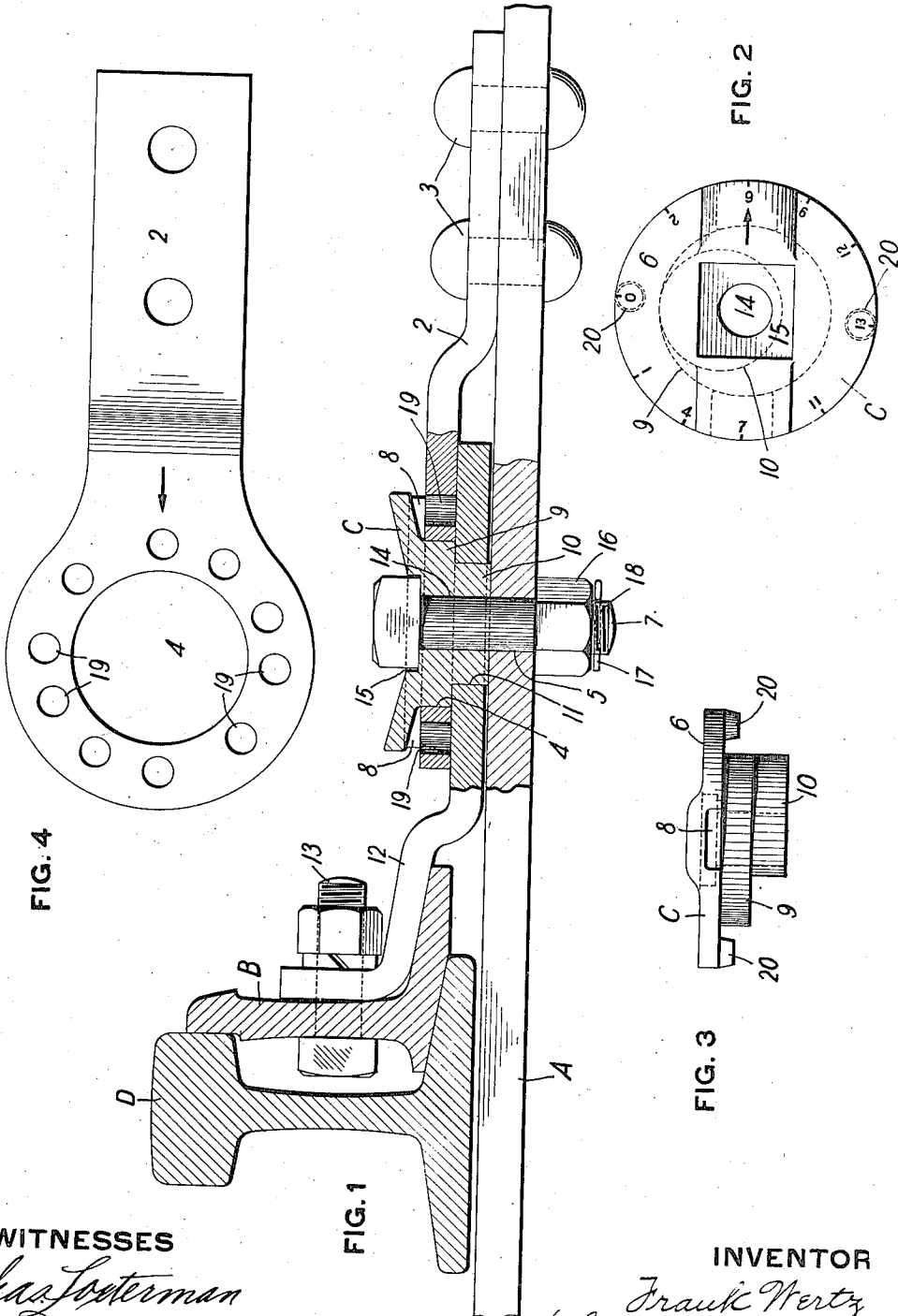


F. WERTZ.
RAILWAY SWITCH CONSTRUCTION.
APPLICATION FILED NOV. 3, 1911.

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Patented June 3, 1913.



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UNITED STATES PATENT OFFICE.

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RAILWAY-SWITCH CONSTRUCTION.

1,063,308.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed November 3, 1911. Serial No. 658,378.

To all whom it may concern:

Be it known that I, FRANK WERTZ, a citizen of the United States, residing at Johnstown, Cambria county, in the State of Pennsylvania, have invented a new and useful Railway-Switch Construction, of which the following is a specification.

My invention relates to the construction of railway switches and more particularly relates to the construction of the mechanism employed in maintaining the switch points or tongues of a split switch in operative relation to each other and to the rails of the railway track to which the switch is applied in forming a turnout therefrom.

One object of my invention is to provide a split switch construction having novel means by which the switch points are secured in their relative adjusted positions.

Another object of my invention is to provide an adjusting mechanism having improved means for relatively adjusting the switch rails in compensating for wear and for securing the adjusted switch rails in place whereby the necessity of disconnecting the switch rails in making adjustments thereof is avoided and overcome.

A further object of this invention is to provide an adjusting mechanism for switch rails having improved means for securing the adjusting mechanism together in adjusted positions by the use of which the adjusting operations are facilitated and the time required in making the adjustments is lessened and reduced.

Still further objects of the invention will appear as the invention is more fully described hereinafter.

Referring to the accompanying drawings forming part of this specification, Figure 1 is a longitudinal side elevation, partly in section showing a connecting mechanism as constructed and applied for use on a split switch in accordance with my invention. Fig. 2 is a detail plan of the eccentric forming part of the adjusting mechanism as constructed in accordance with this invention. Fig. 3 is a detail side elevation of the eccentric shown in Fig. 2. Fig. 4 is a detail plan showing the top surface of the dab forming part of the forked bridle rod as provided with recesses or holes forming part of the holding mechanism for the adjustable eccentrics.

In the drawings, A designates bridle rods by which the switch tongues or switch

points B are held in their spaced apart relation, the bridle rods having eccentrics C thereon whereby adjustment of the switch tongues or points B on the bridle rods is made, and the transversely movable switch tongues B are maintained in position relative to each other and to the track rails D of the railway track to which the split switch is applied in forming a turnout therefrom. The bridle rods A have forks provided thereon which are located adjacent to the points in their length at which the switch tongues cross or intersect therewith, and by means of which the switch tongues are secured thereto. In the bridle rod construction shown, forged metal dabs 2 are secured by rivets 3 to one face of the bridle rods A to form the forks thereon, and an opening or hole 4 is provided in the free end of the dabs 2. While the bridle rods are shown with the fork forming dabs secured thereto by rivets, the forks may be formed integrally on the bridle rods, when necessary or desirable, as for example by forging the bridle rods. The bridle rods also have small openings or holes 5 which register with the holes 4 in the free end of the dabs 2.

The eccentrics C as shown have a top portion forming a dial 6 which is recessed in its top face to receive the square head of a bolt 7 and which has rectangular recesses 8 in its bottom face on opposite sides of the axial center of the eccentric. The eccentrics C have integral cylindrical portions 9 concentric with the top portions 6 thereof which extend through the openings 4 in the dabs 2, and connect the integral cam portions 10 on the bottoms of the eccentrics with the top portions or dials 6. The cam portions 10 on the eccentrics project downwardly into the openings 11 in one end of the rail clips 12 which are secured on the switch tongues B by bolts 13, the clips 12 being employed in securing the switch tongues B to the bridle rods A. The bolts 7 are employed to secure the eccentrics C against vertical movement on the bridle rods, these bolts extending through the axial openings 14 in the eccentrics and through the registering openings 5 in the bridle rods. The square head of the bolts 7 are located in the recesses 15 in the top faces of the dials 6 to prevent turning of the bolts in tightening the nuts 16 on the ends thereof, and cotter pins 17 are placed in the trans-

verse holes 18 in the end of the bolts 13 to lock the nuts 16 on the bolts.

The top faces of the dabs 2, or, when the forks are formed integral on the bridle rods, the equivalent top face of the forks are provided with a series of depressions or holes 19 in the upper surfaces thereof, and the under surfaces of the dials 6 forming part of the eccentrics are provided with projections 20 which enter and engage with the openings or holes 19 in the top surfaces of the dabs to prevent rotation of and maintain the eccentrics C in the various adjusted positions in which they are placed. The holes 19 in the top surfaces of the dabs are spaced unequally so that in turning the eccentrics C in the forked ends of the bridle rods A in adjusting the switch points, the adjustments are made in equal amounts.

To facilitate the adjustments, the outer surfaces of the dials 6 on the eccentrics are provided with numerals representing as shown adjustments of each eccentric sufficient to vary the distance between the opposite switch points or tongues equaling one-sixteenth of an inch. Arrows or other marks are provided on the top face of the dial 6 and the upper surface of the dabs or forks on the bridle rods A and, when it is desired to lengthen the rod, in order to increase the distance between the opposite switch rails or tongues B connected thereby, the dial is turned to bring a larger one of the numerals stamped thereon opposite the arrow on the fork. To lessen the distance between the switch rails or tongues B the dial is turned in the opposite direction so as to bring a smaller number opposite the arrow on the fork or bridle rod.

It should be noted that in making the adjustments it is unnecessary to disconnect the switch rails B from the bridle rods. To make an adjustment the nut 16 on the bolt 7 is slackened sufficiently to permit the dial 6 to be lifted enough for the projections 20 on the lower surface thereof to clear the top face of the dab 2. The end of a bar or other tool is then inserted in one or the other of the transverse recesses 8 formed in the under surface of the dial 6 and the dial is quickly turned the desired amount to make the requisite adjustment. The nut 16 is then again tightened to bring the projections 20 on the dial into engagement with the then registering openings 19 in the top face of the dab 2.

One end of one of the bridle rods A is provided with an extension on one end by which it is connected in any usual and known manner to the switch lever by which the switch rails are thrown or operated.

The advantages of my invention will be apparent to those skilled in the art. By the

novel construction of the adjusting mechanism the switch rails in a split switch, which rapidly become worn and require frequent adjustments, are easily and quickly adjusted to compensate for wear and the adjustments are made without disconnecting the switch rails from the bridle rod.

Modifications in the construction and arrangement of the parts may be made without departing from my invention.

The eccentric adjusting mechanism may be employed in securing but one switch rail to the bridle rod instead of connecting both switch rails with such adjusting mechanism and other changes may be made within the scope of my invention as defined in the claims.

I claim:—

1. A railway switch comprising in combination a bridle rod having a dab forming a fork, a switch rail clip whereby said rail is connected to the fork, said dab and rail clip having transverse openings therethrough, a flanged eccentric projecting downwardly into said transverse openings, said eccentric being rotatable to adjust the switch rail clip in the fork of said bridle rod, and a bolt extending through registering openings in said eccentric and dab to secure the eccentric in place, said dab having a series of irregularly spaced apart holes around the periphery of the transverse opening therein, and the eccentric having a projection on the under side of the flange thereof arranged to project into the holes in the dab to hold the eccentric in adjusted position in the dab.

2. A switch rail construction comprising in combination a forked bridle rod having a dab thereon forming the fork, a switch rail clip whereby said rail is connected to the bridle rod, said dab and rail clip having registering transverse openings therein, a flanged eccentric having reduced portions projecting downwardly respectively into the transverse openings in the dab and the rail clip, said eccentric being rotatable to adjust the clip relative to the bridle rod, a plurality of holes spaced unequally around the periphery of the transverse opening in said dab, and a plurality of projections on the under face of the flange on said eccentric arranged to extend into said holes to hold the eccentric against rotation, and a bolt extending through registering openings in the eccentric and the bridle rod whereby the eccentric is secured in adjusted position on said bridle rod.

In testimony whereof, I have hereunto set my hand.

FRANK WERTZ.

Witnesses:

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H. W. SMITH.