

E. W. BROWN.

SWITCH ROD.

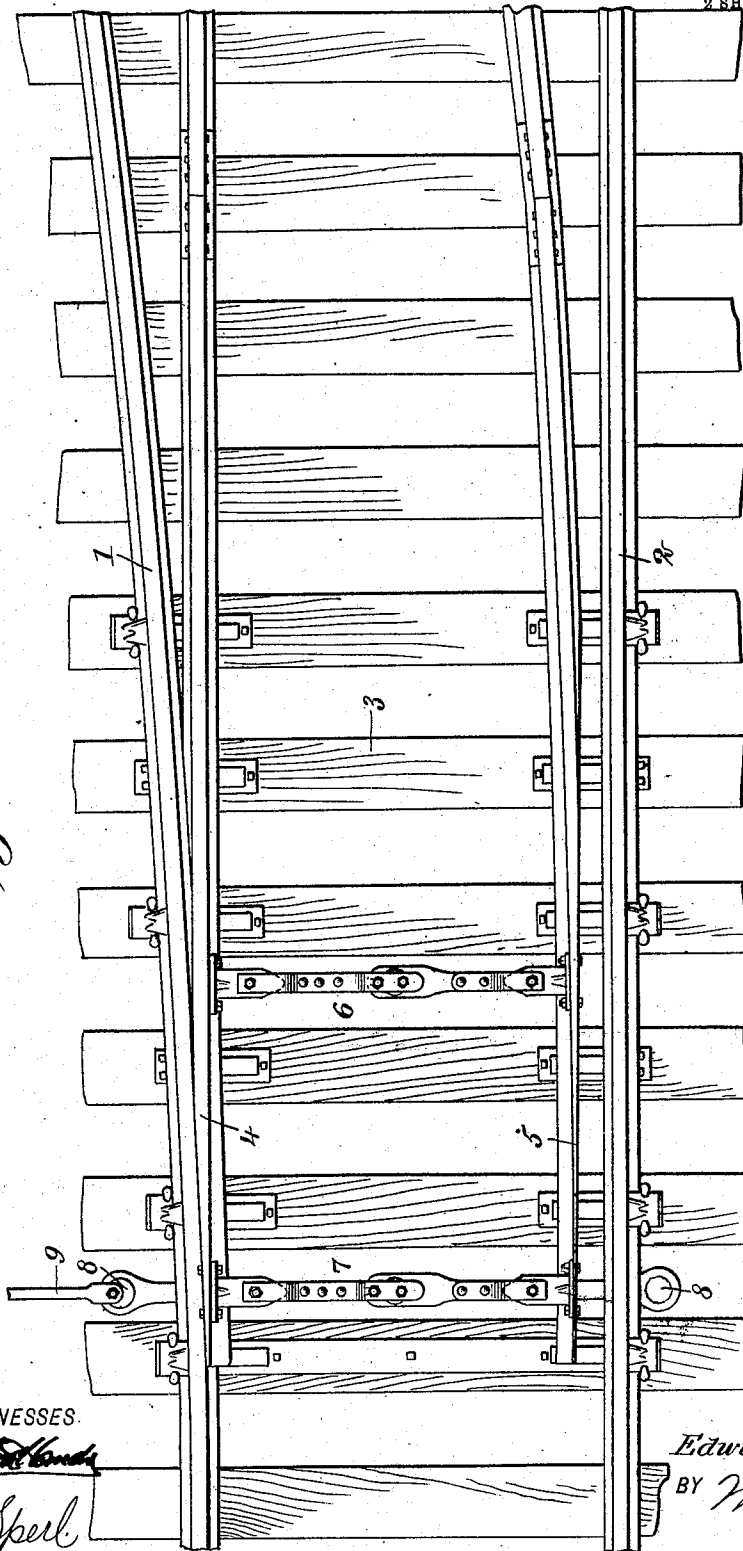
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937,506.

Patented Oct. 19, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES.

Wm. J. Speer

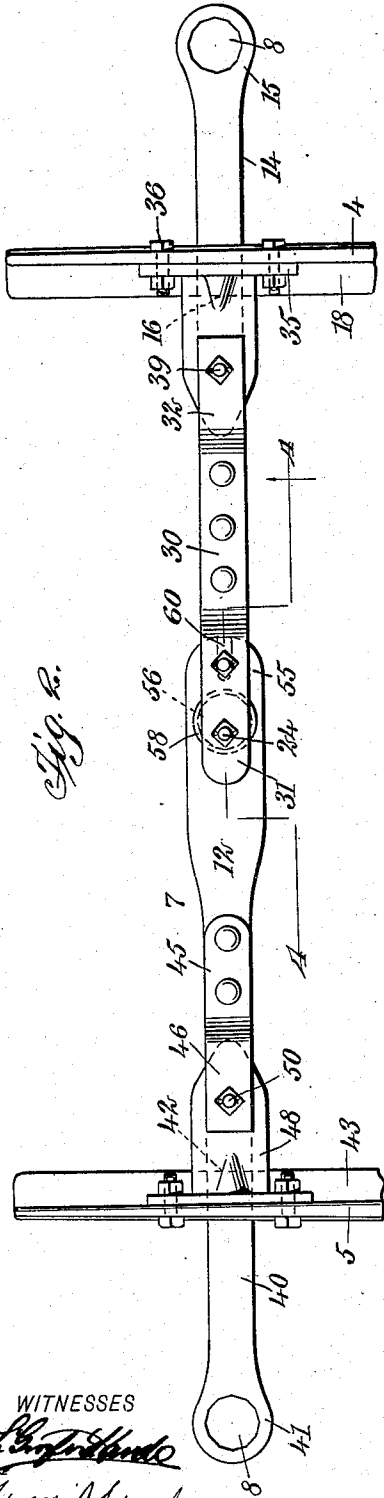
INVENTOR

Edwin W. Brown

BY *Munn & Co.*

ATTORNEYS

2 SHEETS—SHEET 2.



Wm. B. E. Jr.

WITNESSES
L. J. [illegible]
Wm. J. Spurl

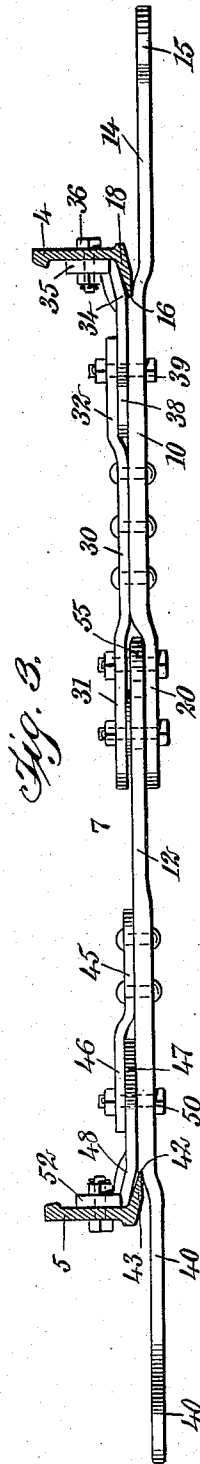


Fig. 3.

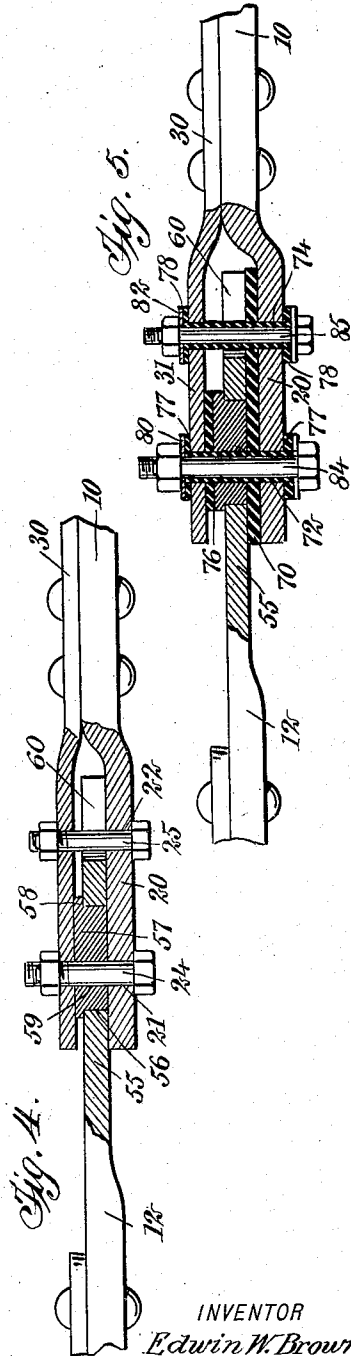


Fig. 4.

Fig. 5.

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EDWIN WILLIAM BROWN, OF GRENADA, MISSISSIPPI.

SWITCH-ROD.

937,506.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed December 11, 1908. Serial No. 467,001.

To all whom it may concern:

Be it known that I, EDWIN W. BROWN, a citizen of the United States, and a resident of Grenada, in the county of Grenada and State of Mississippi, have invented a new and Improved Switch-Rod, of which the following is a full, clear, and exact description.

This invention relates to adjustable switch rods for railroad track switches.

One object of the invention is to provide a switch rod having shoulders against which the flanges of the switch points may be firmly held, thus preventing any lateral movement of the points.

A further object is to provide a rod which is durable and easily constructed and provided with adjusting means at the middle of the rod.

A still further object is to provide means whereby the sections of the rod may be insulated from one another, in order that the rod may be used in block signal work.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a plan view, showing a track with a switch and switch rods applied thereto; Fig. 2 is a plan view of one of the switch rods, with portions of the switch points secured thereto; Fig. 3 is a front elevation of the switch rod shown in Fig. 2, with the switch points shown in section; Fig. 4 is a section on an enlarged scale, taken on the line 4—4 in Fig. 2; and Fig. 5 is a view similar to Fig. 4, but showing the means for insulating the sections of the rod from one another.

In said drawings, the stationary rails 1 and 2 may be secured to the ties 3 in any desired manner. The movable rails or switch points 4 and 5 are connected by means of rods 6 and 7. These rods are similar in construction, except that the rod 7 is provided with eyes 8, to which the member 9 of the switch-operating lever may be connected.

The switch rod 7 comprises two members 10 and 12. The member 10 has an offset extension 14, provided with an enlargement 15, in which one of the eyes 8 may be formed. A shoulder 16 is formed at the region where

the extension 14 joins the main portion of the member 10. Said shoulder is adapted to form a support for the flange 18 of the switch point 4, to prevent lateral motion of the switch point. The opposite end of the member 10 is also offset at 20 and provided with bolt-holes 21 and 22 for the reception of bolts 24 and 25. A plate 30 is riveted to the upper side of the member 10, and its ends 31 and 32 are offset in order to form jaws with the opposing faces of the offset portion 20 and the member 10 respectively. A chair 34 is provided with a vertical arm 35, which is secured to the switch point 4 by means of bolts 36, or by means of rivets. The horizontal portion 38 of the chair 34 is received within the jaw formed by the offset portion 32 and held in position by means of a bolt 39 passing through the member 10, the portion 38 and the offset 32. The chair 34 may be thus adjusted in position and then firmly clamped in place.

The member 12 is provided with an offset extension 40 having an enlargement 41, which is provided with an eye 8. The member 12 is also provided with a shoulder 42, similar to the shoulder 16, against which the flange 43 of the switch point 5 is adapted to bear. An offset plate or strap 45 is riveted to the member 12, and is offset at 46 to form a jaw with said member 12. The horizontal portion 47 of a chair 48 is held within said jaw by means of a bolt 50 passing through the member 12, the portion 47 and the offset end 46 of the strap 45. The switch point 5 may be bolted or riveted to the vertical arm 52 of the chair 48. The other end 55 of the member 12 is enlarged and provided with a polygonal aperture 56 adapted to receive a block 57, which is provided with the same number of sides as the aperture 56 has faces, and which is adapted to fit closely within said aperture. A circular flange 58 is formed at the upper side of the block 57. Said block 57 is provided with an eccentric bolt-hole 59 for the reception of the bolt 24. The extremity of the end 55 is provided with a slot 60, adapted to co-act with the bolt 25.

In order to adapt the switch rod for use in connection with block signals, the two sections of the rod are insulated from one another. In order to insulate the sections the spread of the jaw formed by the offset portions 20 and 31 must be increased. A plate of insulation 70 is placed upon the

upper side of the offset 20, and provided with holes for the reception of the insulating bushings 72 and 74. The external diameter of said bushings may be the same as the diameter of the bolts 24 and 25 respectively, in order that the same drilling of bolt-holes may be applied to both styles of rod. It is therefore necessary to change the size of the bolts when insulating bushings are used. It is, of course, obvious that the size of bolt-holes and bushings is immaterial. A plate of insulating material 76 is placed between the upper face of the block 57 and the under face of the offset 31. Insulating washers 77 and 78 are placed on the outer faces of the offset portions 20 and 31, to form bearings for metal washers 80 and 82, which may be held in position by the nuts on the bolts 84 and 85.

From the construction above set forth, it will be noted that the shoulders at the ends of the switch rod form suitable abutments for the flanges of the switch rods when the chairs are secured in position upon said rods, thus preventing lateral movement of the points. A single adjustment is provided at the center of the rod, thus obviating the necessity of weakening the chairs by having the adjusting means therein, as has heretofore been customary. In order to adjust the length of the rod, the bolts 24 and 25 are removed; the members 10 and 12 are then separated and the adjusting block 57 is removed from the aperture 56 and turned to the desired position to effect the desired adjustment. It will be understood that the bolt-hole, being eccentric, is moved with respect to the center of the polygonal aperture 56, thus lengthening or shortening the switch rod as desired. When the adjustment has been made, the bolts 24 and 25 are again inserted.

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

1. The combination with a pair of switch rails, of an adjustable switch rod having a pair of shoulders, each adapted to engage the flange of one of said switch rails, a chair secured to each rail and to said rod, and means for adjusting the length of said rod.

2. The combination with a switch rail, of a switch rod composed of two members, one being provided with a polygonal aperture, a shoulder on one of said members, adapted to engage the flange of said rail, a chair se-

cured to said rail and to one of said rod members, a polygonal block having an eccentric bolt-hole and adapted to fit the polygonal aperture in said rod member, and a bolt passing through said block and one of said rod members.

3. The combination with a switch rail, of a switch rod composed of two members, one being provided with a polygonal aperture, a shoulder on each rod member adapted to engage the flange of the switch rail, a plate secured to said last-mentioned rod member and having both ends offset to form jaws with said rod member, a chair secured to said rail and held in one of said jaws, a polygonal block fitted in said polygonal aperture within the other of said jaws and provided with an eccentric bolt-hole, and a bolt passing through said jaws and said bolt-hole.

4. The combination with a switch rail, of a switch rod composed of two members, one being provided with a polygonal aperture, a shoulder on each rod member adapted to engage the flange of the switch rail, a plate secured to said last-mentioned rod member and having both ends offset to form jaws with said rod member, a chair secured to said rail and held in one of said jaws, a polygonal block fitted in said polygonal aperture within the other of said jaws and provided with an eccentric bolt-hole, a bolt passing through said jaws and said bolt-hole, and means for insulating the two rod members one from another.

5. The combination with a pair of switch rails, of a switch rod comprising two members, one being provided with a polygonal aperture, a shoulder on each rod member adapted to engage the flange of a switch rail, a plate secured to the other of said rod members and having both ends offset to form jaws with said rod member, an offset plate secured to said first-mentioned rod member and forming a jaw therewith, a chair secured to each switch rail and each chair held in one of said jaws, a polygonal block fitting said polygonal aperture and having an eccentric bolt-hole, and a bolt passing through the sides of said jaw and through said bolt-hole.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

EDWIN WILLIAM BROWN.

Witnesses:

J. W. MEECE,
L. K. BUTLER.