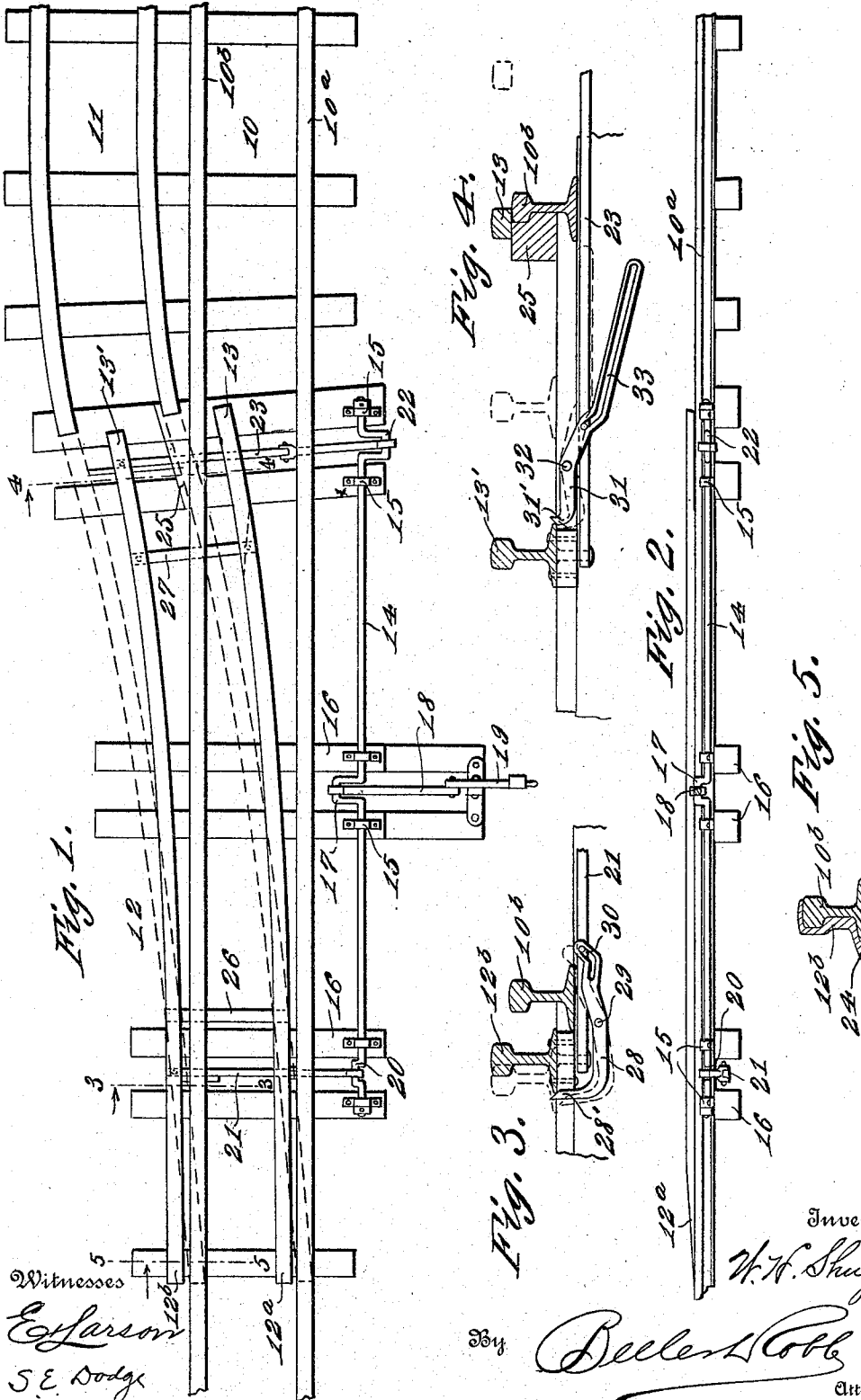


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RAILWAY SWITCH.
APPLICATION FILED JUNE 16, 1909.

932,588.

Patented Aug. 31, 1909.



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RAILWAY-SWITCH.

932,588.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. SHUGART, a citizen of the United States, residing at Newport, in the county of Cocke and State of Tennessee, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

This invention relates to railroad construction, and has particular reference to switches, the purpose being to avoid the necessity for using frogs and the cutting of the main track rails.

It has been found in practice that since trains are moved upon side tracks usually at slow speed and infrequently in comparison to the vast amount of traffic over the main rails, the movable switch points may be so constructed and operated as to overlap the main rails and to cause the trains to roll up thereon at a sufficient elevation above the main rails to permit the wheel flanges to pass over the main rails without obstruction.

This invention includes certain specific novel details of construction hereinafter fully described and claimed and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view illustrating the switch in normal position, the illustration being diagrammatic; Fig. 2 is a side elevation of the device shown in Fig. 1; Fig. 3 is a transverse vertical detail substantially on the line 3—3 of Fig. 1; Fig. 4 is a similar view on the line 4—4 of Fig. 1, and Fig. 5 is a similar view on the line 5—5 of Fig. 1.

Throughout the following description and on the several figures of the drawings, similar parts are referred to by like reference characters.

Referring to the drawings, the numeral 10 indicates the main track having rails 10^a and 10^b, and the numeral 11 indicates the side track. The switch is shown at 12 and comprises a pair of switch points 12^a and 12^b, spaced normally at one side of the rails 10^a and 10^b, respectively, and adapted to be moved in one direction toward and over the same, as indicated in dotted lines in Fig. 1. The switch also includes switch points 13 and 13', movable in the opposite direction from the movement of the first mentioned switch points, and adapted to aline with the rails of the side track 11. The switch point 13 normally lies between the rails of the main track and is adapted to overlap the rail 10^b upon movement of the switch.

Any suitable mechanism may be employed

to shift the switch, either one end at a time or both simultaneously. As a convenient and suitable mechanism for such operation there is shown a rock shaft 14 journaled in bearings 15, arranged longitudinally of and at one side of the main track. Said journals or bearings 15 will preferably be supported upon the usual cross ties 16. The shaft 14 is provided at any suitable point with an operating crank 17 to which is connected a link 18, to be operated by any suitable switch lever 19, similar to the conventional switch mechanism.

Preferably near one end of the rock shaft is a crank 20 adapted to operate the shifting bar 21 connected to one pair of switch points. A crank 22 preferably near the opposite end of the rock shaft has connection to a shifting bar 23 to operate the other switch points. Since the pairs of switch points, as described above, are movable in opposite directions, it is necessary that the cranks 20 and 22 shall extend in opposite directions from the rock shaft 14. Furthermore, since it is usually necessary for one pair of switch points to move a greater distance than the other, the crank 22 to operate the same is made longer than the other crank 20. The angular movement, therefore, of the two cranks 22 and 20 remaining the same, the throw of the bar 23 will be sufficiently greater than that of the bar 21 as to cause the switch point 13 to pass entirely across the rail 10^b.

As indicated in Figs. 2 and 5 the switch points 12^a and 12^b are tapered or wedge-shaped so as to permit the cars to roll up the same easily. Again, as indicated in Fig. 5, the movable switch points are formed to nest snugly against the main rails when the switch is to be used, whereby a stronger and better braced structure is obtained. The base flanges 24 of said switch points cooperate with the same supporting tie or bed plate as the base flanges of the main rails. That portion of the movable switch point 13 which spans the rail 10^b is adapted to rest upon a supporting block 25 when in alinement with the side track rail. Connecting bars 26 and 27 may be used if necessary to cause proper cooperation of the respective switch points.

If found necessary or desirable, in addition to the main features of construction above described, any suitable means may be employed to positively lock the switch points in set position. As indicated in Figs. 3 and 4, locking dogs are mounted in such a manner

as to cooperate with the movable switch points and are preferably operated directly from the shifting bars connected to the bell cranks. The dog 28 is pivoted at 29 to any stationary support, and is provided with a point 28' adapted to impinge against the base flange of the switch point 12^b. Said dog 28 is operated by means of a pin and slot connection 30 from the shifting bar 21. Said slot being cam-shaped, the horizontal movement of the pin will cause sufficient vertical movement of the dog to bring the point 28' into or out of engagement with the switch point flange. The dog 31 at the other end of the switch is pivoted on a fixed pivot 32 and is provided with a point 31' to cooperate with the inner edge of the flange of the switch point 13'. The operation of the dog 31, like that previously described, is by means of a pin and slot connection 33 with the bar 23. By virtue of said locking mechanism it is impossible for the movable switch points to become misplaced after being once set.

Having thus described the preferred embodiment of the invention, but without desiring to be limited thereto except as required by the state of the art, what is claimed as new is:

1. In combination with the main rails, the hereindescribed railway switch comprising pairs of switch points simultaneously movable in opposite directions, means for so moving said switch points, and positive locking mechanism cooperating with the several pairs of switch points and operable from said switch moving means.

2. In combination with the main rails, the hereindescribed switch comprising a pair of switch points normally at one side of the main rails and movable to and upon the same in one direction, a pair of switch points at the other end of the switch, one of the latter switch points being movable across one of the main rails, the latter pair of switch points being movable in the opposite direction from the first pair and to a greater distance, and bell crank mechanism for simultaneously shifting said switch points by a single operation, substantially as set forth.

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

WILLIAM H. SHUGART.

Witnesses:

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