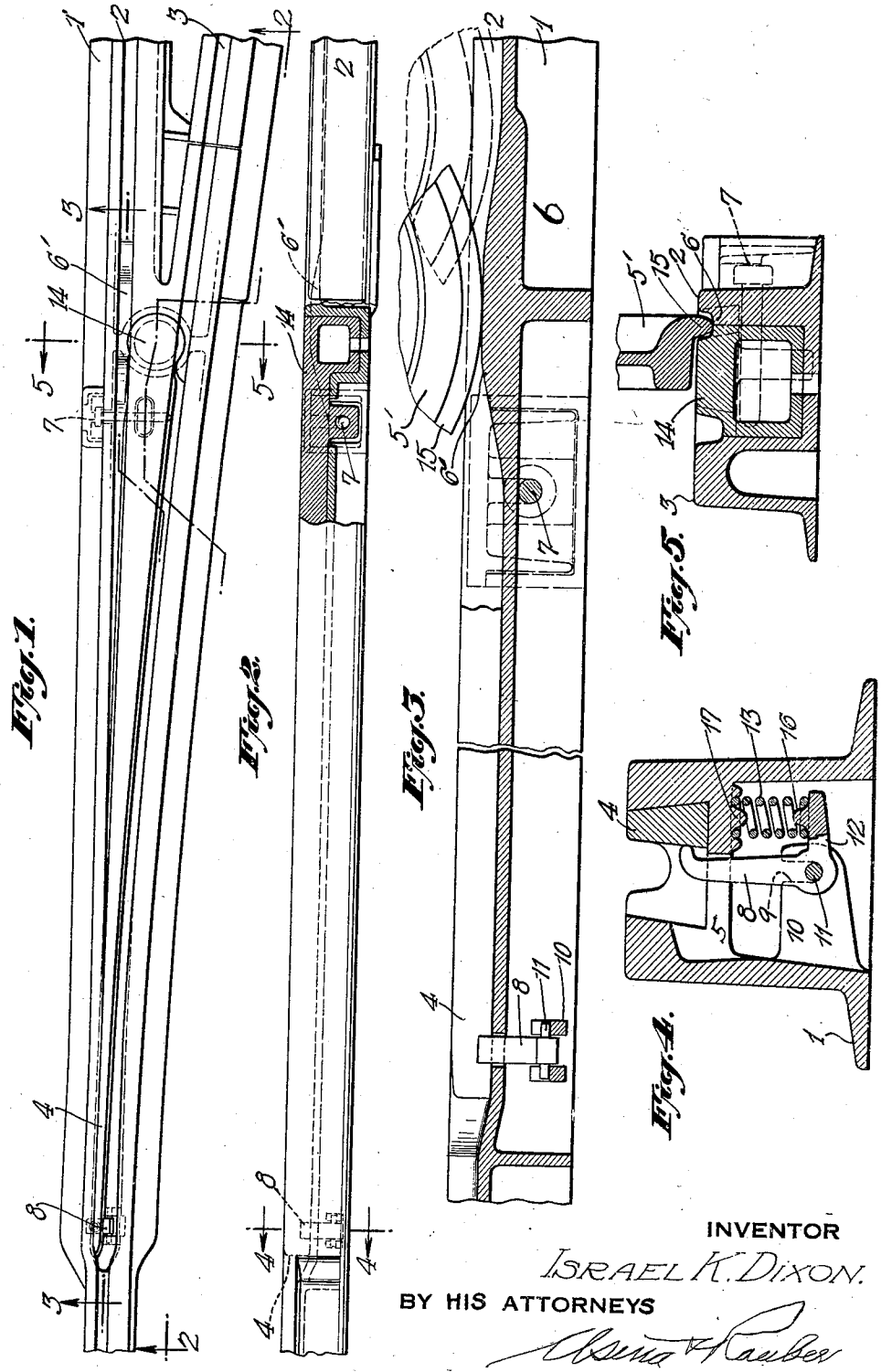

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 5.

Fig. 4.

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TONGUE SWITCH

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This invention relates to railway switches and more particularly to railway switches of the movable tongue type wherein means are provided to yieldingly retain the free end of the tongue in contact with the rail portion of a supporting base.

One of the objects of the present invention is to provide an improved type of means to yieldingly retain the end of the switch tongue in contact with the rail portion of the supporting base.

Another object is to provide an improved means to protect the heel of the movable tongue switch from car wheels passing thereover.

Another object of the present invention is to provide an improved railway switch structure of the movable tongue type.

Other objects and advantages will become apparent as the invention is more fully disclosed.

In accordance with the objects of this invention, I have devised an improved railway switch of the movable tongue types in which a novel type of switch tongue end retaining means and switch tongue heel protecting means is employed all as is more fully disclosed in the accompanying drawings; wherein—

Fig. 1 is a top plan view of a movable tongue switch incorporating the improvements of the present invention;

Fig. 2 is a side elevational view of the same partly broken away through the switch heel;

Fig. 3 is a sectional view through plane 3—3, Fig. 1;

Fig. 4 is a sectional view through plane 4—4, Fig. 2; and

Fig. 5 is a sectional view through plane 5—5, Fig. 1.

Referring to the drawings, the railway tongue switch of Fig. 1 comprises a switch base 1 carrying two converging rails 2 and 3 and a movable tongue 4 adapted to be positioned so as to divert railway car wheels 5′ to either rail (2 or 3) in a manner heretofore practiced. Means 5 is provided to yieldingly retain the free end of the movable tongue in a predetermined fixed operating position; and means 6 is provided to divert or to carry railway car wheels 5′ over the switch tongue heel without contacting therewith. Means 7 to pivotally retain the movable tongue 4 in position in the switch base is also provided.

The yieldingly retaining means 5 of the present invention is illustrated in enlarged detail in Fig. 4 and comprises essentially a pivoted lever arm 8 adapted to be engaged at one end by spring tension means 13 operating to bring the other end thereof into engagement with the switch tongue end in such manner as to yieldingly retain the tongue end in a desired operating position. When the tongue end is displaced therefrom the spring tension means operates on the pivoted lever arm to return the tongue to the desired fixed position.

In the specific embodiment illustrated in enlarged detail in Fig. 4, the pivoted lever arm is located within the switch base 1 below the switch tongue 4 and is comprised of two angularly disposed sections 8 and 12 and is adapted to be pivoted at the apex of the angle by laterally extending pins 11, adapted to fit in recesses 9 in seat 10 integral with base 1. Lever arm 12 is provided with a pin seat 16 for spring 13 and base 1 is also provided with means such as pin seat 17 to locate the opposite end of the spring 13.

In the arrangement shown in Fig. 4, when the lever arm and spring are assembled, spring 13 is under slight compression and is exerting a pressure through the pivoted lever arms 12 and 8 upon switch tongue 4. A lateral movement of the switch tongue 4 still further compresses the spring 13 and upon the removal of the displacing force the spring compression returns the tongue 4 to the desired fixed position.

The tongue heel protecting means 6 of the present invention comprises a flange bearing 6′ forming an integral part of the switch base structure 1 which is adapted to lift the car wheel over the tongue heel 14 in a manner as is shown in Figs. 3 and 5. In Fig. 3 the car wheel 5′ shown in segmented dotted line is traversing the switch and is riding in normal position upon the rail. In 5′ in solid lines the wheel is shown with the wheel flange 15 engaging the flange bearing 6′ in passing

over the switch heel. In Fig. 5 a sectional view of the same taken along plane 5—5, Fig. 1 is shown, illustrating how the tread of the car wheel 5′ is held above the tongue heel by the engagement of the wheel flange 15 with flange bearing 6′.

From the above description taken with the drawings it is believed apparent that the improved movable tongue switch including the improved tongue end retaining means and tongue heel protecting means of the present invention may be modified in many details without departing essentially from the nature and scope thereof as may be set forth in the following claims.

What I claim is:

1. In a tongue switch including a switch base, a movable switch tongue and means to yieldingly retain the switch tongue end in a predetermined desired operating position in said base, said means comprising a pivoted lever arm, pivotal means integral with the switch base to pivot the arm, and spring tension means operating against one end of the pivoted arm to bring the opposite end thereof in engagement with the movable switch tongue end in its fixed operating position and adapted to resist displacement of said switch tongue from its fixed operating position, without interfering with the normal passing of car wheel traffic through the switch.

2. In a tongue switch the combination of a switch body casting including fixed rails, a tongue between said rails having a pivot entering a recess in the body and permitting the ready introduction of the tongue into position or the lifting of it out of position and means below the top of the tongue at a point forward of the heel for holding the tongue down on the body, said body casting including a portion adjacent to the heel of the tongue and adapted to form a bearing for the flange of the car wheel and to hold the tread of the car wheel above the heel portion of the tongue, the body casting having a flange bearing portion in line with said wheel flange bearing extending from heel of tongue towards tip of the tongue so that a wheel entering at the tip of the tongue will bear on the tongue until it is nearly at the heel thereof and will be carried on the fixed bearing and will be lifted above the tongue as it passes over the heel thereof.

In witness whereof, I have hereunto signed my name.

ISRAEL K. DIXON.