No. 787,216. PATENTED APR. 11, 1905.

H. PHILLIPS.

RAILWAY SWITCH.

APPLICATION FILED SEPT. 19, 1904.

2 SHEETS—SHEET 1.

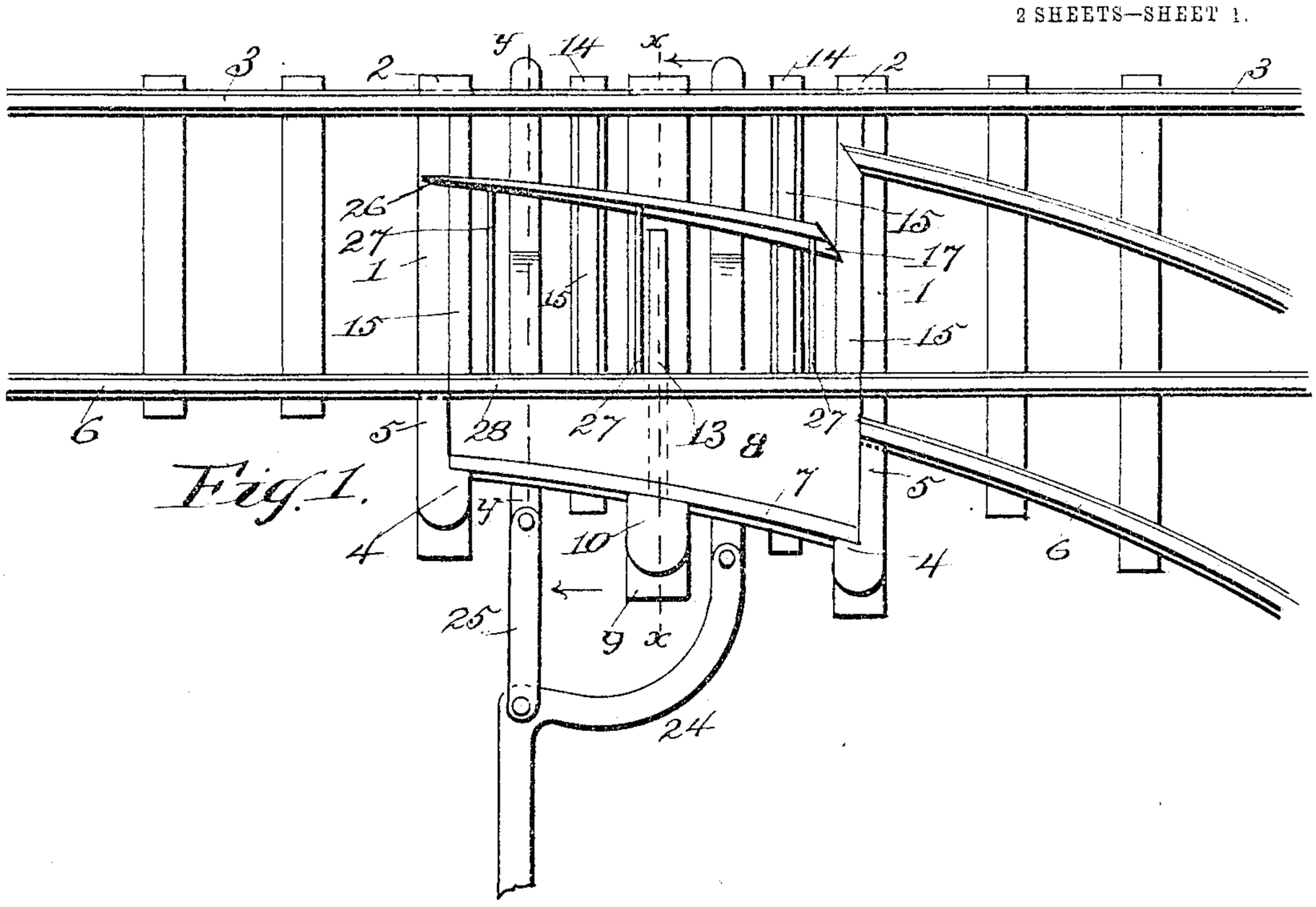

Fig. 1.

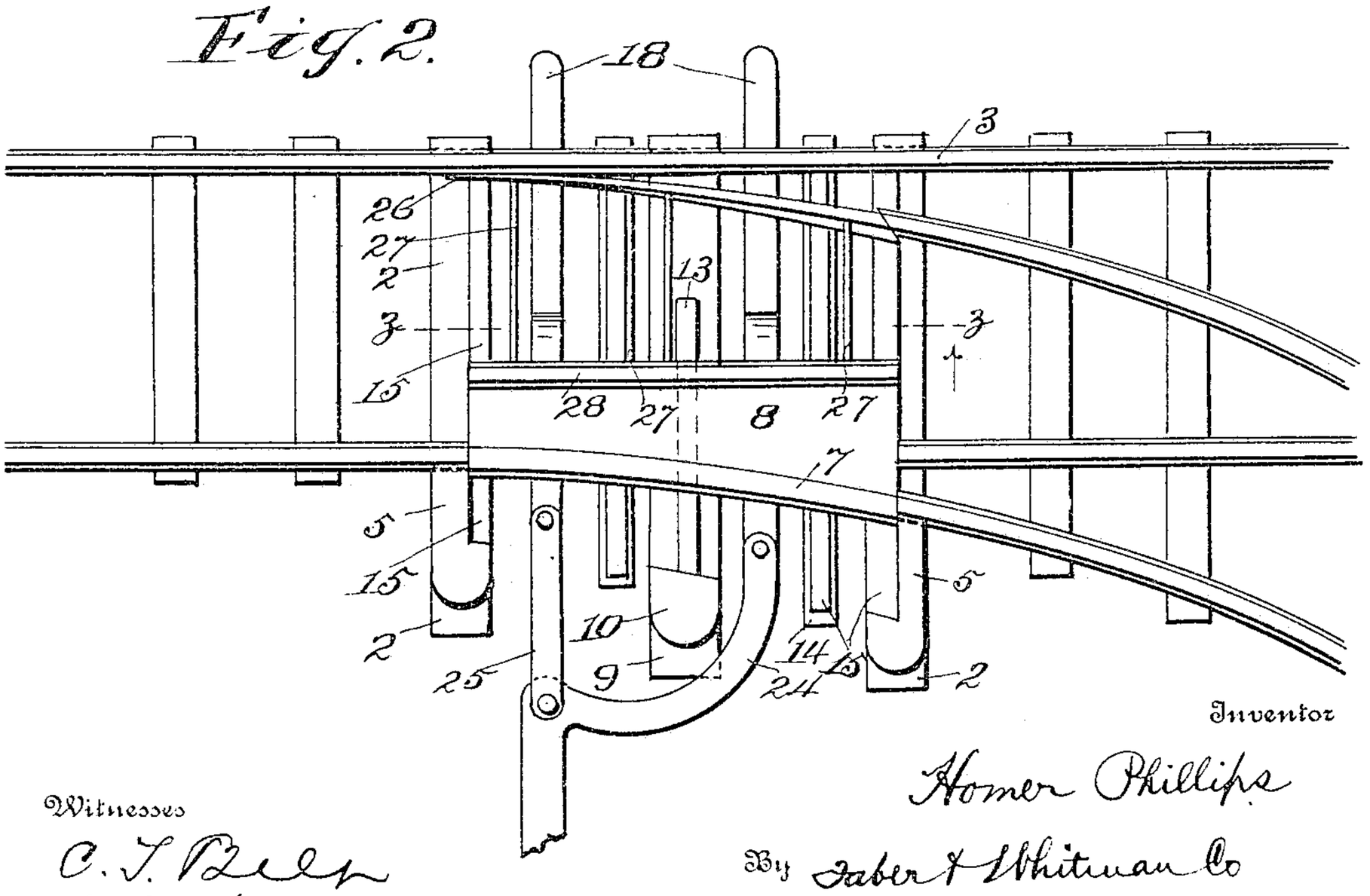

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

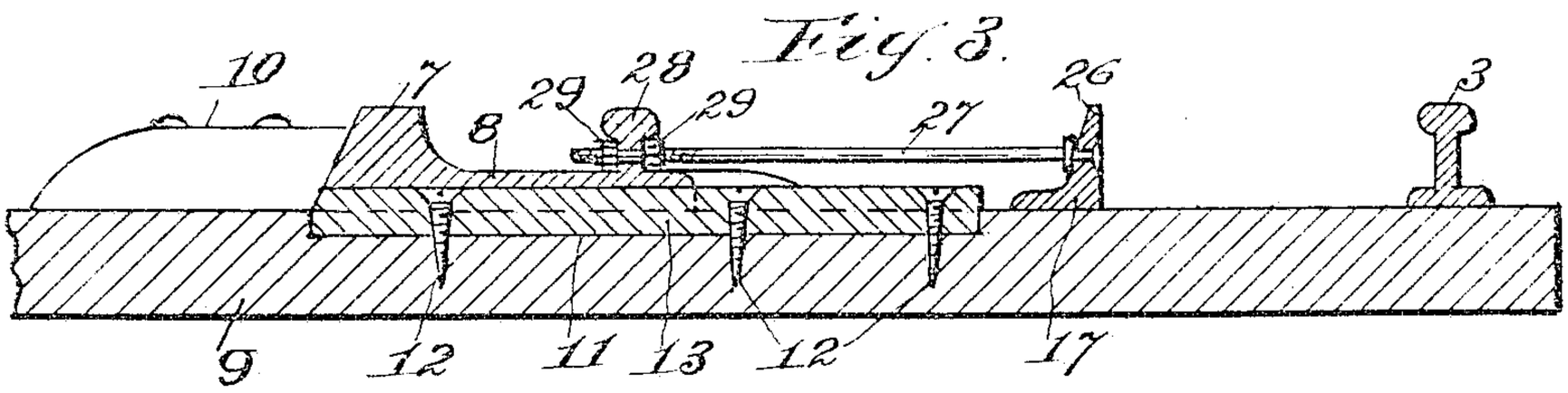


Fig. 4.

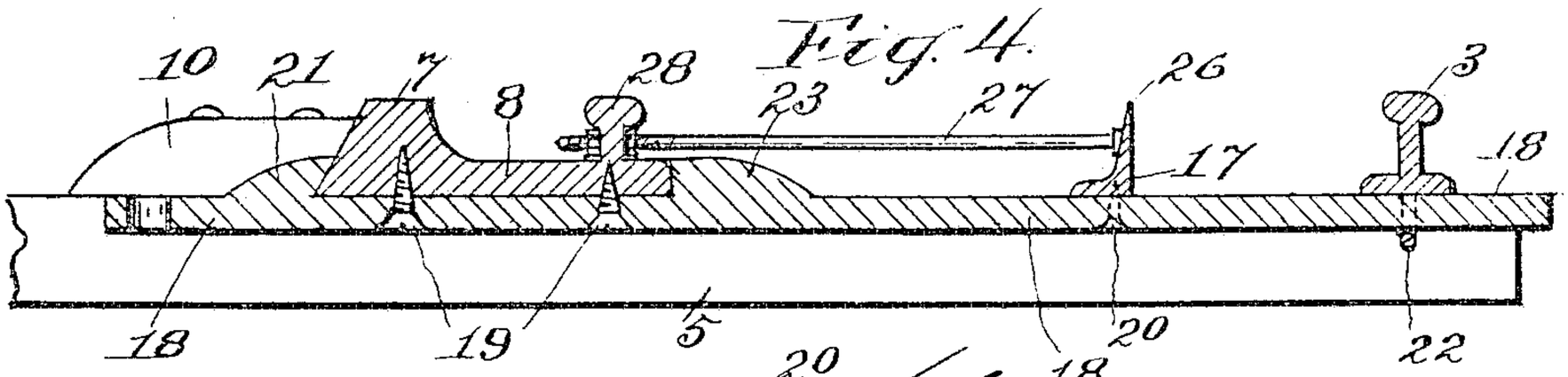


Fig. 5.

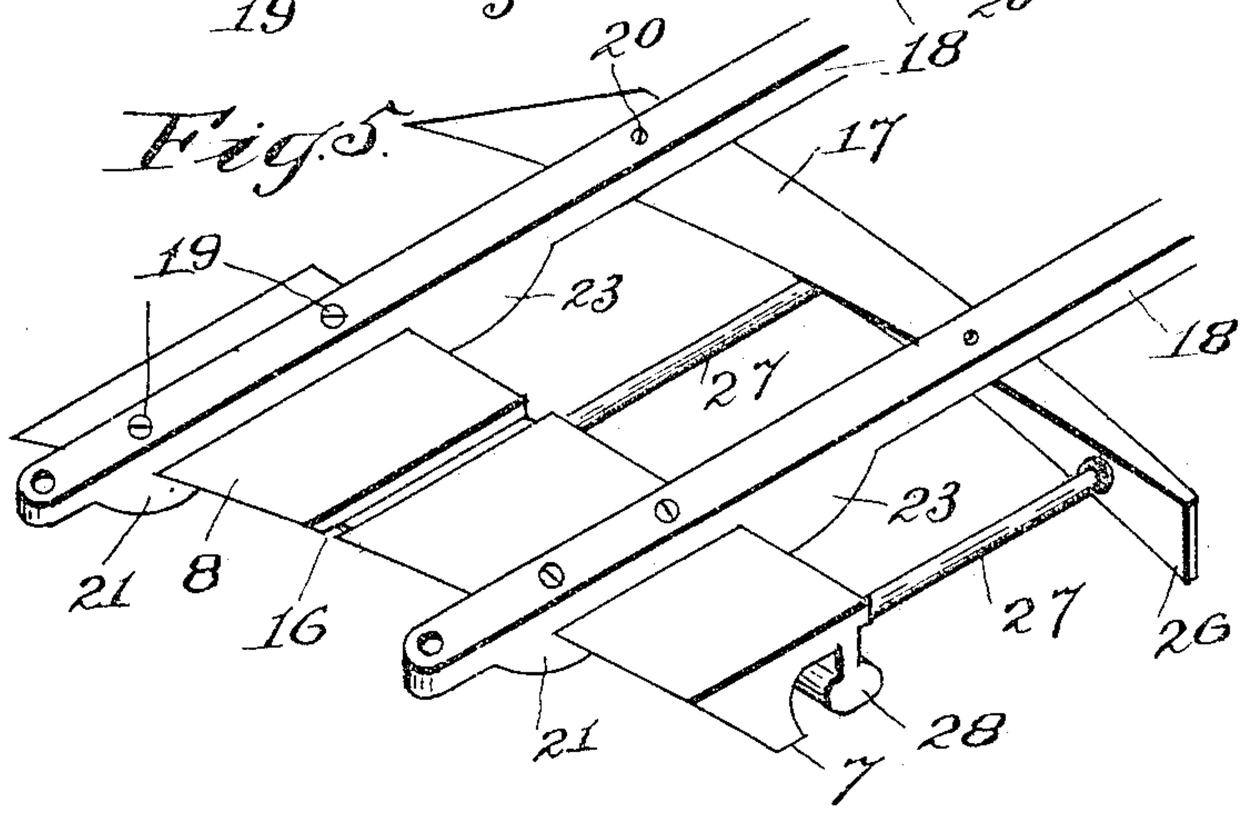
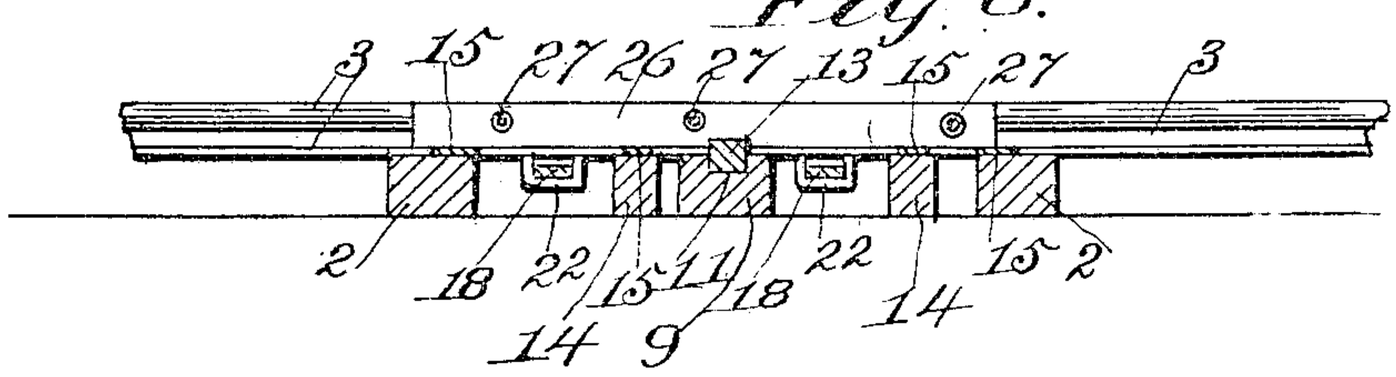


Fig. 6.



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No. 787,216 Patented April 11, 1905.

UNITED STATES PATENT OFFICE.

HOMER PHILLIPS, OF GLOUSTER, OHIO.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 787,216, dated April 11, 1905.

Application filed September 19, 1904. Serial No. 225,020.

To all whom it may concern:

Be it known that I, HOMER PHILLIPS, a citizen of the United States, residing at Glouster, in the county of Athens and State of Ohio, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification.

This invention relates to railway-switches, and pertains especially to the class of hand-operated slip-switches.

The object of the invention is to provide a switch having such peculiar construction that it will be certain in operation and insure the transfer of a railway-train from one track to another and prevent derailment should the switch operator fail to fully throw the switch or should the latter be accidentally left half open.

A further object of the invention is to provide a switch having the switch-frog attached thereto and braced therewith in a novel and peculiar manner, so that the frog may be prevented from displacement and adjustably held parallel with the switch-plate rail.

A still further object of the invention is to provide a slip-switch having brace-rods extending from the switch-frog through the slip-rail and provided with nuts to prevent swaying or vibration of the frog and to keep it parallel with said rail and to provide certain novel and peculiar construction in the switch-ties to afford durability thereof and of the switch and the expeditious operation of the switch.

In the accompanying drawings, forming part of this application, Figure 1 is a plan view of a switch embodying my invention. Fig. 2 is a similar view showing the switch in reversed position to that shown in Fig. 1. Fig. 3 is an enlarged sectional view on the line $x\,x$, Fig. 1. Fig. 4 is a like view on the line $y\,y$, Fig. 1. Fig. 5 is a detail perspective view of the switch-slip inverted. Fig. 6 is a central longitudinal section on the line $z\,z$, Fig. 2.

The same numeral references denote the same parts throughout the several views of the drawings.

The switch-ties 1 have end keepers 2 for the railway-rail 3 and an abutment 4, provided with a projection 5, flush with the railway-rail 6 and forming an end bearing for the curved rail 7 of the slip-plate 8. The switch-tie 9 has an abutment 10 and a longitudinal recess or cavity 11, in which is secured by suitable screws 12 a metallic guide-cleat 13, with a portion thereof projecting above the surface of the tie 9. The switch-ties 14 and the ties 1 are provided with metallic strips 15, forming bearings upon which the slip-plate 8 slides. The plate 8 has a slot or groove 16 across its bottom face to fit the cleat 13.

The plate 8 and the switch-frog 17 are mounted on a pair of stringers 18 by suitable screws 19 and 20, one end of the stringers having a flange 21 and the other end adapted to slide in hangers 22, depending from the railway-rail 3. The plate 8 is fixed between the flanges 21 and lugs 23 of the stringers, and the frog engages the end of the said lugs and is secured to the reduced ends of the stringers. A lever 24 is pivoted to one of the stringers, and a lever 25 is pivoted to the other stringer and to the lever 24, the latter being connected to a suitable switch-stand. (Not shown.)

The thin blade 26 of the switch-frog is prevented from swaying and is braced by screw-rods 27, having heads countersunk into the outer face of said blade and extending therefrom through the straight rail 28 of the slip-plate, where they are provided with lock-nuts 29. These brace-rods not only amplify the connection between the slip-plate and the frog, but they prevent the blade of the frog from being deflected, and they may be operated to parallel the frog with the curved rail 6 and for adjusting the frog in laying or constructing the switch.

It will be observed that the slip-rails are so arranged as to prevent a car from derailment should the switch be half thrown, in which event the plate will form a tread for the wheels on one side of the car until they strike the railway-rail.

It is obvious that the simplicity of construction admits of convenience in placing and removal of the slip-plate, and the arrangement of slide-bearings avoids all undue friction and

permits free and expeditious operation of the switch.

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

1. In a slip-switch, the combination with the hangers depending from a railway-rail, and the stringers having reduced ends working in the hangers, of the slip-plate secured to the stringers, the switch-frog secured to the stringers, brace-rods connecting the frog-blade with the said plate, and the levers to slide the stringers.

2. The combination, with the switch-tie, a metallic cleat set therein and projecting therefrom, hangers depending from a railway-rail, and stringers slidable through the hangers, of the slip-plate secured to the stringers and having a slot to fit the said cleat, the switch-frog secured to the stringers, screw-rods passing through the frog-blade and through a rail of the slip-plate and provided with lock-nuts operated under the tread of said plate-rail.

3. The combination, with the switch-ties having metallic bearings, the switch-tie having a metallic cleat set therein, and the hangers depending from a railway-rail, of the stringers having flanges and lugs and working through the hangers, the slip-plate secured to the stringers between the flanges and lugs, the switch-frog secured to the stringers against said lugs, brace-rods connecting the plate with the frog-blade, and the levers pivoted together and to the ends of the stringers to slide the latter.

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

HOMER PHILLIPS.

Witnesses:
G. W. ROSE,
GRANT RANDOLPH.